

**LA PARTICIPACIÓN DEL ODONTÓLOGO EN EL MANEJO DE PACIENTES QUE SE
ENCUENTRAN BAJO CUIDADOS PALIATIVOS CON MANIFESTACIONES ORALES
REVISIÓN SISTEMÁTICA - FASE INICIAL**

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“La Universidad El Bosque, no se hace responsable de los conceptos emitidos por los investigadores en su trabajo, solo velará por el rigor científico, metodológico y ético del mismo en aras de la búsqueda de la verdad y la justicia”.

GUÍA DE CONTENIDO

Resumen	
Abstract	
	Pág.
1. Introducción	1
2. Antecedentes	3
3. Planteamiento del problema	5
4. Marco teórico	7
5. Objetivos	12
Objetivo general	12
Objetivos específicos	12
6. Metodología para el desarrollo de la revisión	13
a. Tipo de estudio	13
b. Métodos	13
1. Pregunta(s) orientadoras	13
2. Estructura de la revisión	13
3. Búsqueda de información	13
a. Selección de palabras claves por temática	14
b. Estructuración de estrategia de búsqueda por temática	16
c. Resultados de aplicación de estrategia de búsqueda por temática en bases de datos (Pubmed -EmBase)	18
d. Preselección de artículos por temática	20
e. Proceso de extracción de información de artículos por temática	56
7. Consideraciones éticas	57
8. Resultados	58
9. Discusión de resultados	99
10. Conclusiones	100
11. Referencias bibliográficas	101

Resumen

LA PARTICIPACIÓN DEL ODONTÓLOGO EN EL MANEJO DE PACIENTES BAJO CUIDADOS PALIATIVOS. REVISIÓN SISTEMICA – FASE INICIAL

Antecedentes: Los cuidados paliativos buscan proporcionar apoyo integral y comodidad a través de un enfoque de equipo multidisciplinario para mejorar la calidad de vida del paciente cuando la curación no es una opción. Revisiones han demostrado que hay falta de capacitación en la evaluación y aplicación del cuidado bucal por parte de clínicos y solo unos pocos centros de cuidados paliativos han establecido protocolos para el cuidado de la salud bucal. Es por estos hallazgos que se considera esencial realizar una revisión sistemática sobre las intervenciones en pacientes que están bajo cuidado paliativos por diferentes patologías. **Objetivo principal:** Identificar qué tipo de intervenciones se pueden realizar desde el campo de la odontología para mejorar la calidad de vida y disminuir el dolor en pacientes con cuidados paliativos. **Objetivo de la primera fase:** Realizar una tabla de la búsqueda inicial de artículos donde se establezcan los datos de interés de cada artículo y realizar un diagrama de flujo sobre artículos iniciales. **Materiales y Métodos:** Se estructuró la búsqueda en las bases de datos PUBMED y EMBASE, se utilizaron las palabras claves en términos MeSH y DeSC, una vez se normalizaron, se unieron con operadores booleanos y con estos criterios se realizó la búsqueda para poder seleccionar los artículos, posteriormente se utilizó MENDELEY y luego se realiza una lectura inicial de los títulos y resúmenes. Finalmente se tabuló la información en Excel para que el grupo de investigación tuviera el acceso a la información fundamental de cada artículo. **Resultados:** Se obtuvieron 108 artículos, se descartan 11 artículos que no estaban relacionados con la temática y un artículo que se encontraba repetido obteniendo 96. A estos artículos se les extrajo: referencia Vancouver, título, año de publicación, revista, nivel de impacto (scimago), H-index, país, resumen, tipo de estudio, enlace de consulta o DOI. La información fue tabulada en una cuadro de Excel. **Conclusiones:** En la primera fase de la revisión sistemática con el desarrollo de la tabla de búsqueda inicial, los artículos finales en texto completo y el diagrama de flujo se brinda a los investigadores facilidad operativa en el desarrollo de la investigación. **Palabras claves:** Cuidados paliativos, manifestaciones orales, Manejo del dolor, Calidad de vida

Abstract

ROLE OF THE DENTIST MANAGING PATIENTS WITH PALLIATIVE CARE. SYSTEMATIC REVISION – INITIAL PHASE

Background: Palliative care is aimed at providing integral support and comfort with a multidisciplinary team in order to improve quality of life of a patient when healing is not an option. Revisions have shown there is a lack of training for evaluation and application of oral health by clinicians and only a few centres have protocols for such. Due to these, it is necessary to carry out a systematic revision regarding interventions on patients in said conditions for different pathologies. **Objective:** To identify what type of interventions may be provided with dentistry in order to improve quality of life for patients under palliative care. The first phase includes developing an article search table where data can be filed for each article and a flow diagram for the initial articles. **Materials and methods:** The query was structured with Pubmed and Embase databases, MeSh and DeSC terms, once normalised they were joined with Boolean operators and these criteria was used for an article search. Mendeley was used afterwards and finalised with a reading of titles and abstracts. The information was filed in Excel so the research group could have access to it. **Results:** 108 articles were selected, from those, 11 were discarded and one which was repeated, leaving 96; Vancouver references, title, publication year, journal, impact level (Scimago), H-index, country, abstract, type of study, and reference link or DOI were extracted. The information was tabulated in an Excel sheet. **Conclusions:** The final article with full text and the flow diagram provides researchers an operative facility for research development.

Key words: palliative care, oral manifestations, pain management, quality of life.

Introducción

Los cuidados paliativos buscan proporcionar apoyo integral y comodidad a través de un enfoque de equipo multidisciplinario para mejorar la calidad de vida del paciente cuando la curación no es una opción (Temel et al, 2010). Estos cuidados previenen y alivian el sufrimiento a través de la identificación temprana, la evaluación y el tratamiento adecuado del dolor y otros problemas que pueden ser de orden físico, psicosocial o espiritual (Temel et al, 2010). Esta asistencia paliativa por lo tanto ofrece un sistema de apoyo para ayudar a los pacientes a vivir tan activamente como sea posible hasta la muerte. Algunas investigaciones han demostrado que la prestación de estos cuidados paliativos ha mejorado tanto la calidad de vida como la duración de la supervivencia de los pacientes con cáncer avanzado (Pacetti et al, 2015).

Una amplia gama de enfermedades requiere cuidados paliativos. La mayoría de los adultos que los necesitan padecen enfermedades cardiovasculares (38,5%), cáncer (34 %), enfermedades respiratorias crónicas (10,3%), SIDA (5,7%) y diabetes (4,6%). Muchas otras afecciones pueden requerir asistencia paliativa; por ejemplo, insuficiencia renal, enfermedades hepáticas crónicas, esclerosis múltiple, enfermedad de Parkinson, artritis reumatoide, enfermedades neurológicas, demencia, anomalías congénitas y tuberculosis resistente a los medicamentos (Organización Mundial de la Salud - OMS, 2015).

El dolor es uno de los síntomas más frecuentes en los pacientes que padecen estas enfermedades. De ahí que los analgésicos opiáceos sean esenciales para el tratamiento de este dolor en afecciones progresivas avanzadas. Por ejemplo, el 80% de los pacientes con SIDA o cáncer y el 67% de los pacientes con enfermedades cardiovasculares o enfermedades pulmonares obstructivas experimentarán dolor entre moderado e intenso al final de sus vidas y en su mayoría es controlado con opiáceos (OMS, 2015)

Así como el dolor es un hallazgo frecuente, también es importante el reconocimiento de las afecciones orales en este grupo de pacientes, las cuales pueden provocar otros síntomas incómodos como sequedad de boca, trastornos de la deglución, disgeusia, dificultades para hablar y dolor orofacial específico. Estos síntomas pueden comprometer diferentes aspectos de la vida diaria como comer, comunicarse y dormir con un impacto negativo en la calidad de vida.

Se han realizado algunos estudios sobre problemas bucales en cuidados paliativos, y todos ellos involucraron a pacientes con cáncer porque los tratamientos como la quimioterapia y / o la radioterapia conducen con frecuencia a la mucositis oral (Magnani et al, 2019). Sin embargo, los problemas orales en pacientes con enfermedad avanzada diferente al cáncer que se encuentran en cuidado paliativos también son comunes, aunque están menos documentados en la literatura. Diferentes factores como el mal estado nutricional, la atención bucal insuficiente, la falta de vitaminas, la polifarmacoterapia y la deshidratación pueden jugar un papel importante en el desarrollo de las afecciones bucales en pacientes terminales oral (Magnani et al, 2019). El cuidado de la higiene bucal es, por lo tanto, una tarea esencial del enfoque paliativo. Los principales objetivos del cuidado bucal en pacientes con enfermedad avanzada están enfocados a la mejora del confort y disminución de dolor orofacial representado en la mejoría de la calidad de vida, el manejo de los síntomas y la disminución de las complicaciones orales (Magnani et al, 2019).

Una adecuada higiene bucal puede contribuir a reducir el riesgo de mucositis bucal e infecciones del tracto respiratorio, puede tener un impacto positivo en la calidad de vida porque permite que los pacientes disfruten de diferentes alimentos y les ayuda a hablar con más eficacia. Aunque el cuidado bucal representa una tarea esencial de los cuidados paliativos, a menudo no se considera una prioridad, especialmente si se van a tratar diversas enfermedades complejas del paciente oral (Magnani et al, 2019).

Revisiones de la literatura han demostrado que existe una falta de capacitación en la evaluación y aplicación del cuidado bucal por parte de enfermeras y médicos, así mismo que las herramientas de evaluación oral se utilizan con poca frecuencia en la práctica clínica diaria y solo unos pocos centros de cuidados paliativos han establecido protocolos para el cuidado de la higiene bucal.

Es por estos hallazgos que se considera esencial realizar una revisión sistemática que analice las opciones terapéuticas que se han establecido a lo largo del tiempo para el manejo de las diferentes manifestaciones orales de los pacientes que están bajo cuidado paliativos por diferentes patologías.

Antecedentes

Para abordar el estudio de los cuidados paliativos desde una mirada odontológica debemos referirnos a la definición básica de la misma dada por la OMS. Los cuidados paliativos procuran dar “un abordaje que incrementa la calidad de vida de los pacientes y sus familias, que enfrentan las dificultades asociadas con enfermedades que comprometen la vida, a través de la prevención y el alivio del sufrimiento por medio de la identificación oportuna, la evaluación impecable, el tratamiento del dolor y de otros problemas físicos, psicosociales y espirituales” (Organización Mundial de la Salud, 1990)

Estos cuidados se llevan a cabo en pacientes con enfermedades avanzadas, progresivas y por lo general incurables, sin respuesta al tratamiento específico, y se encuentra relacionada con la figura, explícita o no, de la muerte. En esta situación, se pueden presentar numerosos problemas o síntomas intensos que pueden o no estar relacionados a la medicación, la enfermedad propia, enfermedad oportunistas y por lo general son múltiples, multifactoriales y cambiantes, y a su vez producen gran impacto emocional en el paciente, su familia y su grupo terapéutico tratante.

Algunos estudios previos han dado cuenta de los problemas que se presentan durante la atención de adultos mayores con diagnósticos desalentadores y que se encuentran bajo cuidados paliativos.

Nitschke et al, en su estudio publicado en 2005 entrevistaron a ciento ochenta odontólogos con el fin de exponer las dificultades y limitaciones en la prestación de cuidado a adultos mayores institucionalizados en residencias geriátricas de larga estancia. En orden de importancia, los odontólogos contestaron que: las condiciones desfavorables de trabajo, los problemas de administración, los costos, la inseguridad en las decisiones terapéuticas y la confrontación con la edad y la muerte, son las principales barreras con las que se encuentran en su trabajo.

Pese a las dificultades que se pueden presentar en los cuidados paliativos, todas las personas en situación de dependencia temporal o permanente por cualquier razón, bien sea que se encuentren en una unidad de cuidados paliativos, en una residencia geriátrica como en el estudio de Nitschke o en su propio hogar, deben ser evaluadas periódicamente en su salud bucal; deben ser mantenidas limpias, pulcras y bien cuidadas; estar protegidas de accidentes y recibir la

asistencia que necesiten para su higiene diaria, con el fin de que se mantengan libres de dolor e infección. (Gordon S, 1988).

Algunos autores como Kinley y Brennan en 2004 publicaron algunas recomendaciones para el desarrollo y puesta en marcha de un estándar de trabajo en cuidados paliativos odontológicos para esto revisaron la literatura, encuestaron a los integrantes de un equipo de cuidados paliativos sobre las prácticas de cuidados bucodentales que desarrollaban a los pacientes y sobre lo que registraban en sus historias clínicas. Luego sistematizaron las prácticas reportadas, así como las preguntas e inquietudes presentadas, diseñaron protocolos de actuación, de clasificación de pacientes y de formación a personal de trabajo; cuidadores y pacientes; y, de seguimiento y evaluación. Lo anterior, con el objetivo de introducir cambios en la práctica diaria de cuidados paliativos bucodentales, extender su aplicación y hacerlos permanentes en el tiempo.

Estudios enfocados en la terapéutica de la candidiasis, así como manifestaciones orales más frecuentes de pacientes con diagnósticos terminales han sido realizados por autores como Pienaar en 2010, quién realizó una metaanálisis comparando el manejo farmacológico más efectivo para el tratamiento de la candidiasis oral en paciente con diagnóstico de VIH.

Planteamiento del problema

Descripción del problema

Los cuidados paliativos constituyen un planteamiento que mejora la calidad de vida de los pacientes (adultos y niños) y sus allegados cuando afrontan problemas inherentes a una enfermedad potencialmente mortal (OMS, 2015).

Por otro lado, se define como enfermedad terminal, aquella que es avanzada, progresiva e incurable, con falta de posibilidades razonables de respuesta al tratamiento específico, las atenciones necesarias para mejorar la calidad de vida de los pacientes son muy importantes y abordan muchos aspectos donde el odontológico siendo muy valioso está un poco rezagado. (De los Angeles et al, 2015).

Los cuidados odontológicos son indispensables en los tratamientos paliativos teniendo en cuenta que la cavidad oral es una zona del cuerpo humano que presenta múltiples manifestaciones de enfermedades sistémicas y oportunistas, pudiendo alterar diferentes actividades básicas del ser humano tales como comer o hablar; se evidencia, por ejemplo, que los médicos generales no están conscientes del estado de salud bucal de sus pacientes mayores y que perciben diferencias culturales entre la medicina y la odontología (Marin, 2021).

Del mismo modo, la poca formación de diferentes profesionales de salud ajenos a la odontología sobre la importancia de un adecuado estado de salud bucal y como esto va a beneficiar la calidad de vida del paciente es un dilema que se vive diariamente, se debe aumentar la participación del profesional en odontología así disminuyendo la morbilidad de alteraciones en la boca y otros tejidos que hacen parte del cuidado odontológico.

En este contexto, el equipo completo cuidador del paciente conoce la situación general del doliente y permite la distribución concertada de responsabilidades, haciendo que esta tarea del cuidado sea compartida y que ningún aspecto de la salud y bienestar del paciente sea descuidado (Marin, 2021).

Los principales problemas bucales en el adulto mayor bajo cuidados paliativos incluyen a las caries, la gingivitis, y la periodontitis, cuya consecuencia final es el edentulismo, tanto parcial como total (Padilla et al, 2017), resultados que se podrían esperar de igual forma en población de menor edad donde de una u otra manera agrega otros malestares a su estado general pudiendo ser en algunos casos una situación evitable.

Por todo lo anterior se ha observado la necesidad de recalcar la importancia que requiere una adecuada atención odontológica en los pacientes que reciben cuidados paliativos como parte de su tratamiento integral e interdisciplinario con el fin de tener la mejor calidad de vida posible, identificar las diferentes terapéuticas propuestas en la literatura y el impacto que tienen sobre el cuidado del paciente.

Pregunta de Investigación

En pacientes sometidos a cuidados paliativos con manifestaciones orales ¿qué aspectos son importantes para el manejo del dolor y mejorar su calidad de vida?

Marco teórico

La Organización Mundial de la Salud (OMS) define los cuidados paliativos como un enfoque interdisciplinario que apoya y mejora la calidad de vida (CV) de los pacientes y sus familias que enfrentan problemas asociados con una enfermedad potencialmente mortal, como el cáncer, a través de la prevención y el tratamiento de síntomas angustiantes al abordar aspectos psicológicos, sociales y espirituales de la atención al paciente. Los cuidados paliativos se enfocan de manera integral en el paciente y la familia como la unidad de atención con la definición de "familia"(Radwany & Von Gruenigen, 2012)

Para iniciar una adecuada atención y suplir los requerimientos que necesita un paciente al formar parte de cuidados paliativos es necesario evaluar diferentes aspectos para poder determinar necesidades de manera individual a cada paciente. Esta evaluación tiene componentes específicos que incluirán antecedentes de enfermedad, respuestas al tratamiento, obtener una comprensión de la capacidad de toma de decisiones del paciente (especialmente en los ancianos) y evaluación física, psicológica, social y espiritual. (Radwany & von Gruenigen, 2012).

Luego de haber realizado una adecuada evaluación es importante que los cuidadores que estén a cargo de un paciente en régimen de cuidado paliativo conozcan su papel como cuidador y de igual forma las manifestaciones orales más frecuentes.

Papel del cuidador

Aunque el cuidado oral representa una actividad de vital importancia de los cuidados paliativos, a menudo no se considera una prioridad, especialmente si se van a tratar diversas enfermedades complejas del paciente. Los datos de la literatura informaron que los médicos y las enfermeras prestan poca atención a las afecciones bucales del paciente, y la evaluación clínica de la cavidad oral a menudo no se informa en los registros médicos y de enfermería.

Además, la literatura destaca que existe una falta de capacitación en la evaluación y aplicación del cuidado bucal por parte de enfermeras y médicos y que las herramientas de evaluación oral se utilizan con poca frecuencia en la práctica clínica diaria. Aunque en la literatura se reporta la importancia reconocida de establecer estándares de cuidado bucal, solo unos pocos centros de cuidados paliativos establecen protocolos para el cuidado de la higiene bucal.

Manifestaciones orales

Con frecuencia en los pacientes con condiciones como cáncer avanzado las afecciones orales pueden provocar síntomas incómodos como dolor orofacial, sequedad de boca, trastornos de la deglución, disgeusia y dificultades para hablar. Estos síntomas pueden comprometer diferentes aspectos de la vida diaria como comer, comunicarse y dormir con un impacto negativo en la calidad de vida (Magnani et al., 2019)

Mucositis

Se han realizado algunos estudios sobre problemas bucales en cuidados paliativos, y todos ellos involucraron a pacientes con cáncer porque los tratamientos como la quimioterapia y / o la radioterapia conducen con frecuencia a la mucositis oral. Sin embargo, los problemas orales en pacientes con enfermedad avanzada diferente al cáncer también son comunes, aunque están menos documentados en la literatura. Diferentes factores como el mal estado nutricional, la atención bucal insuficiente, la falta de vitaminas, la polifarmacoterapia y la deshidratación pueden jugar un papel importante en el desarrollo de las afecciones bucales en pacientes terminales. El cuidado de la higiene bucal es, por lo tanto, una tarea esencial del enfoque paliativo. Los principales objetivos del cuidado bucal en pacientes con enfermedad avanzada están representados por la mejora de la comodidad, el manejo de los síntomas y la disminución de las complicaciones. (Magnani et al., 2019)

Un estudio multicéntrico italiano realizado en una muestra de pacientes con cáncer avanzado informó que la prevalencia de mucositis oral fue del 22,3%. Además, según la literatura, la prevalencia de sequedad de boca en pacientes con cáncer avanzado varía del 30% al 88% y la prevalencia de disgeusia oscila entre el 25 y el 50%. Una adecuada higiene bucal puede contribuir a reducir el riesgo de mucositis bucal e infecciones del tracto respiratorio y puede tener un impacto positivo en la calidad de vida, además, una buena higiene bucal permite que los pacientes disfruten de diferentes alimentos y les ayude a hablar con eficacia. (Magnani et al., 2019)

Los cánceres de cabeza y cuello (HNC) representan aproximadamente el 5% de todos los tumores malignos; pueden tener un impacto devastador en la vida del paciente, ya que tanto la enfermedad como el tratamiento pueden afectar la capacidad de hablar, tragar y respirar. Estas

condiciones limitan la ingesta oral de alimentos y medicamentos, reducen el funcionamiento social y repercuten en la calidad de vida del paciente. Hasta un 80% de los pacientes que padecen HNC presentan dolor por diseminación del tumor primario, por consecuencias de la cirugía o por desarrollar mucositis oral, disfagia o neuropatía como efectos secundarios tóxicos de la radioterapia, quimioterapia o ambas. Sin embargo, la experiencia del dolor del paciente está modulada por dimensiones intrínsecas como el estilo de afrontamiento adaptativo, comorbilidades, angustia psicológica o depresión (miedo a la desfiguración permanente, experiencias previas de dolor severo, etc.) (Bossi et al., 2019)

Náuseas y vómitos

Las náuseas y los vómitos en pacientes con cuidados paliativos pueden tener muchos orígenes incluida la quimioterapia, el uso de opioides, la obstrucción intestinal, la pancreatitis y el desequilibrio electrolítico, o pueden ser inducidos por el movimiento o incluso una reacción emocional. El vómito tiene un efecto cáustico sobre los tejidos duros y también puede retrasar la curación si el paciente no puede consumir nutrientes. (Wiseman, 2006)

Xerostomía

La xerostomía afecta la nutrición, la comunicación y los tejidos bucales. Aunque los efectos orales de los antieméticos son grandes, la incapacidad de consumir alimentos y medicamentos por vía oral tiene implicaciones más graves. Los arrebatos emocionales son tratados por el equipo de cuidados paliativos escuchando preocupaciones del paciente y sugerir técnicas de relajación. (Wiseman, 2006)

Candidiasis

Se ha estimado que la incidencia de candidiasis en pacientes de cuidados paliativos es del 70% al 85%. Los factores predisponentes a las infecciones por hongos incluyen una mala higiene bucal, xerostomía, inmunosupresión, uso de corticosteroides o antibióticos de amplio espectro, mal estado nutricional, diabetes y uso de dentaduras postizas. *Candida albicans* es el organismo infeccioso más común que se encuentra en la candidiasis. Es un habitante natural de la cavidad oral cuyo crecimiento excesivo normalmente es suprimido por otros microorganismos no

patológicos y mecanismos de defensa naturales del huésped. La mera presencia de un cultivo positivo sin síntomas clínicos no es indicativo de infección por candida. (Wiseman, 2006)

Las infecciones por cándida se manifiestan como candidiasis pseudomembranosa, eritematosa o hiperplásica o queilitis angular.

La candidiasis pseudomembranosa (aftas) se caracteriza por pequeñas placas blancas o amarillas con áreas eritemicas circundantes. Estas lesiones pueden eliminarse frotando, revelando una mucosa en carne viva.

La candidiasis eritema (atrófica) aparece como lesiones rojas, con frecuencia en el paladar duro y la superficie dorsal de la lengua. La candidiasis hiperplásica es similar a la pseudomembranosa; sin embargo, las placas no se borran.

La queilitis angular: aparece como fisuras blancas y rojas que emanan de las comisuras de la boca. comúnmente tiene un componente bacteriano y fúngico.

Cuidado bucal en cuidados paliativos

Por otra parte, la competencia del odontólogo juega un papel importante en los cuidados paliativos y su tratamiento. El cuidado oral paliativo se centra en estrategias para mantener la calidad de vida y la comodidad bucal de los pacientes. Los objetivos de salud oral de los cuidados paliativos incluyen una atención de calidad, libre de dolor e infección, que el paciente este cómodo, conservar su boca húmeda y libre de placa dental, cálculos o restos de comida. (Saini et al., 2009)

La evaluación de un problema bucal es esencialmente similar a la evaluación de otros problemas médicos. Implica realizar una completa historia clínica, realizar un examen intraoral y extraoral, que incluyen el examen de labios y encías, dientes, mejillas, piso y techo de la boca y ganglios linfáticos. Los síntomas orales son frecuentes en los pacientes de cuidados paliativos. (Saini et al., 2009)

Los problemas orales en pacientes paliativos pueden estar relacionados con:

- (a) efecto directo de la enfermedad primaria
- (b) efecto indirecto de la enfermedad primaria

- (c) tratamiento de la enfermedad primaria
- (d) efecto directo / indirecto de una enfermedad coexistente
- (e) tratamiento de enfermedades coexistentes
- (f) combinación de los factores anteriores.

El manejo de problemas o lesiones en pacientes paliativos deben llevarse como un trabajo en equipo y un protocolo de tratamiento definido debe ser seguido por un médico de cuidados paliativos no dentista y por un experto dental y está fuertemente marcado que los cuidados paliativos son un enfoque multidisciplinario y El papel del odontólogo es fundamental para mantener una salud bucal óptima.

La recomendación para llevar una adecuada rutina de salud bucal incluye el uso de una marca ultrasuave de cepillo de dientes (ya que los cepillos de dientes duros pueden provocar abrasiones). La crema dental solo debe usarse cuando una persona sea capaz de escupir y tragar ya que la pasta de dientes puede generar quemadura en los tejidos orales y la acción espumante pueden inducir un reflejo nauseoso y puede provocar asfixia.

En cuanto al Uso de Enjuagues bucales se recomienda que no tenga alcohol y evitar utilizar productos a base de petróleo para el cuidado de los labios. Las dentaduras postizas se deben quitar y remojar durante la noche en hipoclorito de sodio diluido o gluconato de clorhexidina 0,2% dependiendo de su material. (Saini et al., 2009)

Objetivos

Objetivo general de la revisión sistemática:

1. Identificar qué tipo de intervenciones se pueden realizar desde el campo de la odontología para mejorar la calidad de vida, aumentar el confort y disminuir el dolor en pacientes con cuidados paliativos que presenta manifestaciones orales.

Objetivos específicos de la revisión sistemática:

1. Identificar las manifestaciones orales más frecuentes en pacientes terminales con cuidados paliativos.
2. Identificar y describir los tratamientos y terapias para mejorar la calidad de vida de los pacientes desde un enfoque odontológico.

Objetivos de la primera fase del estudio:

1. Realizar una tabla de la búsqueda inicial de artículos donde se establezcan los datos de interés de cara artículo: referencia Vancouver, título, año de publicación, idioma, nombre de la revista, nivel de impacto (scimago), H-index, país de la revista, resumen del artículo, tipo de estudio, link de consulta o DOI.
2. Esquematizar en un diagrama de flujo los artículos que se utilizarán en la primera fase de la revisión sistemática

Metodología para el desarrollo de la revisión

Tipo de estudio: Revisión sistemática.

Pregunta orientadora: En pacientes sometidos a cuidados paliativos que presentan manifestaciones orales ¿Qué aspectos son importantes para el manejo del dolor y mejorar su calidad de vida?

Criterios de inclusión de los artículos:

Artículos en cualquier idioma

Sin límite de tiempo de publicación

Artículos que analicen intervenciones en pacientes bajo cuidados paliativos

Cualquier tipo de investigación

Revistas del área de la salud

Capítulos de libros

Notas de congresos y encuentros académicos.

Métodos y técnicas para la recolección de la información (Materiales y métodos):

Se estructuró la búsqueda de artículos de la revisión sistemática en las bases de datos PUBMED y EMBASE, en las cuales se incluyó los términos de la pregunta PICO; donde la letra P corresponde a paciente y/o problema de interés, la letra I corresponde a la intervención principal que puede ser un tratamiento, factor pronóstico, prueba diagnóstica, exposición, la letra C que se trata de la comparación que para este caso de la revisión se tiene en cuenta y la letra O de outcome o resultados. La pregunta PICO para la revisión sistemática fue: En pacientes sometidos a cuidados paliativos que presentan manifestaciones orales ¿Que aspectos son importantes para el manejo del dolor y mejorar su calidad de vida?

Se utilizaron las palabras claves o términos normalizados en las herramientas MeSH y DeSC de PubMed, y la herramienta de normalización de EMBASE, una vez se definieron los términos a utilizar, se unen con operadores booleanos como OR y AND, con estos criterios se realizó la búsqueda para poder seleccionar los artículos.

Posterior a esto se puso en marcha la utilización de una aplicación MENDELEY, en la cual existe un filtro para evitar que los artículos que se incluyan en la búsqueda estén de manera repetida. Luego de esto se hizo una lectura inicial de los títulos y resúmenes de los artículos seleccionados para evaluar cuales artículos si cumplían los criterios de inclusión y si podían ser utilizados dentro de la investigación en curso. Una vez se hizo esta lectura inicial se escogieron los artículos y se tabulo toda la información en un Excel para que el grupo de investigación tuviera el acceso a la información fundamental de cada artículo

a. Selección de palabras claves con estrategia PICO

Tabla 1. Palabras claves: para definición de las variables de estudio			
PICO	Variable	Palabras Claves	
P	Pacientes de cuidados paliativos	Palabra clave	Cuidados paliativos
		Términos [MeSH] inglés	Palliative care Care, Palliative Palliative Treatment Palliative Treatments Treatment, Palliative Treatments, Palliative Therapy, Palliative Palliative Therapy Palliative Supportive Care Supportive Care, Palliative Palliative Surgery Surgery, Palliative
		Términos [DeSC] español/ inglés/ portugués	Cuidados paliativos Palliative care
		Sinónimos	Atención paliativa, Asistencia paliativa de apoyo, Apoyo en cuidados paliativos, Tratamiento paliativo, medicina paliativa
I	Manifestaciones orales	Palabra clave	Manifestaciones orales
		Términos [MeSH] ingles	Manifestation, Oral Manifestations, Oral Oral Manifestation
		Términos [DeSC] español/ inglés/ portugués	Manifestaciones bucales Oral manifestation Manifestações Bucais
		Sinónimos	
	Mucositis	Palabra clave	Mucositis oral
		Términos [MeSH] ingles	Stomatitides Oral Mucositis Mucositides, Oral

			<p>Oral Mucositis</p> <p>Oromucositis</p> <p>Oromucositides</p> <p>Mucositis, Oral</p>
		Términos [DeSC] español/ inglés/ portugués	<p>Inglés: Mucositis</p> <p>Español: mucositis</p> <p>Portugues. mucosite</p>
		Sinónimos	<p>Stomatitides, Oromucositides</p> <p>Mucositis, Oral</p>
	Ulceras	Palabra clave	Ulcera oral
		Términos [MeSH] ingles	<p>Oral ulcer</p> <p>Oral Ulcers</p> <p>Ulcer, Oral</p> <p>Ulcers, Oral</p> <p>Mouth Ulcer</p> <p>Mouth Ulcers</p> <p>Ulcer, Mouth</p> <p>Ulcers, Mouth</p>
		Términos [DeSC] español/ inglés/ portugués	<p>Inglés: oral ulcer</p> <p>Español: ulceras bucales</p> <p>Portugues: ulceras orais</p>
		Sinónimos	<p>Mouth Ulcer</p> <p>Mouth Ulcers</p>
	Aftas	Palabra clave	Afta
		Términos [MeSH] ingles	<p>Aphthous Stomatitides</p> <p>Aphthous Stomatitis</p> <p>Stomatitides, Aphthous</p> <p>Ulcer, Aphthous</p> <p>Aphthous Ulcer</p> <p>Aphthous Ulcers</p> <p>Ulcers, Aphthous</p> <p>Aphthae</p> <p>Canker Sore</p> <p>Canker Sores</p> <p>Sore, Canker</p> <p>Sores, Canker</p> <p>Periadenitis Mucosa Necrotica Recurrens</p>
		Términos [DeSC] español/ inglés/ portugués	<p>Español: afta , afta oral</p> <p>Inglés: oral aphthae</p>
		Sinónimos	<p>Sore, Canker</p> <p>Sores, Canker</p> <p>Periadenitis Mucosa Necrotica Recurrens</p>
	Candidiasis oral	Palabra clave	Candidiasis oral
		Términos [MeSH] ingles	<p>Candidiasis, Oral</p> <p>Oral Candidiasis</p> <p>Oral Candidiasis</p> <p>Thrush</p> <p>Moniliasis, Oral</p> <p>Moniliasis, Oral</p> <p>Oral Moniliasis</p>

#4	(((Calidad de vida OR (Life Quality)) OR (Health-Related Quality Of Life)) OR (Health Related Quality Of Life)) OR (HRQOL)) OR (Quality of Life)) OR (Qualidade de Vida)
#5	(((Cuidados paliativos OR (Palliative care)) OR (Palliative care)) OR (Palliative Treatment)) OR (Palliative Treatments)) OR (Treatment, Palliative)) OR (Treatments, Palliative)) OR (Therapy, Palliative)) OR (Palliative Therapy)) OR (Palliative Supportive Care)) OR (Supportive Care, Palliative)) OR (Palliative Surgery)) OR (Surgery, Palliative)) OR (Atención paliativa)) OR (Asistencia paliativa de apoyo)) OR (Apoyo en cuidados paliativos)) OR (Tratamiento paliativo)) OR (medicina paliativa)) AND (((Calidad de vida OR (Life Quality)) OR (Health-Related Quality Of Life)) OR (Health Related Quality Of Life)) OR (HRQOL)) OR (Quality of Life)) OR (Qualidade de Vida)
#6	(((Manifestaciones orales OR (Manifestation, Oral)) OR (Manifestations, Oral)) OR (Oral Manifestation)) OR (Manifestaciones bucales)) OR (Mucositis oral)) OR (Stomatitides)) OR (Oral Mucositis)) OR (Mucositides, Oral)) OR (Oral Mucositides)) OR (Oromucositis)) OR (Oromucositides)) OR (Mucositis, Oral)) OR (Mucositis)) OR (Ulcera oral)) OR (Oral ulcer)) OR (Oral Ulcers)) OR (Ulcer, Oral)) OR (Ulcers, Oral)) OR (Mouth Ulcer)) OR (Mouth Ulcers)) OR (Ulcer, Mouth)) OR (Ulcers, Mouth)) OR (ulceras bucales)) OR (ulceras orais)) OR (Afta)) OR (Aphthous Stomatitides)) OR (Aphthous Stomatitis)) OR (Stomatitides, Aphthous)) OR (Ulcer, Aphthous)) OR (Aphthous Ulcer)) OR (Aphthous Ulcers)) OR (Ulcers, Aphthous)) OR (Aphthae)) OR (Canker Sore)) OR (Canker Sores)) OR (Sore, Canker)) OR (Sores, Canker)) OR (Periadenitis Mucosa Necrotica Recurrens)) OR (Candidiasis oral)) OR (Candidiasis, Oral)) OR (Oral Candidiasis)) OR (Oral Candidiasis)) OR (Thrush)) OR (Moniliasis, Oral)) OR (Moniliasis, Oral)) OR (Oral Moniliasis)) OR (Oral Moniliasis)) OR (Candidiasis bucal)) OR (Oral Candidiasis)) OR (Candidíase Bucal)) OR (Micosis Oral)) AND (((Calidad de vida OR (Life Quality)) OR (Health-Related Quality Of Life)) OR (Health Related Quality Of Life)) OR (HRQOL)) OR (Quality of Life)) OR (Qualidade de Vida)
#7	(((Cuidados paliativos OR (Palliative care)) OR (Palliative care)) OR (Palliative Treatment)) OR (Palliative Treatments)) OR (Treatment, Palliative)) OR (Treatments, Palliative)) OR (Therapy, Palliative)) OR (Palliative Therapy)) OR (Palliative Supportive Care)) OR (Supportive Care, Palliative)) OR (Palliative Surgery)) OR (Surgery, Palliative)) OR (Atención paliativa)) OR (Asistencia paliativa de apoyo)) OR (Apoyo en cuidados paliativos)) OR (Tratamiento paliativo)) OR (medicina paliativa)) AND (((Calidad de vida OR (Life Quality)) OR (Health-Related Quality Of Life)) OR (Health Related Quality Of Life)) OR (HRQOL)) OR (Quality of Life)) OR (Qualidade de Vida)) AND (((Manifestaciones orales OR (Manifestation, Oral)) OR (Manifestations, Oral)) OR (Oral Manifestation)) OR (Manifestaciones bucales)) OR (Mucositis oral)) OR (Stomatitides)) OR (Oral Mucositis)) OR (Mucositides, Oral)) OR (Oral Mucositides)) OR (Oromucositis)) OR (Oromucositides)) OR (Mucositis, Oral)) OR (Mucositis)) OR (Ulcera oral)) OR (Oral ulcer)) OR (Oral Ulcers)) OR (Ulcer, Oral)) OR (Ulcers, Oral)) OR (Mouth Ulcer)) OR (Mouth Ulcers)) OR (Ulcer, Mouth)) OR (Ulcers, Mouth)) OR (ulceras bucales)) OR (ulceras orais)) OR (Afta)) OR (Aphthous Stomatitides)) OR (Aphthous Stomatitis)) OR (Stomatitides, Aphthous)) OR (Ulcer, Aphthous)) OR (Aphthous Ulcer)) OR (Aphthous Ulcers)) OR (Ulcers, Aphthous)) OR (Aphthae)) OR (Canker Sore)) OR (Canker Sores)) OR (Sore, Canker)) OR (Sores, Canker)) OR (Periadenitis Mucosa Necrotica Recurrens)) OR (Candidiasis oral)) OR (Candidiasis, Oral)) OR (Oral Candidiasis)) OR (Oral Candidiasis)) OR (Thrush)) OR (Moniliasis, Oral)) OR (Moniliasis, Oral)) OR (Oral Moniliasis)) OR (Oral Moniliasis)) OR (Candidiasis bucal)) OR (Oral Candidiasis)) OR (Candidíase Bucal)) OR (Micosis Oral)) AND (((Calidad de vida OR (Life Quality)) OR (Health-Related Quality Of Life)) OR (Health Related Quality Of Life)) OR (HRQOL)) OR (Quality of Life)) OR (Qualidade de Vida))

Tabla 3. ESTRATEGIA DE BUSQUEDA EMBASE

Temática	Estrategia PICO
#1	('palliative therapy'/exp OR 'palliation' OR 'palliative care' OR 'palliative consultation' OR 'palliative medicine' OR 'palliative radiotherapy' OR 'palliative surgery' OR 'palliative therapy' OR 'palliative treatment' OR 'symptomatic treatment') AND ('mouth disease'/exp OR 'diagnosis, oral' OR 'leukoedema, oral' OR 'leukoedema, oral' OR 'mouth abnormalities' OR 'mouth disease' OR 'mouth diseases' OR 'mouth submucous fibrosis' OR 'oral diagnosis' OR 'oral disease' OR 'oral leukoedema' OR 'oral manifestations' OR 'oral submucous fibrosis' OR 'stomatognathic diseases' OR 'oral leukoedema') AND ('analgesia'/exp OR 'analgesia' OR 'pain management' OR 'pain relief' OR 'sequential analgetic analgesia' OR 'surgical analgesia') AND ('quality of life'/exp OR 'hrql' OR 'health related quality of life' OR 'life quality' OR 'quality of life')

c. Resultados de aplicación de estrategia de búsqueda por temática en bases de datos (Pubmed -Embase)

Tabla 4. Resultados aplicación de estrategia de búsqueda por temática Pubmed Fecha: Abril de 2021			
Búsqueda	Algoritmos	Cantidad de artículos encontrados	Cantidad seleccionada por Titulo/ abstract
#1	(((((Cuidados paliativos) OR (Palliative care)) OR (Palliative care)) OR (Palliative Treatment)) OR (Palliative Treatments)) OR (Treatment, Palliative)) OR (Treatments, Palliative)) OR (Therapy, Palliative)) OR (Palliative Therapy)) OR (Palliative Supportive Care)) OR (Supportive Care, Palliative)) OR (Palliative Surgery)) OR (Surgery, Palliative)) OR (Atención paliativa)) OR (Asistencia paliativa de apoyo)) OR (Apoyo en cuidados paliativos)) OR (Tratamiento paliativo)) OR (medicina paliativa)	104.889	
#2	(((((Manifestaciones orales) OR (Manifestation, Oral)) OR (Manifestations, Oral)) OR (Oral Manifestation)) OR (Manifestaciones bucales)) OR (Mucositis oral)) OR (Stomatitides)) OR (Oral Mucositis)) OR (Mucositides, Oral)) OR (Oral Mucositides)) OR (Oromucositis)) OR (Oromucositides)) OR (Mucositis, Oral)) OR (Mucositis)) OR (Ulcer oral)) OR (Oral ulcer)) OR (Oral Ulcers)) OR (Ulcer, Oral)) OR (Ulcers, Oral)) OR (Mouth Ulcer)) OR (Mouth Ulcers)) OR (Ulcer, Mouth)) OR (Ulcers, Mouth)) OR (ulceras bucales)) OR (ulceras orais)) OR (Afta)) OR (Aphthous Stomatitides)) OR (Aphthous Stomatitis)) OR (Stomatitides, Aphthous)) OR (Ulcer, Aphthous)) OR (Aphthous Ulcer)) OR (Aphthous Ulcers)) OR (Ulcers, Aphthous)) OR (Aphthae)) OR (Canker Sore)) OR (Canker Sores)) OR (Sore, Canker)) OR (Sores, Canker)) OR (Periadenitis Mucosa Necrotica Recurrens)) OR (Candidiasis oral)) OR (Candidiasis, Oral)) OR (Oral Candidiasis)) OR (Oral Candidiasis)) OR (Thrush)) OR (Moniliasis, Oral)) OR (Moniliasis, Oral)) OR (Oral Moniliasis)) OR (Oral Moniliasis)) OR (Candidiasis bucal)) OR (Oral Candidiasis)) OR (Candidíase Bucal)) OR (Micosis Oral)	402.955	
#3	((((Manejo del dolor) OR (pain management)) OR (Management, Pain)) OR (Managements, Pain)) OR (Pain Managements)	141.384	
#4	(((((Calidad de vida) OR (Life Quality)) OR (Health-Related Quality Of Life)) OR (Health Related Quality Of Life)) OR (HRQOL)) OR (Quality of Life)) OR (Qualidade de Vida)	431.767	
#5	(((((Cuidados paliativos) OR (Palliative care)) OR (Palliative care)) OR (Palliative Treatment)) OR (Palliative Treatments)) OR (Treatment, Palliative)) OR (Treatments, Palliative)) OR (Therapy, Palliative)) OR (Palliative Therapy)) OR (Palliative Supportive Care)) OR (Supportive Care, Palliative)) OR (Palliative Surgery)) OR (Surgery, Palliative)) OR (Atención paliativa)) OR (Asistencia paliativa de apoyo)) OR (Apoyo en cuidados paliativos)) OR (Tratamiento paliativo)) OR (medicina paliativa)) AND (((((Calidad de vida) OR (Life Quality))	17.670 (#1 AND #4)	

	OR (Health-Related Quality Of Life)) OR (Health Related Quality Of Life)) OR (HRQOL)) OR (Quality of Life)) OR (Qualidade de Vida))		
#6	<p>(((((Manifestacion s orales OR (Manifestation, Oral)) OR (Manifestations, Oral)) OR (Oral Manifestation)) OR (Manifestaciones bucales)) OR (Mucositis oral)) OR (Stomatitides)) OR (Oral Mucositis)) OR (Mucositides, Oral)) OR (Oral Mucositides)) OR (Oromucositis)) OR (Oromucositides)) OR (Mucositis, Oral)) OR (Mucositis)) OR (Ulcera oral)) OR (Oral ulcer)) OR (Oral Ulcers)) OR (Ulcer, Oral)) OR (Ulcers, Oral)) OR (Mouth Ulcer)) OR (Mouth Ulcers)) OR (Ulcer, Mouth)) OR (Ulcers, Mouth)) OR (ulceras bucales)) OR (ulceras orais)) OR (Afta)) OR (Aphthous Stomatitides)) OR (Aphthous Stomatitis)) OR (Stomatitides, Aphthous)) OR (Ulcer, Aphthous)) OR (Aphthous Ulcer)) OR (Aphthous Ulcers)) OR (Ulcers, Aphthous)) OR (Aphthae)) OR (Canker Sore)) OR (Canker Sores)) OR (Sore, Canker)) OR (Sores, Canker))) OR (Periadenitis Mucosa Necrotica Recurrens)) OR (Candidiasis oral)) OR (Candidiases, Oral)) OR (Oral Candidiases)) OR (Oral Candidiasis)) OR (Thrush)) OR (Moniliasis, Oral)) OR (Monilias, Oral)) OR (Oral Moniliasis)) OR (Oral Moniliasis)) OR (Candidiasis bucal)) OR (Oral Candidiasis)) OR (Candidíase Bucal)) OR (Micosis Oral)) AND (((((Calidad de vida OR (Life Quality)) OR (Health-Related Quality Of Life)) OR (Health Related Quality Of Life)) OR (HRQOL)) OR (Quality of Life)) OR (Qualidade de Vida))</p>	4296 (#2 AND #3)	
#7	<p>(((((Cuidados paliativos) OR (Palliative care)) OR (Palliative care)) OR (Palliative Treatment)) OR (Palliative Treatments)) OR (Treatment, Palliative)) OR (Treatments, Palliative)) OR (Therapy, Palliative)) OR (Palliative Therapy)) OR (Palliative Supportive Care)) OR (Supportive Care, Palliative)) OR (Palliative Surgery)) OR (Surgery, Palliative)) OR (Atención paliativa)) OR (Asistencia paliativa de apoyo)) OR (Apoyo en cuidados paliativos)) OR (Tratamiento paliativo)) OR (medicina paliativa)) AND (((((Calidad de vida OR (Life Quality)) OR (Health-Related Quality Of Life)) OR (Health Related Quality Of Life)) OR (HRQOL)) OR (Quality of Life)) OR (Qualidade de Vida))) AND ((((((Manifestacion es orales OR (Manifestation, Oral)) OR (Manifestations, Oral)) OR (Oral Manifestation)) OR (Manifestaciones bucales)) OR (Mucositis oral)) OR (Stomatitides)) OR (Oral Mucositis)) OR (Mucositides, Oral)) OR (Oral Mucositides)) OR (Oromucositis)) OR (Oromucositides)) OR (Mucositis, Oral)) OR (Mucositis)) OR (Ulcera oral)) OR (Oral ulcer)) OR (Oral Ulcers)) OR (Ulcer, Oral)) OR (Ulcers, Oral)) OR (Mouth Ulcer)) OR (Mouth Ulcers)) OR (Ulcer, Mouth)) OR (Ulcers, Mouth)) OR (ulceras bucales)) OR (ulceras orais)) OR (Afta)) OR (Aphthous Stomatitides)) OR (Aphthous Stomatitis)) OR (Stomatitides, Aphthous)) OR (Ulcer, Aphthous)) OR (Aphthous Ulcer)) OR (Aphthous Ulcers)) OR (Ulcers, Aphthous)) OR (Aphthae)) OR (Canker Sore)) OR (Canker Sores)) OR (Sore, Canker)) OR (Sores, Canker))) OR (Periadenitis Mucosa Necrotica Recurrens)) OR</p>	169 (#5 AND #6)	94

	(Candidiasis oral)) OR (Candidiasis, Oral)) OR (Oral Candidiasis)) OR (Oral Candidiasis)) OR (Thrush)) OR (Moniliasis, Oral)) OR (Moniliasis, Oral)) OR (Oral Moniliasis)) OR (Oral Moniliasis)) OR (Candidiasis bucal)) OR (Oral Candidiasis)) OR (Candidíase Bucal)) OR (Micosis Oral)) AND ((((((Calidad de vida) OR (Life Quality)) OR (Health-Related Quality Of Life)) OR (Health Related Quality Of Life)) OR (HRQOL)) OR (Quality of Life)) OR (Qualidade de Vida)))		
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Tabla 5. Resultados aplicación de estrategia de búsqueda por temática Embase Fecha: abril de 2021			
Búsqueda	Algoritmos	Cantidad de artículos encontrados	Cantidad seleccionada por Titulo/ abstract
#1	('palliative therapy'/exp OR 'palliation' OR 'palliative care' OR 'palliative consultation' OR 'palliative medicine' OR 'palliative radiotherapy' OR 'palliative surgery' OR 'palliative therapy' OR 'palliative treatment' OR 'symptomatic treatment') AND ('mouth disease'/exp OR 'diagnosis, oral' OR 'leukoedema, oral' OR 'leukooedema, oral' OR 'mouth abnormalities' OR 'mouth disease' OR 'mouth diseases' OR 'mouth submucous fibrosis' OR 'oral diagnosis' OR 'oral disease' OR 'oral leukoedema' OR 'oral manifestations' OR 'oral submucous fibrosis' OR 'stomatognathic diseases' OR 'oral leukooedema') AND ('analgesia'/exp OR 'analgesia' OR 'pain management' OR 'pain relief' OR 'sequential analgesia' OR 'surgical analgesia') AND ('quality of life'/exp OR 'hrql' OR 'health related quality of life' OR 'life quality' OR 'quality of life')	121	
#2	#1 AND [embase]/lim NOT ([embase]/lim AND [medline]/lim)	30	14

d. Preselección de artículos por temática

Se descargan las referencias de los artículos encontrados en las bases de datos de PubMed y Embase, se cargan en el programa referenciador Mendeley y solo se encuentra un artículo duplicado, esto teniendo en cuenta que en la base de datos de Embase se limitaron los resultados únicamente a los de esta base de datos. Una vez se obtuvieron los resultados, se realiza una lectura inicial de los títulos y abstract de los 199 artículos encontrados y se descartan los artículos que no tienen interés en la temática de estudio. Se agregan los títulos y abstract de los artículos que se consideran útiles y se ingresan en la siguiente tabla. En total 108 artículos son ingresados. **(Tabla 6)**

TABLA 6 . Preselección de artículos por temática	
TEMATICA	CUIDADOS PALIATIVOS + MANIFESTACIONES ORALES + MANEJO DEL DOLOR + CALIDAD DE VIDA
BASE DE DATOS	PUBMED – EMBASE
ALGORITMO FINAL	#7 PubMed y #2 Embase
artículos preseleccionados	
Referencia -estilo Vancouver y abstract	

1. Taylor J, Glenny AM, Walsh T, Brocklehurst P, Riley P, Gorodkin R, Pemberton MN. Interventions for the management of oral ulcers in Behçet's disease. Cochrane Database Syst Rev. 2014 Sep 25;2014(9):CD011018. doi: 10.1002/14651858.CD011018.pub2. PMID: 25254615; PMCID: PMC6872426

Abstract

Background: Behçet's disease is a chronic inflammatory vasculitis that can affect multiple systems. Mucocutaneous involvement is common, as is the involvement of many other systems such as the central nervous system and skin. Behçet's disease can cause significant morbidity, such as loss of sight, and can be life threatening. The frequency of oral ulceration in Behçet's disease is thought to be 97% to 100%. The presence of mouth ulcers can cause difficulties in eating, drinking, and speaking leading to a reduction in quality of life. There is no cure for Behçet's disease and therefore treatment of the oral ulcers that are associated with Behçet's disease is palliative.

Objectives: To determine the clinical effectiveness and safety of interventions on the pain, episode duration, and episode frequency of oral ulcers and on quality of life for patients with recurrent aphthous stomatitis (RAS)-type ulceration associated with Behçet's disease.

Search methods: We undertook electronic searches of the Cochrane Oral Health Group Trials Register (to 4 October 2013); the Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library 2013, Issue 9); MEDLINE via Ovid (1946 to 4 October 2013); EMBASE via Ovid (1980 to 4 October 2013); CINAHL via EBSCO (1980 to 4 October 2013); and AMED via Ovid (1985 to 4 October 2013). We searched the US National Institutes of Health trials register (<http://clinicaltrials.gov>) and the World Health Organization (WHO) Clinical Trials Registry Platform for ongoing trials. There were no restrictions on language or date of publication in the searches of the electronic databases. We contacted authors when necessary to obtain additional information.

Selection criteria: We included randomised controlled trials (RCTs) that looked at pre-specified oral outcome measures to assess the efficacy of interventions for mouth ulcers in Behçet's disease. The oral outcome measures included pain, episode duration, episode frequency, safety, and quality of life. Trials were not restricted by outcomes alone.

Data collection and analysis: All studies meeting the inclusion criteria underwent data extraction and an assessment of risk of bias, independently by two review authors and using a pre-standardised data extraction form. We used standard methodological procedures expected by The Cochrane Collaboration.

Main results: A total of 15 trials (n = 888 randomised participants) were included, 13 were placebo controlled and three were head to head (two trials had more than two treatment arms). Eleven of the trials were conducted in Turkey, two in Japan, one in Iran and one in the UK. Most trials used the International Study Group criteria for Behçet's disease. Eleven different interventions were assessed. The interventions were grouped into two categories, topical and systemic. Only one study was assessed as being at low risk of bias. It was not possible to carry out a meta-analysis. The quality of the evidence ranged from moderate to very low and there was insufficient evidence to support or refute the use of any included intervention with regard to pain, episode duration, or episode frequency associated with oral ulcers, or safety of the interventions.

Authors' conclusions: Due to the heterogeneity of trials including trial design, choice of intervention, choice and timing of outcome measures, it was not possible to carry out a meta-analysis. Several interventions show promise and future trials should be planned and reported according to the CONSORT guidelines. Whilst the primary aim of many trials for Behçet's disease is not necessarily reduction of oral ulceration, reporting of oral ulcers in these studies should be standardised and pre-specified in the methodology. The use of a core outcome set for oral ulcer trials would be beneficial.

2. Blakaj A, Bonomi M, Gamez ME, Blakaj DM. Oral mucositis in head and neck cancer: Evidence-based management and review of clinical trial data. Oral Oncol. 2019 Aug;95:29-34. doi: 10.1016/j.oraloncology.2019.05.013. Epub 2019 Jun 6. PMID: 31345391

Abstract

Oral Mucositis (OM) continues to be an oncologic challenge in the context of antineoplastic therapy for head and neck cancer (HNC) treatment. It is a dose-limiting toxicity of chemotherapy and radiation treatment and negatively impacts quality of life and cancer treatment efficacy. Significant effort in the field of OM has been made to help alleviate its symptoms and its subsequent clinical and economic impact. Despite these advances, the treatment of oral mucositis remains difficult and focuses on palliative measures. There are, however, many promising new biological targets currently undergoing investigation to ameliorate or help prevent the toxicity of OM in HNC. Some of these targets undergoing investigation in phase 2 and 3 clinical trials are further highlighted along with the pathobiology of OM, clinical course, prevention, and management measures.

Keywords: Chemo-radiation; Chemotherapy; Head and neck cancer; Oral mucositis; Radiotherapy.

3. Bossi P, Giusti R, Tarsitano A, Airoidi M, De Sanctis V, Caspiani O, Alterio D, Tartaro T, Alfieri S, Siano M. The point of pain in head and neck cancer. Crit Rev Oncol Hematol. 2019 Jun;138:51-59. doi: 10.1016/j.critrevonc.2019.04.001. Epub 2019 Apr 5. PMID: 31092385.

Abstract

Head and neck cancer (HNC) can have a devastating impact on patient's lives as both disease and treatment may affect the ability to speak, swallow and breathe. These conditions limit the oral intake of food and drugs, reduce social functioning and

impact on patient's quality of life. Up to 80% of patients suffering from HNC have pain due to the spread of the primary tumor, because of consequences of surgery, or by developing oral mucositis, dysphagia or neuropathy as toxic side effects of radiotherapy, chemotherapy or both. All healthcare professionals caring for HNC patients should assess palliative and supportive care needs in initial treatment planning and throughout the disease, with awareness when specialist palliative care expertise is needed. This paper focuses on assessment, characterizations and clinical management of pain in advanced HNC patients undergoing surgery, chemotherapy and radiotherapy, also underlining the importance of symptom assessment in HNC survivors and the need of clinical research in this field.

Keywords: Clinical research; Head and neck cancer; Pain; Quality of life.

4. Wiseman M. Palliative Care Dentistry: Focusing on Quality of Life. *Compend Contin Educ Dent.* 2017 Sep;38(8):529-534; quiz 535. PMID: 28862468.

Abstract

Palliative care dentistry is the management of patients with progressive, far-advanced disease for whom the oral cavity has been compromised either by disease or by treatment. The focus of care is on the immediate quality of life. Typically, the palliative care team neglects to include a dentist despite many patients under its care, including those with cancer, exhibiting oral problems such as xerostomia, candidiasis, mucositis, and loss of masticatory function. This article will discuss the oral care of patients with terminal illnesses, many of whom have oral maladies that negatively impact quality of life. Treatment options for these patients will be outlined.

5. Mercadante S, Aielli F, Adile C, Ferrera P, Valle A, Fusco F, Caruselli A, Cartoni C, Massimo P, Masedu F, Valenti M, Porzio G. Prevalence of oral mucositis, dry mouth, and dysphagia in advanced cancer patients. *Support Care Cancer.* 2015 Nov;23(11):3249-55. doi: 10.1007/s00520-015-2720-y. Epub 2015 Apr 3. PMID: 25832897.

Abstract

Background: Oral symptoms can be a sign of an underlying systemic condition and have a significant impact on quality of life, nutrition, and cost of care, while these lesions are often studied in the context of cancer treatment. However, information regarding oral symptoms in advanced cancer patients is poor. The aim of this multicenter study was to determine the prevalence and the characteristics of oral symptoms in a large population of advanced cancer patients.

Methods: A consecutive sample of patients with advanced cancer for a period of 6 months was prospectively assessed for an observational study. At time of admission, the epidemiological characteristics, surgery-radiotherapy of head and neck, and oncologic treatments in the last month were recorded. The presence of mucositis, dry mouth, and dysphagia was assessed by clinical examination and patients' report and their intensity recorded. Patients were also asked whether they had limitation on nutrition of hydration due to the local condition.

Results: Six hundred sixty-nine patients were surveyed in the period taken into consideration. The mean age was 72.1 years (SD 12.3), and 342 patients were males. The primary tumors are listed in Table 1. The prevalence of mucositis was 22.3 %. The symptom relevantly reduced the ingestion of food or fluids and was statistically associated with the Karnofsky level and head and neck cancer. The prevalence of dry mouth was 40.4 %, with a mean intensity of 5.4 (SD 2.1). Several drugs were concomitantly given, particularly opioids (78 %), corticosteroids (75.3 %), and diuretics (70.2 %). Various and nonhomogeneous treatments were given for dry mouth, that was statistically associated with current or recent chemotherapy, and hematological tumors. The prevalence of dysphagia was 15.4 % with a mean intensity of 5.34 (SD 3). Dysphagia for liquids was observed in 52.4 % of cases. A high level of limitation for oral nutrition due to dysphagia was found, and in 53.4 % of patients, alternative routes to the oral one were used. Dysphagia was statistically associated with the Karnofsky level and head and neck cancer. A strong relationship between the three oral symptoms was found.

Conclusion: In advanced cancer patients, a range of oral problems significantly may impact on the physical, social, and psychological well-being of advanced cancer patients to varying degrees. These symptoms should be carefully assessed early but become imperative in the palliative care setting when they produce relevant consequences that may be life-threatening other than limiting the daily activities, particularly eating and drinking.

Keywords: Advanced cancer; Dry mouth; Dysphagia; Mucositis; Oral symptoms; Palliative care; Supportive care.

6. Cartee DL, Maker S, Dalonges D, Manski MC. Sjögren's Syndrome: Oral Manifestations and Treatment, a Dental Perspective. *J Dent Hyg.* 2015 Dec;89(6):365-71. PMID: 26684993.

Abstract

Purpose: Sjögren's syndrome is a systemic autoimmune disease affecting approximately 3 million Americans, primarily perimenopausal women. The syndrome is characterized by dysfunction and destruction of exocrine glands leading to oral and ocular manifestations, xerostomia and keratitis sicca. Sjögren's syndrome commonly remains either undiagnosed or is diagnosed years after the onset of symptoms. Diagnosis is based on the concurrent presence of various signs and symptoms of the disease as established by 6 diagnostic standards set by the American European Consensus Group standards: oral symptoms, ocular symptoms, evidence of oral signs, evidence of ocular dryness, evidence of salivary gland involvement with

positive Anti-Ro/La autoantibodies and a positive gland biopsy. Currently no definitive test or cure exists; treatment is predominately palliative and supportive.

Conclusion: With an aging population and heavier reliance on medications and treatments which cause xerostomia, oral health professionals are likely to encounter a higher incidence of xerostomia and Sjögren's syndrome more than ever before. The dental professional must recognize the signs and symptoms of xerostomia, include Sjögren's syndrome in their differential diagnosis, and communicate those findings and concerns to other health care providers, including the primary care physician, rheumatologist and ophthalmologist for evaluation in a timely fashion. This article discusses the dental professional's role in formulating a preventive oral health plan: meticulous oral hygiene instructions, dietary counseling, a complement of chemotherapeutic agents and more frequent recall care to avoid oral complications and improve quality of life. Dental hygienists can help patients understand the wide range of products available to substitute or stimulate salivary flow, prevent or remineralize early carious lesions and relieve candidal and bacterial infections. Ultimately this collaboration of care by the dental and medical professionals will benefit the Sjögren's syndrome patient and lead to better patient outcomes.

Keywords: Sjögren syndrome; autoimmune; interprofessional; sicca; xerostomia.

7. Magnani C, Mastroianni C, Giannarelli D, Stefanelli MC, Di Cienzo V, Valerioti T, Casale G. Oral Hygiene Care in Patients With Advanced Disease: An Essential Measure to Improve Oral Cavity Conditions and Symptom Management. Am J Hosp Palliat Care. 2019 Sep;36(9):815-819. doi: 10.1177/1049909119829411. Epub 2019 Feb 12. PMID: 30754984.

Abstract

Background: Oral problems are frequent in palliative care and can cause disabling symptoms such as orofacial pain, dysgeusia, and xerostomia. Even if oral care is an essential aspect of nursing, it is often not considered as a priority, especially when various complex patients' needs have to be managed.

Objective: The aim of this study was to describe oral conditions and evaluate the impact of standard oral care on symptom control and patient's perceived comfort in a sample of terminally ill patients.

Method: A prospective cohort study was carried out among 415 patients who were admitted to hospice. Patients were recruited before undergoing standard assisted procedure for oral hygiene care. Oral cavity condition, symptoms, and comfort were assessed at the recruitment (T0) and after 3 days (T2).

Results: Seventy-five eligible patients were recruited. The Oral Assessment Guide score was significantly decreased after oral standard care (P value <.0001). The average time spent by nursing staff for oral hygiene care was 5.3 minutes. Dysgeusia and xerostomia were significantly decreased after oral standard care (P = .02 and P = .03). Patients reported a high level of comfort (86.6%) after the procedures for oral hygiene care.

Conclusion: Patients admitted to hospice had frequent alterations in oral cavity with partial loss of its functions that can compromise their quality of life. Standard procedures for oral hygiene care are simple and fast to perform, and they may improve oral cavity conditions, symptoms control, and patients' comfort.

Keywords: advanced disease; hospice; mucositis; oral care; oral problems; palliative care.

8. Yadav V, Kumar V, Sharma S, Chawla A, Logani A. Palliative dental care: Ignored dimension of dentistry amidst COVID-19 pandemic. Spec Care Dentist. 2020 Nov;40(6):613-615. doi: 10.1111/scd.12517. Epub 2020 Sep 3. PMID: 32882066.

Abstract

Palliative care (PC) represents an approach that encompasses the procedures to relieve pain and distressing symptoms and maintain function as much as possible in the terminally ill patient until death. PC dentistry (PCD) is an approach for providing supportive and palliative dental care in patients with serious life-threatening illness (cancer, chronic heart failure, chronic obstructive pulmonary disease and cognitive impairment). The care is provided at different time points of diseases (i.e., from in-therapy care to survivorship care to end-of-life care). Dentists have a significant role to play in the multidisciplinary team of PC. Oral health problems (ulcers, mucositis, pulpitis and abscess) have a negative impact on general health and quality of life and can be acutely debilitating in these patients. These patients with existing comorbidities are at increased risk of developing oral complications. Furthermore, social isolation can cause an increase in anxiety, hopelessness, psychosocial and existential suffering amongst these patients. It is essential to incorporate PCD in the guidelines of critical dental care during the COVID-19 pandemic to decrease the suffering of these patients by symptom management. Teledentistry can be used with caution to provide at-home care to such patients during the pandemic.

Keywords: dental treatment; end of life care; oncological patient; oral health.

9. Ruiz M, Reynolds P, Marranzini R, Khan A, Ketterer J, Brahim A. Role of Early Palliative Care Interventions in Hematological Malignancies and Bone Marrow Transplant Patients: Barriers and Potential Solutions. Am J Hosp Palliat Care. 2018 Nov;35(11):1456-1460. doi: 10.1177/1049909118772849. Epub 2018 Apr 26. PMID: 29699418.

Abstract

Introduction: Despite advances in palliative care management of physical, psychological, and emotional symptoms along the spectrum of chronic conditions, early palliative care interventions are not used frequently and comprehensively in bone marrow transplant units.

Methods: The literature review of PubMed articles in English published until December 2017.

Results: Patients with hematologic malignancies and bone marrow transplant interventions are a heterogeneous group. The majority experience symptoms associated with induction or condition regimens. Curative intent of treatment is the norm. Pain, mucositis, nausea and vomiting, diarrhea, psychological, spiritual, and emotional concerns may not be properly and comprehensively tackled by primary oncology and bone marrow transplant teams. Quality of life may be decreased due to the presence of these symptoms. Obstacles to early palliative care interventions include overestimation of survival, focus on curative intent with underestimation of palliative care needs, lack of a comprehensive understanding of hematologic malignancies and bone marrow transplant process on the side of palliative care providers, and logistical restrictions. Potential interventions include education of oncologists, palliative care providers, patients, integration of models of care pre- and posttreatment and bone marrow transplantation, development of guidelines, institutional commitment and leadership in creating new initiatives, clinical research activities to measure outcomes, and community-based participatory research.

Conclusions: Early palliative care interventions are beneficial for patients with hematologic malignancies and bone marrow transplant processes. Better understanding of barriers to its implementation and development of creative initiatives is of paramount importance. New research endeavors should focus on providers' attitudes toward patients and communities.

Keywords: barriers; bone marrow transplant; oncology; palliative care; solutions; symptom control.

10. Lalla RV, Sonis ST, Peterson DE. Management of oral mucositis in patients who have cancer. Dent Clin North Am. 2008 Jan;52(1):61-77, viii. doi: 10.1016/j.cden.2007.10.002. PMID: 18154865; PMCID: PMC2266835.

Abstract

Oral mucositis is a clinically important and sometimes dose-limiting complication of cancer therapy. Mucositis lesions can be painful, affect nutrition and quality of life, and have a significant economic impact. The pathogenesis of oral mucositis is multifactorial and complex. This review discusses the morbidity, economic impact, pathogenesis and clinical course of mucositis. Current clinical management of oral mucositis is largely focused on palliative measures such as pain management, nutritional support and maintenance of good oral hygiene. However, several promising therapeutic agents are in various stages of clinical development for the management of oral mucositis. These agents are discussed in the context of recently updated evidence-based clinical management guidelines.

11. Wiffen PJ, Cooper TE, Anderson AK, Gray AL, Grégoire MC, Ljungman G, Zernikow B. Opioids for cancer-related pain in children and adolescents. Cochrane Database Syst Rev. 2017 Jul 19;7(7):CD012564. doi: 10.1002/14651858.CD012564.pub2. PMID: 28722116; PMCID: PMC6484393.

Abstract

Background: Pain is a common feature of childhood and adolescence around the world, and for many young people, that pain is chronic. The World Health Organization (WHO) guidelines for pharmacological treatments for children's persisting pain acknowledge that pain in children is a major public health concern of high significance in most parts of the world. Views on children's pain have changed over time and relief of pain is now seen as important. In the past, pain was largely dismissed and was frequently left untreated, and it was assumed that children quickly forgot about painful experiences. We designed a suite of seven reviews in chronic non-cancer pain and cancer pain (looking at antidepressants, antiepileptic drugs, non-steroidal anti-inflammatory drugs, opioids, and paracetamol) to review the evidence for children's pain using pharmacological interventions. As one of the leading causes of mortality and morbidity for children and adolescents in the world today, childhood cancer (and its associated pain) is a major health concern. Cancer pain in infants, children, and adolescents is primarily nociceptive pain with negative long term effects. Cancer-related pain is generally caused directly by the tumour itself such as compressing on the nerve or inflammation of the organs. Cancer-related pain generally occurs as a result of perioperative procedures, nerve damage caused by radiation or chemotherapy treatments, or mucositis. However, this review focused on pain caused directly by the tumour itself such as nerve infiltration, external nerve compression, and other inflammatory events. Opioids are used worldwide for the treatment of pain. Currently available opioids include: buprenorphine, codeine, fentanyl, hydromorphone, methadone, morphine, oxycodone, and tramadol. Opioids are generally available in healthcare settings across most developed countries but access may be restricted in developing countries. To achieve adequate pain relief in children using opioids, with an acceptable grade of adverse effects, the recommended method is to start with a low dose gradually titrated to effect or unacceptable adverse effect in the child. **Objectives:** To assess the analgesic efficacy, and adverse events, of opioids used to treat cancer-related pain in children and adolescents aged between birth and 17 years, in any setting. **Search methods:** We searched the Cochrane Central Register of Controlled Trials (CENTRAL) via the Cochrane Register of Studies Online, MEDLINE via Ovid and Embase via Ovid from inception to 22 February 2017. We also searched the reference lists of retrieved studies and reviews, and searched online clinical trial registries. **Selection criteria:** Randomised controlled trials (RCTs), with or without blinding, of any dose, and any route, treating cancer-related pain in children and adolescents, comparing opioids with placebo or an active comparator. **Data collection and analysis:** Two review authors independently assessed studies for eligibility. We planned to use dichotomous data to calculate risk ratio and number needed to treat for one additional event, using standard methods. We assessed GRADE (Grading of Recommendations

Assessment, Development and Evaluation) and planned to create a 'Summary of findings' table. **Main results:** No studies were identified that were eligible for inclusion in this review (very low quality evidence). Several studies tested opioids on adults with cancer-related pain, but none in participants aged from birth to 17 years. We rated the quality of evidence as very low, downgraded due to a lack of available data; no analyses could be undertaken. **Authors' conclusions:** No conclusions can be drawn about efficacy or harm in the use of opioids to treat cancer-related pain in children and adolescents. As a result, there is no RCT evidence to support or refute the use of opioids to treat cancer-related pain in children and adolescents.

12. Wulf H, Volberg C, Morin A. Symptomkontrolle in der Palliativmedizin (ohne Schmerztherapie) [Symptom Control in Palliative Care]. Anesthesiol Intensivmed Notfallmed Schmerzther. 2020 Jan;55(1):12-26. German. doi: 10.1055/a-0862-4189. Epub 2020 Jan 22. PMID: 31968387.

Abstract

Patients with palliative diseases often suffer from a variety of onerous symptoms with marked impairment in quality of life. The treatment is often difficult. One reason is that patients usually have several problems at the same time. Another reason is that the need for medication can cause additional side effects, which in turn have to be treated as well. In this article we explain most of these symptoms and give treatment recommendations based on the current literature (excluding pain therapy). In particular, this article is divided into the following sub-items: mucositis/stomatitis, dyspnea, nausea, constipation, anxiety, depression, weakness/fatigue, delirium, sleep disorders and terminal restlessness, pruritus, pleural effusion, ascites. Most palliative patients need individualized treatment. Sometimes medication has to be used in an off-label way, and sometimes one must just hold a hand and be there for the patient or their relatives. The most important principle in working with palliative care patients is to maintain or restore quality of life. Our therapy should always be adapted to the needs of the patient and the most important goal is to preserve our patients' autonomy.

13. Mudgal A, Arya AK, Yadav I, Chaudhary S. Role of hypofractionated palliative radiotherapy in patients with stage four head-and-neck squamous cell carcinoma. J Cancer Res Ther. 2019 Jul-Sep;15(3):528-532. doi: 10.4103/jcrt.JCRT_116_18. PMID: 31169215.

Abstract

Background: Large number of patients with head-and-neck cancer presents with factors such as advanced disease, poor general condition, and associated comorbidities due to which radical treatment is not recommended in these patients. In this scenario, the aim of the present study is to assess the role and feasibility of hypofractionated palliative radiotherapy in these patients. **Subjects and methods:** This study was conducted on patients with histopathologically proven cases of squamous cell carcinoma of the head-and-neck region who were surgically unresectable. The quality of life (QOL) was assessed before and after 1 month of radiotherapy using University of Washington Quality of Life questionnaire version 4. All patients received 40 Gy in 10 fractions, twice weekly by two lateral fields covering primary and secondary disease. Response evaluation criteria in solid tumor criteria were used to assess the tumor response. Toxicity was assessed weekly using radiation therapy oncology group criteria. **Results:** A total of 50 patients were enrolled in this study, out of which 46 completed the planned treatment of 40 Gy in 10 fractions. Common complaints were distressing pain at the primary site (42%), neck swelling (30%), difficult in swallowing (18%), and change in voice (10%). Statistically significant improvements were observed in overall QOL (26.9 ± 9.63 to 55.65 ± 19.28) and none of them experienced Grade IV mucositis or skin toxicity. Good objective response was seen in 82.6% and 84.7% of patients at primary and nodal sites, respectively. **conclusions:** This hypofractionated palliative radiotherapy regimen is a good treatment option in patients with Stage IV head-and-neck cancer, who are not fit for treatment with curative intent. **Keywords:** Head and neck cancer; hypofractionated radiotherapy; pain control; palliative radiotherapy.

14. Rathe M, Shen RL, Sangild PT. Trophic factors in the treatment and prevention of alimentary tract mucositis. Curr Opin Support Palliat Care. 2018 Jun;12(2):181-186. doi: 10.1097/SPC.0000000000000340. PMID: 29521658.

Abstract

Purpose of review: Mucositis is a common adverse effect of cytotoxic anticancer treatment with serious implications for the quality of life, morbidity and mortality of cancers patients. Although, evidence supporting the use of certain treatments exists there is no gold standard for preventing or treating mucositis. Current management strategies are scarce with recommendations referring primarily to specific cytotoxic treatment regimens in certain clinical scenarios. **Recent findings:** Trophic factors may contribute to preserve epithelial integrity, function, and accelerate regeneration after chemotherapeutic treatment. Accordingly, various growth factors have been evaluated in the prevention or treatment of alimentary tract mucositis. However, in spite of often showing promising results in preclinical testing currently perifermin is the only trophic factor recommended for the prevention of mucositis. **Summary:** More knowledge from representative preclinical models, and testing growth factor interventions across different models, may be the key to advance the field from basic science to clinical application of new growth factors. For promising new therapies, subsequent establishment of adequately powered clinical trials and uniform reporting of mucositis, are important elements to help establish new standard interventions that can be included into the continuously updated clinical recommendations for treatment of mucositis.

15. Chang VT, Ingham J. Symptom control. *Cancer Invest.* 2003;21(4):564-78. doi: 10.1081/cnv-120022376. PMID: 14533447.

Abstract

Symptom control has become increasingly recognized as an important goal in patient care. In this article, advances in symptom assessment, and various definitions of symptom improvement are reviewed. Theoretical concepts underlying symptom control and clinically significant change are presented, as well as the role of symptom control as an endpoint in clinical trials. Symptom control is then surveyed in two broad categories for selected symptoms. The first area is therapy related symptoms, secondary to chemotherapy, radiation, hormonal therapy, and surgery. Symptoms reviewed include chemotherapy related mucositis, emesis, fatigue; hot flashes; and radiation related dermatitis, xerostomia, and mucositis. The second area is palliative oncologic approaches to disease-related symptoms. Results in palliative chemotherapy, palliative radiation therapy, cancer pain, and lack of appetite are summarized. Areas requiring further research are noted. Findings are presented in both a clinical and research context to help guide the reader with interpreting symptom control studies.

16. Radwany SM, von Gruenigen VE. Palliative and end-of-life care for patients with ovarian cancer. *Clin Obstet Gynecol.* 2012 Mar;55(1):173-84. doi: 10.1097/GRF.0b013e31824b1af1. PMID: 22343236.

Abstract

Palliative care improves the quality of life of patients and their families through the prevention and treatment of distressing symptoms while addressing the psychological, social, and spiritual aspects of patient care. Emerging paradigms of delivery promote early involvement in the disease trajectory and specialty approaches to care. Interdisciplinary assessment and shared decision making are important components. Throughout the disease course, aggressive symptom management can improve patients' quality of life and their ability to tolerate and continue treatment. End-of-life care focuses on comfort, control, meaning, and support that become particularly intense when death is imminent.

17. Carlucci A, Guerrieri A, Nava S. Palliative care in COPD patients: is it only an end-of-life issue? *Eur Respir Rev.* 2012 Dec 1;21(126):347-54. doi: 10.1183/09059180.00001512. PMID: 23204123.

Abstract

The presence of acute or chronic respiratory failure is often seen as a terminal phase of chronic obstructive pulmonary disease. A great variability in end-of-life practice is observed in these patients mainly because physicians are not always able to correctly predict survival. There is a need for a clear discussion about decision making earlier than when acute respiratory failure ensues. Indeed, a perceived poor quality of life does not necessarily correlate with a clear willingness to refuse invasive or noninvasive mechanical ventilation. It has been suggested to start palliative care earlier, together with curative and restorative care, when there is an increased intensity of symptoms. The patients eligible for palliative care are those complaining of breathlessness, pain, fatigue and depression, which in some studies accounted for a prevalence much higher than 50%. Among comfort measures for palliation, oxygen is frequently prescribed even when the criteria for long-term home oxygen therapy are not met; however, when compared with air, no benefits on dyspnoea have been found. The only drug with a proven effect on dyspnoea is morphine, but not when it is delivered with a nebuliser. Finally, noninvasive ventilation may be used only as a comfort measure for palliation to maximise comfort by minimising adverse effects.

18. El Bousaadani A, Eljahd L, Abada R, Rouadi S, Roubal M, Mahtar M. Actualités de la prévention et du traitement des mucites orales chez les enfants cancéreux : recommandations pratiques [Prevention and treatment of mucositis in children with oral cancers: Practical recommendations]. *Cancer Radiother.* 2016 May;20(3):226-30. French. doi: 10.1016/j.canrad.2015.11.006. Epub 2016 Mar 28. PMID: 27032624.

Abstract

Oral mucositis is an inflammation of the mucosa of the oral cavity of various etiologies. This is a common and debilitating complication in children treated with chemoradiotherapy for cancer. Its management remains a major concern both for the doctor than the patient. It affects the quality of life of patients and families. It may initiate the functional and vital prognosis because of the judgment of cancer treatment. Several treatment options are available, but there is no clear consensus therapeutic especially for the pediatric population. We have identified, through a comprehensive literature search indexed publications on this subject in order to review the pharmacological and non-pharmacological approaches that have been used to prevent and treat oral mucositis. Thus, current recommendations for the management of oral mucositis are very limited, and therefore the standard of care for this complication was palliative. In recent years several studies have revealed that the use of low-energy laser was particularly interesting in the prevention and treatment of radiation-induced or chemically induced mucositis. It significantly reduces the pain, the severity and duration of the ulcer by promoting wound healing. Randomized controlled trials with a large number of patients are expected to establish preventive and therapeutic protocols. Treatment with low power laser, known devoid of side effects, is a very promising oncology care to support radio-induced mucositis and chemotherapy.

Keywords: Chemotherapy; Children with cancer; Chimiothérapie; Enfants cancéreux; Laser; Mucite orale; Oral mucositis; Radiotherapy; Radiothérapie.

19. Vadhan-Raj S, Goldberg JD, Perales MA, Berger DP, van den Brink MR. Clinical applications of palifermin: amelioration of oral mucositis and other potential indications. *J Cell Mol Med.* 2013 Nov;17(11):1371-84. doi: 10.1111/jcmm.12169. Epub 2013 Nov 19. PMID: 24251854; PMCID: PMC4117550.

Abstract

Mucositis is one of the most significant toxicities in cancer patients undergoing cytotoxic treatment. It can have a negative impact on both quality of life and health economics. Severe oral mucositis can contribute to hospitalization, need for narcotic analgesics, total parenteral nutrition, suboptimal delivery of anti-neoplastic treatment, and morbidity and mortality. Palifermin, a recombinant derivative of human keratinocyte growth factor, is the first active agent approved by the FDA for the prevention of severe oral mucositis in patients undergoing haematopoietic stem cell transplantation (HSCT). Several studies have also shown significant reduction in the incidence, severity and/or duration of oral mucositis in other high-risk settings such as concurrent chemoradiotherapy (CT/RT) for patients with head and neck cancer, and use of mucotoxic chemotherapeutic agents such as doxorubicin in sarcoma and fluorouracil for the treatment of colorectal cancer. The reduction in mucositis has translated into amelioration of symptoms and improvement in daily functioning as measured by patient-reported outcome in multiple studies. The clinical response to palifermin appears to be related in part to epithelial proliferation and mucosal thickening. Palifermin also has other potential clinical applications including the acceleration of immune reconstitution and inhibition of graft-versus-host disease in patients undergoing HSCT, and mitigation of dysphagia in lung cancer patients treated with concurrent CT/RT. Palifermin is generally well tolerated with mild-to-moderate skin and oral adverse events. Future studies may expand the use of palifermin into other areas that would benefit from its cytoprotective and regenerative effects. Keywords: GVHD; HSCT; KGF; dysphagia; immune reconstitution; mucositis; oral mucositis; palifermin; palliative care.

20. Chaitanya NC, Muthukrishnan A, Babu DBG, Kumari CS, Lakshmi MA, Palat G, Alam KS. Role of Vitamin E and Vitamin A in Oral Mucositis Induced by Cancer Chemo/Radiotherapy- A Meta-analysis. *J Clin Diagn Res.* 2017 May;11(5):ZE06-ZE09. doi: 10.7860/JCDR/2017/26845.9905. Epub 2017 May 1. PMID: 28658926; PMCID: PMC5483828.

Abstract

Introduction: Oral mucositis is known to hamper the quality of life in patients treated for oral cancer. Many pharmacological agents have been tried and tested in its management, especially vitamin supplements including A, E and their combinations. **Aim:** A Meta-analysis was carried out to evaluate the efficacy of vitamins individually used for prevention or treatment of oral mucositis separately for chemotherapy, concurrent chemo radiotherapy, radiotherapy and Haematopoietic Stem Cell Transplantation (HSCT) individuals. **Materials and methods:** The literature study was done using PUBMED, MEDLINE, EBSCO, GOOGLE SCHOLAR and COCHRANE data bases with keywords vitamin A, vitamin E, vitamin B, vitamin C, Oral mucositis, Chemotherapy, Radiotherapy, Concurrent chemo radiotherapy and Haematopoietic stem cell transplantation individually, from the year 1980 to 2016. Only randomized controlled trials were included. The data was extracted, tabulated and was subjected to statistical analysis with CI of 95%. **Results:** Among 201 subjects the analysis clearly demonstrated a male predominance to females in studies where male to female ratio was given. Out of 8 studies, 2 were studies in children and remaining 6 studies concentrated on adult population. WHO and NCI-CTC criteria were followed except for one study which used customised assessment. A meta-analysis was performed regarding usage of topical medication of Vitamin E group in all three cancer treatment modalities, which showed significant reduction in oral mucositis ($p < 0.001$). There was reduced oral mucositis in a small group of patients with Vitamin A when compared to controls. No information on the agent used for chemotherapy, the dose of radiotherapy and the type of tumours in 4 studies. **Conclusion:** Topical Vitamin E had performed better on oral mucositis than Vitamin E systemic administration. Though the efficacy of topical treatment with Vitamin A showed reduction in oral mucositis, it was evaluated in a very small sample which cannot be attributed to a larger sitting. **Keywords:** Epithelial proliferation; Haematopoietic stem cell transplantation; Levels of evidence.

21. Bossi P, Cossu Rocca M, Corvò R, Depenni R, Guardamagna V, Marinangeli F, Miccichè F, Trippa F. The vicious circle of treatment-induced toxicities in locally advanced head and neck cancer and the impact on treatment intensity. *Crit Rev Oncol Hematol.* 2017 Aug;116:82-88. doi: 10.1016/j.critrevonc.2017.05.012. Epub 2017 Jun 4. Erratum in: *Crit Rev Oncol Hematol.* 2017 Nov;119:29. PMID: 28693802.

Abstract

The intensity of the available treatment approaches for locally-advanced head and neck cancer (HNC) is at the upper limit of tolerance of acute toxicities. Several factors including breakthrough cancer pain, mucositis, dysphagia, local and systemic infections, and nutritional problems are related to treatment intensity. Particularly, pain, as symptom directly associated with the disease or combined with other treatment-related factors, has a major impact on quality of life of HNC patients and ultimately can influence the efficacy of treatments in HNC. Here, a Multidisciplinary Board of Italian Experts has addressed these issues, with the aim to identify the unmet need and appropriate strategies for the maintenance of optimal treatment intensity in HNC.

Keywords: Breakthrough cancer pain; Concurrent chemoradiotherapy; Dysphagia; Head and neck cancer; Mucositis; Quality of life; Treatment intensity.

22. Paiva BSR, Barroso EM, Cadamuro SA, Paula LAB, Pirola WE, Serrano CVMP, Paiva CE. The Children's International Mucositis Evaluation Scale Is Valid and Reliable for the Assessment of Mucositis Among Brazilian Children With Cancer. J Pain Symptom Manage. 2018 Nov;56(5):774-780.e2. doi: 10.1016/j.jpainsymman.2018.07.015. Epub 2018 Jul 25. PMID: 30053485.

Abstract

Background: The Children's International Mucositis Evaluation Scale (ChIMES) is considered a valid and reliable instrument for the assessment of mucositis in pediatric patients aged 0-18 years. Objective: To perform the translation and cultural adaptation of ChIMES to Brazilian Portuguese and assess its psychometric properties. Methods: Methods for translation and cultural adaptation were used. Other measurements obtained concomitantly for the assessment of psychometric properties included the Oral Mucositis Daily Questionnaire, a visual analog scale, the World Health Organization grading scale for mucositis, and the National Cancer Institute Common Terminology Criteria for Adverse Events toxicity scale. For test-retest analysis, patients and guardians responded to the self-report and proxy versions of ChIMES within intervals of one to seven days. Results: Regarding internal consistency, Cronbach's alpha (α) values were 0.769 (95% CI = 0.631-0.868) and 0.879 (95% CI = 0.872-0.920) for the self-reported and proxy versions, respectively. The convergent validity criteria were met for the self-reported and proxy versions (Spearman's rho = 0.466-0.751; $P < 0.001$ and Spearman's rho = 0.410-0.551; $P < 0.001$, respectively). Test-retest reliability assessment for the total score and Items 1, 2, 3, and 4 in both versions showed an intraclass correlation coefficient of ≥ 0.7 .

Conclusions: The Portuguese self-reported and proxy versions of ChIMES were considered to be culturally adapted, valid, and reliable for Brazilian pediatric patients ranging from an age of one month to 18 years and were named ChIMES-BR. Keywords: Mucositis; chemotherapy; pediatric oncology; scale; validation.

23. Couriel DR. Ancillary and supportive care in chronic graft-versus-host disease. Best Pract Res Clin Haematol. 2008 Jun;21(2):291-307. doi: 10.1016/j.beha.2008.02.014. PMID: 18503994.

Abstract

Chronic graft-versus-host disease (GVHD) continues to be the most important long-term complication of allogeneic HSCT. Responses to immunomodulation are often partial, and patients continue to experience flares of the disease and symptoms that can significantly impair quality of life. The definition of 'ancillary therapy and supportive care' embraces the most frequent immunosuppressive or anti-inflammatory interventions used with topical intent, and any other interventions directed at organ-specific control of symptoms or complications resulting from GVHD and its therapy. This chapter will focus on ancillary and supportive care for the most frequent manifestations of chronic GVHD, including skin and appendages, eyes, oral mucosa, vagina, and immunologic and infectious complications. The level of recommendation of all interventions is based on an evidence-based system developed by the National Institutes of Health (NIH) Consensus Development Project on Criteria for Clinical Trials in Chronic Graft-Versus-Host Disease.

24. Claassen YH, van der Valk MJ, Breugom AJ, Frouws MA, Bastiaannet E, Liefers GJ, van de Velde CJ, Kapiteijn E. Survival differences with immediate versus delayed chemotherapy for asymptomatic incurable metastatic colorectal cancer. Cochrane Database Syst Rev. 2018 Nov 21;11(11):CD012326. doi: 10.1002/14651858.CD012326.pub2. PMID: 30480771; PMCID: PMC6517244.

Abstract

Background: For patients with asymptomatic, incurable, metastatic colorectal cancer, palliative, systemic treatment can be started immediately, or can be delayed until disease-related symptoms occur. How the potential survival benefit of starting palliative, systemic treatment immediately after diagnosis weighs up against the potential side effects is currently under debate, and was investigated in this review. Objectives: To assess the effects of immediate versus delayed chemotherapy, with or without targeted therapy, on overall survival, toxicity, quality of life, progression-free survival, and compliance with chemotherapy for individuals with asymptomatic, metastatic, incurable colorectal cancer. Search methods: We searched CENTRAL; 2018, Issue 8, MEDLINE Ovid, Embase Ovid, PsycINFO, the World Health Organization International Clinical Trials Registry Platform, and Clinicaltrials.gov, from inception to 23 August 2018. We did not apply limitations based on language or date of publication. We searched the reference lists of all included studies to identify trials that may not have been identified from the electronic searches. Selection criteria: Randomised controlled trials evaluating immediate versus delayed chemotherapy in persons with asymptomatic, metastatic, incurable colorectal cancer. Data collection and analysis: We applied standard methodological procedures, according to the recommendations of Cochrane and Cochrane Colorectal Cancer. Two review authors independently reviewed the studies identified by literature searches, selected relevant trials, extracted data, and assessed risk of bias of the included studies. We used the Cochrane tool to assess risk of bias, Review Manager 5 software for meta-analysis, GRADE methods to evaluate the quality of the evidence, and GRADEpro GDT software to develop a 'Summary of findings' table. Main results: We included three randomised controlled trials (351 participants) investigating immediate versus delayed chemotherapy in people diagnosed with asymptomatic, metastatic, incurable colorectal cancer. Giving immediate versus delayed chemotherapy may make little or no difference to overall survival (hazard ratio (HR) 1.17, 95% confidence interval (CI) 0.93 to 1.46; 3 studies, 351 persons; low-quality evidence). For toxicity, giving immediate versus delayed chemotherapy may make little or no difference to the risk of grade 3 or 4 nausea and vomiting (risk ratio (RR) 0.84,

95% CI 0.31 to 2.25; 2 studies, 140 persons; very low-quality evidence), stomatitis (RR 1.10, 95% CI 0.47 to 2.55; 2 studies, 140 persons; very low-quality evidence), or diarrhoea (RR 0.69, 95% CI 0.34 to 1.40; 2 studies, 140 persons, very low-quality evidence). We are uncertain whether delayed chemotherapy made a difference to quality of life (very low-quality evidence), progression-free survival (low-quality evidence), or compliance with chemotherapy (low-quality evidence), as we had insufficient data to pool for these outcomes. Authors' conclusions: Based on a limited number of trials, very sparse data, and uncertainty of the evidence, this review was unable to establish whether there was a difference in overall survival or other clinically relevant outcomes, between immediate or delayed chemotherapy in persons with metastatic, incurable, colorectal cancer. The results should be interpreted with caution.

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Abstract

Purpose: Various distresses appear in the terminal stage of cancer. Oral problems including dry mouth, stomatitis and candidiasis are one of the important problems which should be resolved. The purpose of this study was to investigate oral problems in this stage and improvement of dry mouth by oral care. Methods: The study subjects were consecutive terminally ill cancer patients admitted over the past 2 years. Patients were divided based on the status of oral food intake into good oral food intake group ($\geq 30\%$) and poor oral food intake group. The following 3 items were retrospectively investigated: 1) The incidences of these oral problems, 2) Severity of dry mouth and complication with other oral problems, 3) Improvement of dry mouth using standard oral care by nursing staff and specialist oral care including dentists as needed. Results: There were 115 and 158 patients in good and poor oral intake groups, respectively. 1) The incidences of dry mouth, stomatitis, and candidiasis were significantly higher in poor oral intake group ($p < 0.001$). 2) Severe cases of dry mouth (Grade-2&3) were noted in 20.0% and 64.8% in good and poor oral intake groups, respectively ($p < 0.0001$). Candidiasis complication rate was significantly higher in poor oral intake group ($p = 0.0002$). 3) The rate of dry mouth improvement by oral care was 100% in Grade-1, 86% in Grade-2 and 81% in Grade-3. Conclusion: Oral problems occur in many of terminally ill cancer patients. Accurate diagnosis of oral problems and corresponding appropriate interventions are important for improving quality of end-of-life care. Keywords: dry mouth; end-of-life care; oral care; oral problems; palliative care; terminally ill patients with cancer.

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Abstract

Context: Residential care homes (RCHs) are a common place of death. Previous studies have reported a high prevalence of symptoms such as pain and shortness of breath among residents in the last week of life. Objectives: The aim of the study was to explore the presence of symptoms and symptom relief and identify factors associated with symptom relief of pain, nausea, anxiety, and shortness of breath among RCH residents in end-of-life care. Methods: The data consisted of all expected deaths at RCHs registered in the Swedish Register of Palliative Care ($N = 22,855$). Univariate and multiple logistic regression analyses were conducted. Results: Pain was reported as the most frequent symptom of the four symptoms (68.8%) and the one that most often had been totally relieved (84.7%) by care professionals. Factors associated with relief from at least one symptom were gender; age; time in the RCH; use of a validated pain or symptom assessment scale; documented end-of-life discussions with physicians for both the residents and family members; consultations with other units; diseases other than cancer as cause of death; presence of ulcers; assessment of oral health; and prescribed pro re nata injections for pain, nausea, and anxiety. Conclusion: Our results indicate that use of a validated pain assessment scale, assessment of oral health, and prescribed pro re nata injections for pain, nausea, and anxiety might offer a way to improve symptom relief. These clinical tools and medications should be implemented in the care of the dying in RCHs, and controlled trials should be undertaken to prove the effect. Keywords: Nursing homes; older persons; palliative care; quality of care; register study; symptom relief.

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Abstract

As the population ages, a dramatic increase in the number of cases of cancer is expected and the need for supportive-care agents, those used to ameliorate some of the side effects of cancer or its treatment, becomes more urgent. At present, supportive-care products are available and new agents are being developed with novel mechanisms of action or modifications of existing agents that improve performance. Because of the urgent need for such products, efficient development is required to deliver useful products to patients as rapidly as possible. This chapter uses actual examples to illustrate the stages of drug development, phase I through phase 3.

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Abstract

Oropharyngeal mucositis is a common and treatment-limiting side effect of cancer therapy. Severe oral mucositis can lead to the need to interrupt or discontinue cancer therapy and thus may have an impact on cure of the primary disease. Mucositis may also increase the risk of local and systemic infection and significantly affects quality of life and cost of care. Current care of patients with mucositis is essentially palliative and includes appropriate oral hygiene, nonirritating diet and oral care products, topical palliative mouth rinses, topical anesthetics, and opioid analgesics. Systemic analgesics are the mainstay of pain management. Topical approaches to pain management are under investigation. The literature supports use of benzydamine for prophylaxis of mucositis caused by conventional fractionationated head and neck radiotherapy, and cryotherapy for short-half-life stomatotoxic chemotherapy, such as bolus fluorouracil. Continuing studies are investigating the potential use of biologic response modifiers and growth factors, including topical and systemic delivery of epithelial growth factors and agents. Progress in the prevention and management of mucositis will improve quality of life, reduce cost of care, and facilitate completion of more intensive cancer chemotherapy and radiotherapy protocols. In addition, improved management of mucositis may allow implementation of cancer treatment protocols that are currently excessively mucotoxic but may produce higher cure rates. Continuing research related to the pathogenesis and management of mucositis will undoubtedly lead to the development of potential interventions and improved patient care.

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Abstract

Oral mucositis is a debilitating and morbid condition among cancer patients that affects their quality of life and their overall ability to respond to treatment. The dentist plays an important role in the multidisciplinary health care team for the overall management of this condition. This article summarizes preventive and therapeutic treatment modalities available to dentists, based on the latest literature.

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Abstract

Traditionally, medical oncology has focused on the active period of diagnosis, treatment and follow-up of cancer patients, and palliative medicine, the pre-terminal and end-of-life phases. Palliative medicine physicians have particular expertise in communication and symptom control, especially, for example, with pain management. Medical oncologists also have need of excellent communication skills and knowledge of supportive care issues, such as the management of emesis, bone marrow suppression, mucositis, neuropathy, and symptoms created by treatment. This article examines the interface between medical oncology and supportive and palliative care to emphasize how each can benefit from the others.

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Abstract

Epidermal growth factor receptor (EGFR) tyrosine kinase inhibitors (TKIs) such as gefitinib, erlotinib, and afatinib are standard-of-care for first-line treatment of EGFR-mutant advanced non-small cell lung cancer (NSCLC). These drugs have a proven benefit in terms of higher response rate, delaying progression and improvement of quality of life over palliative platinum-based chemotherapy. The most common adverse events (AEs) are gastrointestinal (GI) (diarrhoea and stomatitis/mucositis) and cutaneous (rash, dry skin and paronychia). These are usually mild, but if they become moderate or severe, they can have a negative impact on the patient's quality of life (QOL) and lead to dose modifications or drug discontinuation. Appropriate management of AEs, including prophylactic measures, supportive medications, treatment delays and dose reductions, is essential. A consensus meeting of a UK-based multidisciplinary panel composed of medical and clinical oncologists with a special interest in lung cancer, dermatologists, gastroenterologists, lung cancer nurse specialists and oncology pharmacists was held to develop guidelines on prevention and management of cutaneous (rash, dry skin and paronychia) and GI (diarrhoea, stomatitis and mucositis) AEs associated with the administration of EGFR-TKIs. These guidelines detail supportive measures, treatment delays and dose reductions for EGFR-TKIs. Although the focus of the guidelines is to support healthcare professionals in UK clinical practice, it is anticipated that the management strategies proposed will also be applicable in non-UK settings.

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Abstract

Palliative care patients require special dental attention, ranging from operative and preventive care to support for emotional needs. The dentist's role in palliative care is to improve quality of life of the patient. This paper describes some common problems encountered in palliative care dentistry for adults with terminal cancer and the appropriate treatment of these problems.

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Abstract

Purpose: This study aims to assess the prevalence of oral morbidity in patients receiving palliative care for cancers outside the head and neck region and to investigate if information concerning oral problems was given. Methods: Patients were recruited from two Norwegian palliative care inpatient units. All patients went through a face-to-face interview, completed the Edmonton Symptom Assessment System (ESAS) covering 10 frequent cancer-related symptoms, and went through an oral examination including a mouth swab to test for Candida carriage. Results: Ninety-nine of 126 patients (79 %) agreed to participate. The examined patients had a mean age of 64 years (range, 36-90 years) and 47 % were male. Median Karnofsky score was 40 (range, 20-80) and 87 % had metastatic disease. Estimated life expectancy was <3 months in 73 %. Dry mouth was reported by 78 %. The highest mean scores on the modified 0-10 ESAS scale were 4.9 (fatigue), 4.7 (dry mouth), and 4.4 (poor appetite). Clinical oral candidiasis was seen in 34 % (86 % positive cultures). Mouth pain was reported by 67 % and problems with food intake were reported by 56 %. Moderate or rich amounts of dental plaque were seen in 24 %, and mean number of teeth with visible carious lesions was 1.9. One patient was diagnosed with bisphosphonate-related osteonecrosis of the jaw. Overall, 78 % said they had received no information about oral adverse effects of cancer treatment. Conclusion: Patients in palliative care units need better mouth care. Increased awareness among staff about the presence and severity of oral problems is necessary. Systematic information about oral problems is important in all stages of cancer treatment.

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Abstract

The aim of supportive care in oncology is to treat the cancer related symptoms and to deal with the side effects of the treatments of the neoplastic disease. The goal of this article is to present a review of the current state of knowledge in this field by successively exposing the achievements of the last few years, the not yet solved problems and the challenges caused by the new therapeutics against cancer. This article will expose the achievements in the control of cancer related symptoms like cerebral metastases, compressive syndromes, denutrition, dyspnea, bone metastases, thromboembolic events and pain. The recent progress in the management of the side effects of chemotherapy were accomplished in treatment or prevention of mucositis, nausea, febrile neutropenia, anemia and cardiotoxicity of the anthracyclines. The unsolved problems in supportive care are alopecia, thrombocytopenia, cancer-related fatigue and cachexia. Finally, these last years saw the advent of many agents of molecular-targeted therapy in medical oncology which currently form part of the current clinical practice. These treatments have their own side effects, different from those of the cytotoxic, hormonal or immunotherapeutic agents. It is necessary to know these side effects and their management in order to provide the best quality of care to the patients who receive these treatments.

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Abstract

Frail older adults disproportionately suffer from untreated dental problems. Age-related biological changes to hard and soft dental tissues, existing medical conditions, polypharmacy, diet and uncontrolled plaque exacerbate the problem. All of these factors increase the complexity of treatment and will differ greatly from standard treatment of younger adults. This article discusses the key considerations and suggestions for risk assessment, disease management, treatment planning and palliative care to maintain the patient's comfort and quality of life.

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Abstract

Palliative care in patients who have head and neck cancer is a complex topic that requires a multifaceted approach. The head and neck surgeon has an important duty to fulfill in managing and following the wishes of the incurable cancer patient and is obligated to direct them to the appropriate services in this challenging time.

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Abstract

Background: Treatment of cancer is increasingly effective but associated with short and long term side effects. Oral side effects, including oral mucositis (mouth ulceration), remain a major source of illness despite the use of a variety of agents to treat them. **Objectives:** To assess the effectiveness of interventions for treating oral mucositis or its associated pain in patients with cancer receiving chemotherapy or radiotherapy or both. **Search strategy:** Computerised searches of Cochrane Oral Health Group's Trials Register; Cochrane Pain, Palliative and Supportive Care Group's Trials Register; CENTRAL; MEDLINE and EMBASE were undertaken. Reference lists from relevant articles were searched and the authors of eligible trials were contacted to identify trials and obtain additional information. Date of the most recent searches June 2006: CENTRAL (The Cochrane Library 2006, Issue 2). **Selection criteria:** All randomised controlled trials comparing agents prescribed to treat oral mucositis in people receiving chemotherapy or radiotherapy or both. **Outcomes were** oral mucositis, time to heal mucositis, oral pain, duration of pain control, dysphagia, systemic infection, amount of analgesia, length of hospitalisation, cost and quality of life. **Data collection and analysis:** Data were independently extracted, in duplicate, by two review authors. Authors were contacted for details of randomisation, blindness and withdrawals. Quality assessment was carried out on these three criteria. The Cochrane Oral Health Group statistical guidelines were followed and risk ratio (RR) values calculated using fixed effect models. **Main results:** Twenty-six trials involving 1353 patients satisfied the inclusion criteria. Four agents, each in single trials, were found to be effective for improving (allopurinol RR 3.33, 95% confidence interval (CI) 1.06 to 10.49; granulocyte macrophage-colony stimulating factor RR 4.23, 95% CI 1.35 to 13.24; immunoglobulin RR 1.81, 95% CI 1.24 to 2.65; human placental extract RR 4.50, 95% CI 2.29 to 8.86) or eradicating mucositis (allopurinol RR 19.00, 95% CI 1.17 to 307.63). Three of these trials were rated as at moderate risk of bias and one as at high risk of bias. The following agents were not found to be effective: benzydamine HCl, sucralfate, tetrachlorodecaoxide, chlorhexidine and 'magic' (lidocaine solution, diphenhydramine hydrochloride and aluminum hydroxide suspension). Six trials compared the time to heal and mucositis was found to heal more quickly with two interventions: granulocyte macrophage-colony stimulating factor when compared to povidone iodine, with mean difference -3.5 days (95% CI -4.1 to -2.9) and allopurinol compared to placebo, with mean difference -4.5 days (95% CI -5.8 to -3.2). Three trials compared patient controlled analgesia (PCA) to the continuous infusion method for controlling pain. There was no evidence of a difference, however, less opiate was used per hour for PCA, and the duration of pain was shorter. One trial demonstrated that pharmacokinetically based analgesia (PKPCA) reduced pain compared with PCA: however, more opiate was used with PKPCA. **Authors' conclusions:** There is weak and unreliable evidence that allopurinol mouthwash, granulocyte macrophage-colony stimulating factor, immunoglobulin or human placental extract improve or eradicate mucositis. There is no evidence that patient controlled analgesia (PCA) is better than continuous infusion method for controlling pain, however, less opiate was used per hour, and duration of pain was shorter, for PCA. Further, well designed, placebo-controlled trials assessing the effectiveness of allopurinol mouthwash, granulocyte macrophage-colony stimulating factor, immunoglobulin, human placental extract, other interventions investigated in this review and new interventions for treating mucositis are needed.

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Abstract

Background: Chemotherapy-induced mucositis is an increasingly recognized problem in cancer management, preventing full doses of treatment being given, compromising cure rates and reducing quality of life. Symptoms include mouth pain and ulceration, esophagitis, abdominal pain, bloating, and diarrhea. It is associated with increased infections and occasional mortality, and its palliation is very expensive. The pathobiology of mucositis is complex, and agents that target mechanisms to prevent mucositis or accelerate healing are in high demand. **Objectives:** To review existing and potential treatments for chemotherapy-induced mucositis in the context of current knowledge of pathobiology. **Methods:** We searched for mucositis of any region of the gastrointestinal tract using Medline, the Pharmaprojects database and listed patents. **Results/conclusions:** There are many agents in varying stages of development for chemotherapy-induced mucositis. The field is complicated by the question of whether treatments should be developed as drugs or as medical foods, and whether the burden of proof of efficacy and safety should be different.

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Abstract

Symptom management during radiation therapy is critical to providing high-quality care for patients receiving treatment. Symptoms are varied and dependent on the site irradiated. Common symptoms associated with radiation therapy include dermatitis, xerostomia, mucositis, and pneumonitis. Treatment strategies include prevention, anticipation, and development

of clinical practice enabling rapid identification and management of emerging symptoms. Understanding the spectrum of symptomatology affecting irradiated patients is integral to improved quality of life and treatment efficacy.

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Abstract

Purpose: Recent years have seen remarkable progress in cancer therapy, although treatment-induced adverse reactions and complications are not uncommon. Approximately 40 % of patients undergoing chemotherapy for cancer experience adverse reactions in the oral cavity, with nearly half of them developing severe oral mucositis that necessitates postponing therapy and/or changing the drug dosage. The objective of this study was to assess the usefulness of prophylactic professional oral health care (POHC) for preventing mucositis in patients undergoing chemotherapy. **Methods:** Twenty-six female patients scheduled for chemotherapy for breast cancer were included in this study and randomized to the self-care or POHC groups. Assessment parameters included oral cavity photographs, plaque control records, Saxon test scores, Oral Assessment Guide scores, and grading using the Common Terminology Criteria for Adverse Events. Beginning before surgery and continuing through the completion of chemotherapy, the POHC patient group received weekly professional oral health care, including scaling, professional cleaning of the tooth surfaces, brushing instructions, and nutritional and lifestyle guidance. **Results:** More patients in the self-care group developed oral mucositis than in the POHC group. The Oral Assessment Guide score, which was used as an index of oral mucositis, was also significantly lower in the POHC group. Based on the Oral Assessment Guide and plaque control records, there was almost no deterioration of the oral environment in the POHC group, whereas deterioration was observed in the self-care group. **Conclusions:** These findings demonstrate the efficacy of regular POHC in reducing the risk of oral mucositis in breast cancer patients undergoing chemotherapy.

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Abstract

Head and neck cancer arises in the upper aerodigestive tract, most commonly in the oral cavity, pharynx, and larynx. The anatomy and physiology of this region are uniquely complex, and the function and appearance are critical to patients' self-image and quality of life. Head and neck cancer is related to tobacco and alcohol exposure, and is hence found more frequently in males in lower socio-economic classes. These patients therefore tend to be less health conscious and to have less social support than most other groups of cancer patients. Most head and neck cancer patients are treated with high-dose radiotherapy to large irradiation fields encompassing sensitive structures, including the oral cavity and surrounding structures. Significant side effects occur in both the acute and the chronic phase, and dealing with these is a complex issue. Increasing intensity of treatment has improved survival but has also increased treatment side effects. A dedicated multidisciplinary team of oncologist, head and neck surgeon, dentist, nurse, dietician, physical therapist, social worker and in some instances plastic surgeon, prosthodontist, and psychologist is needed to provide the optimal supportive care for these patients. New developments in radiotherapy techniques are expected to lead to even higher cure rates and fewer side effects in patients with head and neck cancer.

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Abstract

Background: Oral mucositis is a common sequel of radiotherapy, chemotherapy, and radiochemotherapy in patients with cancer or patients requiring hemopoietic stem cell transplants. Mucositis has a direct and significant impact on the duration of disease remission and cure rates, because it is a treatment-limiting toxicity. Mucositis also affects survival because of the risk of infection and has a significant impact on quality of life and cost of care. **Methods:** This article reviews publications on the diagnosis and management of oral mucositis accessible from a MEDLINE search using as key words mucositis, radiotherapy, chemotherapy, hemopoietic stem cell transplant, and oral. **Conclusions:** Conventional care of patients with mucositis is currently essentially palliative, with good oral hygiene, narcotic analgesics, and topical palliative mouth rinses.

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Abstract Oral candidiasis (OC) associated with human immunodeficiency virus (HIV) infection occurs commonly and recurs frequently, often presenting as an initial manifestation of the disease. Left untreated, these lesions contribute considerably to the morbidity associated with HIV infection. Interventions aimed at preventing and treating HIV-associated oral candidal lesions form an integral component of maintaining the quality of life for affected individuals. **Objectives:** To determine the

effects of any intervention in preventing or treating OC in children and adults with HIV infection. **Search strategy:** The search strategy was based on that of the Cochrane HIV/AIDS Review Group. The following electronic databases were searched for randomised controlled trials for the years 1982 to 2005: Medline, AIDSearch, EMBASE and CINAHL. The Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effectiveness, and the Cochrane Central Register of Controlled Trials (CENTRAL) were also searched through May 2005. The abstracts of relevant conferences, including the International Conferences on AIDS and the Conference on Retroviruses and Opportunistic Infections, as indexed by AIDSLINE, were also reviewed. The strategy was iterative, in that references of included studies were searched for additional references. All languages were included. The updated database search was done for the period 2005 up to 2009. The following databases were searched: Medline, EMBASE, the Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effectiveness and the Cochrane Central Register of Controlled Trials (CENTRAL) in The Cochrane Library. AIDSearch was not searched for the updated search as it ceased publication during 2008. **Selection criteria:** Randomised controlled trials (RCTs) of palliative, preventative or curative therapy were considered, irrespective of whether the control group received a placebo. Participants were HIV positive adults and children. **Data collection and analysis:** Two authors independently assessed the methodological quality of the trials and extracted data. Study authors were contacted for additional data where necessary. **Main results:** For the first publication of the review in 2006, forty studies were retrieved. Twenty eight trials (n=3225) met inclusion criteria. During the update search for the review a, further six studies were identified. Of these, five met the inclusion criteria and were included in the review. The review now includes 33 studies (n=3445): 22 assessing treatment and 11 assessing prevention of oropharyngeal candidiasis. Six studies were done in developing countries, 16 in the United States of America and the remainder in Europe. Treatment Treatment was assessed in the majority of trials looking at both clinical and mycological cures. In the majority of comparisons there was only one trial. Compared to nystatin, fluconazole favoured clinical cure in adults (1 RCT; n=167; RR 1.69; 95% CI 1.27 to 2.23). There was no difference with regard to clinical cure between fluconazole compared to ketoconazole (2 RCTs; n=83; RR 1.27; 95% CI 0.97 to 1.66), itraconazole (2 RCTs; n=434; RR 1.05; 95% CI 0.94 to 1.16), clotrimazole (2 RCTs; n=358; RR 1.14; 95% CI 0.92 to 1.42) or posaconazole (1 RCT; n=366; RR 1.32; 95% CI 0.36 to 4.83). Two trials compared different dosages of fluconazole with no difference in clinical cure. When compared with clotrimazole, both fluconazole (2 RCTs; n=358; RR 1.47; 95% CI 1.16 to 1.87) and itraconazole (1 RCT; n=123; RR 2.20; 95% CI 1.43 to 3.39) proved to be better for mycological cure. Both gentian violet (1 RCT; n=96; RR 5.28; 95% CI 1.23 to 22.55) and ketoconazole (1 RCT; n=92; RR 5.22; 95% CI 1.21 to 22.53) were superior to nystatin in bringing about clinical cure. A single trial compared gentian violet with lemon juice and lemon grass with no significant difference in clinical cure between the groups. Prevention Successful prevention was defined as the prevention of a relapse while receiving prophylaxis. Fluconazole was compared with placebo in five studies (5 RCTs; n=599; RR 0.61; 95% CI 0.5 to 0.74) and with no treatment in another (1 RCT; n=65; RR 0.16; 95% CI 0.08 to 0.34). In both instances the prevention of clinical episodes was favoured by fluconazole. Comparing continuous fluconazole treatment with intermittent treatment (2 RCTs; n=891; RR 0.65; 95% CI 0.23 to 1.83), there was no significant difference between the two treatment arms. Chlorhexidine was compared with normal saline in a single study with no significant difference between the treatment arms. **Authors' conclusions:** Five new studies were added to the review, but their results do not alter the final conclusion of the review. Implications for practice Due to there being only one study in children, it is not possible to make recommendations for treatment or prevention of OC in children. Amongst adults, there were few studies per comparison. Due to insufficient evidence, no conclusion could be made about the effectiveness of clotrimazole, nystatin, amphotericin B, itraconazole or ketoconazole with regard to OC prophylaxis. In comparison to placebo, fluconazole is an effective preventative intervention. However, the potential for resistant *Candida* organisms to develop, as well as the cost of prophylaxis, might impact the feasibility of implementation. No studies were found comparing fluconazole with other interventions. The direction of findings suggests that ketoconazole, fluconazole, itraconazole and clotrimazole improved the treatment outcomes. Implications for research It is encouraging that low-cost alternatives are being tested, but more research needs to be on in this area and on interventions like gentian violet and other less expensive anti-fungal drugs to treat OC. More well-designed treatment trials with larger samples are needed to allow for sufficient power to detect differences in not only clinical, but also mycological, response and relapse rates. There is also a strong need for more research to be done on the treatment and prevention of OC in children as it is reported that OC is the most frequent fungal infection in children and adolescents who are HIV positive. More research on the effectiveness of less expensive interventions also needs to be done in resource-poor settings. Currently few trials report outcomes related to quality of life, nutrition, or survival. Future researchers should consider measuring these when planning trials. Development of resistance remains under-studied and more work must be done in this area. It is recommended that trials be more standardised and conform more closely to CONSORT as this will improve research and also clinical practice.

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Abstract

The management of the patient with inflammatory bowel disease (IBD) is challenging for both the physician and the patient. IBD imposes both a physical and emotional burden on patients' lives. Palliative care is important for IBD patients because it focuses on improving quality of life. While palliative care does not change the natural history of the disease, it provides relief from pain and other distressing symptoms. This article focuses on various aspects of care for IBD patients including pain

control, management of oral and skin ulcerations, stomal problems in IBD patients, control of nausea and vomiting, management of chronic diarrhea and pruritus ani, evaluation of anemia, treatment of steroid-related bone disease, and treatment of psychological problems associated with IBD. Each of these areas is reviewed using an evidence-based approach. Evidence in category A refers to evidence from clinical trials that are randomized and well controlled. Category B Evidence refers to evidence from cohort or case-controlled studies. Category C is evidence from case reports or flawed clinical trials. Evidence from category D is limited to the clinical experience of the authors. Evidence labelled as category E refers to situations where there is insufficient evidence available to form an opinion. Algorithms for management of pain and nausea in IBD patients are presented.

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Abstract

Although palliative care for the terminally ill is based on a multidimensional philosophy to provide whole-person comfort care while maintaining optimal function, it does not usually include dentistry in its team approach. Dentists can have a significant role in the care of these patients by providing total, active comfort care of the oral cavity. The function of the oral cavity is essential to the patient's ability to thrive. Therefore, alleviation of pain and prevention of infection in the oral cavity should be a priority in providing total, active comfort for the patient. The oral problems experienced by the hospice head and neck patient clearly affect the quality of his or her remaining life. Through routine assessments and interventions by a dentist on the palliative care team (Figure 4), comfort care for the patient may be improved by the maintenance of oral hygiene and procedures to hydrate the oral mucosa. In addition, routine dental assessments may identify dental disease and facilitate dental interventions for caries, periodontal disease, oral mucosal problems or prosthetic needs. Attention to such detail may reduce not only the microbial load of the mouth but the risk for pain and oral infection as well. This multidisciplinary approach to palliative care, including a dentist, may reduce the oral debilities that influence the patient's ability to speak, eat or swallow. Not only does maintenance of oral health have impact on the quality of life, which is already challenged by the disease, but it also aids in the ability of patients to thrive for whatever precious time is left to them.

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Abstract

Oral mucositis is a major, often dose-limiting toxicity in modern cancer-therapy, leading to dose reductions or delay in further cancer treatment. It predisposes to life-threatening septic complication during aplasia and substantially reduces quality of life for cancer patients. At present the basic strategies in oral mucositis aim at pain relief and prevention of infectious complications. However, no effective causal prophylaxis or treatment of oral mucositis is widely accepted. The introduction of cytokines, e.g. granulocyte-macrophage colony-stimulating factor (GM-CSF) and granulocyte colony-stimulating factor (G-CSF), the use of cytoprotective agents, e.g. amifostine and the stimulation of basal-cell proliferation by soft-laser irradiation or silver nitrate offer new and hopeful approaches in oral mucositis. Large-scale clinical trials to confirm effectiveness and optimize treatment schedules have to be done.

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Abstract

Lung cancer often is associated with significant morbidity, which has a detrimental effect on quality of life. Supportive care plays a central role in the multimodal treatment of lung cancer. Palliation of symptoms often improves quality of life and compliance with therapy. New developments in supportive care, reviewed here, include management of symptoms of the disease, such as respiratory problems, pain, and cachexia, as well as effects of treatment, including chemotherapy-induced nausea and vomiting, neutropenia, anemia, and mucositis. In the past few years, significant advances have been made in this field; however, palliation of the symptoms of lung cancer remains an area of active investigation.

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Abstract

Maintaining a patient's quality of life is main the aim while treating cancer patients. Patients getting treated for oral cancer encountered with numerous symptoms at the time of radiotherapy and most of these are side effect which can persist even after few months to year after the treatment gets over. Radiotherapy is a vital aspect of both curative and palliative cancer

care. Understanding the basics complications of radiotherapy along with its primary management of oral symptoms can assist family physicians in providing complete primary care for their cancer patients. Palliative oral care helps to ease symptoms from the cancer treatment. Oral care negligence is still a major cause of worsening of posttreatment quality of life of an individual. The article mainly empathies on the oral health care need to be taken care by primary care physicians in the cancer patients during and after the radiotherapy. Consequences associated with radiotherapy in oral cavity and its systematic overview of preventing and managing acute and chronic condition. It enlightens the importance of dentist role on improving quality of life of these patients. **Keywords:** Mucositis; osteoradionecrosis; palliative oral care; primary care; radiation caries.

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Abstract

Oral mucositis can be caused by chemotherapy and can affect a patient's quality of life. Nowadays, to prevent chemotherapy-induced oral mucositis (CIOM) is a crucial point in palliative care centers. This trial aimed to assess the effectiveness of aloe-vera in that concept. The trial was accomplished at Hematology Department of Hospital of Children of Damascus University, Syria. Acute lymphoblastic leukemia (ALL) children were the population from which 26 children were enrolled in the study. They were aged between 3 and 6 years old and were randomly referred according to the intervention into two groups, Aloe-vera (AV) and sodium bicarbonate 5% (13 each). Spongeous sticks were used to help in applying the material on tongue, labial and buccal mucosa, lips, floor of the mouth, and hard palate. Two blinded external examiners evaluated oral mucosa weekly for up to 2 months using the World Health Organization grading scale. Mann-Whitney U test was used to analyze data. According to the observed findings, CIOM degrees were less severe in the aloe-vera group than in the sodium bicarbonate group. Statistically significant difference of occurrence of different CIOM degrees between groups was recorded in the 2nd, 3rd, 4th, and 7th weeks of follow-up period. Moreover, Mann-Whitney U test indicated that patients in the sodium bicarbonate group began CIOM sooner than those in the aloe-vera group with a statistically significant difference ($p = .001$). These findings show that topical application of aloe-vera solution is effective in the prevention of CIOM in ALL children.

Keywords: Chemotherapy; aloe-vera; leukemia; oral mucositis; prevention.

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Abstract

Xerostomia, or oral dryness, is one of the most common complaints experienced by patients who have had radiotherapy of the oral cavity and neck region. The hallmarks of radiation-induced damage are acinar atrophy and chronic inflammation of the salivary glands. The early response, resulting in atrophy of the secretory cells without inflammation might be due to radiation-induced apoptosis. In contrast, the late response with inflammation could be a result of radiation-induced necrosis. The subjective complaint of a dry mouth appears to be poorly correlated with objective findings of salivary gland dysfunction. Xerostomia, with secondary symptoms of increased dental caries, difficulty in chewing, swallowing and speaking, and an increased incidence of oral candidiasis, can have a significant effect on the quality of life. At present there is no causal treatment for radiation-induced xerostomia. Temporary symptomatic relief can be offered by moistening agents and saliva substitutes, and is the only option for patients without residual salivary function. In patients with residual salivary function, oral administration of pilocarpine 5-10 mg three times a day is effective in increasing salivary flow and improving the symptoms of xerostomia, and this therapy should be considered as the treatment of choice. Effectiveness of sialogogue treatment requires residual salivary function, which emphasizes the potential benefit from sparing normal tissue during irradiation. The hypothesis concerning the existence of early apoptotic and late necrotic effects of irradiation on the salivary glands theoretically offers a way of achieving this goal.

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Abstract

Purpose: The surgical treatment of colorectal cancer (CRC) in elderly patients (age 70 years or older) has improved, but data on adjuvant and palliative chemotherapy tolerability and benefits in this growing population remain scarce. Elderly patients are underrepresented in clinical trials, and results for older patients are seldom reported separately. **Patients and methods:** Using a prospective database, we analyzed demographics, chemotherapy toxicity, response rates, failure-free survival (FFS), and overall survival (OS) of CRC patients receiving chemotherapy at the Royal Marsden Hospital. The cutoff age was 70 years. **Results:** A total of 844 patients received first-line chemotherapy with various fluorouracil (5-FU)-containing regimens or raltitrexed for advanced disease, and 543 patients were administered adjuvant, protracted venous infusion 5-FU or bolus 5-FU/folinic acid (FA) chemotherapy. Of the 1,387 patients, 310 were 70 years or older. There was no difference in overall or severe (Common Toxicity Criteria III to IV) toxicity between the two age groups, with the exception of more frequent severe mucositis in older patients receiving adjuvant bolus 5-FU/FA. For patients receiving palliative chemotherapy, no

difference in response rates (24% v 29%, $P = .19$) and median FFS (164 v 168 days) were detected when the elderly were compared with younger patients. Median OS was 292 days for the elderly group and 350 days for the younger patients ($P = .04$), and 1-year survival was 44% and 48%, respectively. The length of inpatient hospital stay was identical. **Conclusion:** Elderly patients with good performance status tolerated adjuvant and palliative chemotherapy for CRC as well as did younger patients and had similar benefits from palliative chemotherapy.

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Abstract

Purpose: To assess the effectiveness of a symptom-focused home care program in patients with cancer who were receiving oral chemotherapy in relation to toxicity levels, anxiety, depression, quality of life, and service utilization. **Patients and methods:** A randomized, controlled trial was carried out with 164 patients with a diagnosis of colorectal ($n = 110$) and breast ($n = 54$) cancers who were receiving oral capecitabine. Patients were randomly assigned to receive either a home care program by a nurse or standard care for 18 weeks (ie, six cycles of chemotherapy). Toxicity assessments were carried out weekly for the duration of the patients' participation in the trial, and validated self-report tools assessed anxiety, depression, and quality of life. **Results:** Significant improvements were observed in the home care group in relation to the symptoms of oral mucositis, diarrhea, constipation, nausea, pain, fatigue (first four cycles), and insomnia (all $P < .05$). This improvement was most significant during the initial two cycles. Unplanned service utilization, particularly the number of inpatient days (57 v 167 days; $P = .02$), also was lower in the home care group. **Conclusion:** A symptom-focused home care program was able to assist patients to manage their treatment adverse effects more effectively than standard care. It is imperative that patients receiving oral chemotherapy are supported with such programs, particularly during initial treatment cycles, to improve their treatment and symptom experiences.

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Abstract

Between 40 and 80% of patients with advanced cancer experience breakthrough pain (BTP), a sudden, rapidly escalating flare of pain occurring against a background of otherwise well-controlled persistent pain. Patients often have up to four episodes of BTP each day, with a typical episode reaching its peak intensity in three to five minutes and lasting about 30 minutes in total. It is essential to provide fast and effective relief since BTP reduces the quality of life of patients and their families, and increases health care costs. The usual approach is to treat BTP with a short-acting, 'normal release' oral opioid, but this is absorbed too slowly to treat the typical episode of BTP. As this article explains, oral transmucosal fentanyl citrate (Actiq) is an effective strong opioid that has a rapid onset and short duration of action that closely matches the characteristics of an episode of BTP.

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Abstract

Artificial nutritional support does not alter the natural course in patients with malignant disease. The outcome of these patients is mainly determined by the type and stage of the underlying tumor. Progress of the underlying disease is often paralleled by malnutrition which in turn facilitates complications and may reduce survival and quality of life. Nutritional support can be applied to maintain body weight, immune function and quality of life. Enteral nutrition can be applied with a functioning gastrointestinal tract and has been proven to be superior compared to parenteral nutrition. Maintenance of intestinal mucosal function due to enteral substrate application prevents disruption of intestinal barrier function as well as the overgrowth of intestinal microorganisms. Using a step-by-step approach dietetic counselling in combination with augmented oral caloric intake should be the first measure. The next step to take is nutritional support by enteral tube feeding using formula diets. Parenteral feeding should only be used if other options to support caloric intake have failed.

56. Porceddu SV, Rosser B, Burmeister BH, Jones M, Hickey B, Baumann K, Gogna K, Pullar A, Poulsen M, Holt T. Hypofractionated radiotherapy for the palliation of advanced head and neck cancer in patients unsuitable for curative treatment--"Hypo Trial". Radiother Oncol. 2007 Dec;85(3):456-62. doi: 10.1016/j.radonc.2007.10.020. Epub 2007 Nov 26. PMID: 18036689.

Abstract

Background and purpose: The primary purpose of the trial was to assess rate of tumour response to a hypofractionated course of radiotherapy in patients with incurable squamous cell carcinoma of the head and neck (HNSCC). Secondary objectives included radiation toxicity, symptom control, quality of life (QoL) and progression-free and overall survival. **Patients and**

methods: Patients were planned to receive 30 Gy in 5 fractions at 2/week, at least 3 days apart, with an additional boost of 6 Gy for small volume disease (< or =3 cm) in suitable patients. Thirty-seven patients were enrolled between August 2004 and March 2006. Median age was 68 (43-87) years, 81% were male and the predominant primary site was oropharynx (32%). The majority (73%) presented with Stage III-IV disease. **Results:** Thirty-five patients received radiotherapy, 1 died prior to treatment and one refused treatment. Of the 35 patients receiving radiotherapy, 31 (88%) received > or =30 Gy. Of the 35 patients who received treatment the overall objective response was 80%. Grade 3 mucositis and dysphagia were experienced in 9/35 (26%) and 4/35 (11%), respectively. QoL and symptom control were assessable in 21 patients. Thirteen (62%) reported an overall improvement in QoL and 14 (67%) experienced an improvement in pain. The median time to progression and death was 3.9 and 6.1 months, respectively. **Conclusion:** The "Hypo Trial" regimen provided effective palliative treatment in HNSCC unsuitable for curative treatment. Compliance was excellent and resulted in high response rates, symptom control and improvement in QoL with acceptable toxicity. However, progression free and overall survival was short.

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Abstract

Palliative care is no longer limited to patients with terminal cancer but now includes other diseases at terminal stage such as advanced Alzheimer disease. Accompanying the elderly at the end of life involves medical, psychological and social approaches. The expression of symptoms, and especially that of pain, can be atypical. Medical prescription should take into account both the change in drug metabolism and the more frequent occurrence of side effects in the elderly. Accompanying the patient at the end of life is an increasing part of care in geriatric institutions. Indispensable factors today are adapted personnel, training, specific support and social actualization.

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Abstract

Purpose/aim: To assess self-perception of oral health among institutionalized older adults in Taubate, Brazil. **Method and materials:** Demographics, oral, and systemic health data were collected from a sample of 89 institutionalized older adults. The Geriatric Oral Health Assessment Index (GOHAI) was applied to assess their self-perception of oral health. A linear regression model using GOHAI scores and considering age, BMI, gender, race, dry mouth, denture status, number of teeth, number of comorbid conditions, and number of medications as independent variables was generated. **Results:** Fifty-five percent were male, with an average age of 75.9 years (± 9.1), 43.8% identified as mixed race, and 42.7% as white. The average BMI was 23.9 (± 3.8), the average number of comorbid condition was 1.8 (± 1.4), and the average number of daily medications was 6.2 (± 3.6). The average number of teeth was 3.9 (± 7.4), and 57.3% of the participants reported dry mouth sensation; 8.9% presented oral lesions, with denture stomatitis as the most common oral lesion (5.6%). The average GOHAI score was 31.1 (± 3.7). Regression analysis showed a negative correlation between BMI and GOHAI scores ($P = .032$, $R^2 = 7.2\%$). **Conclusions:** Self-perception of oral health was good and negatively correlated with BMI.

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Abstract

Disturbances caused by lesions of the oral cavity play an important part in the alteration of the quality of life of cancer patients. The main complications affecting the oral cavity are infections (fungal, viral, bacterial), neutropenic ulcers, drug-induced stomatitis, dry mouth, and taste alteration. Most of the information available about these entities has been acquired in the cancer patient without advanced disease. The little known about the epidemiology and physiopathology of such lesions in the advanced phase of cancer is presented and approaches to management are suggested.

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Abstract

Objectives: A prospective study of the efficacy and toxicity profile of patients with squamous cell carcinoma of the head and neck (HNSCC) without curative treatment options treated consistently with hypofractionated radiotherapy schedule. **Patients and methods:** Between 1995 and 2006, 158 patients with HNSCC, unsuitable for curative treatment, were treated with a hypofractionated scheme of radiotherapy consisting of 16 fractions of 3.125 Gy. Endpoints of the study were response rates, loco-regional control, disease-free survival, overall survival, acute and late toxicity, and quality of life (QoL). **Results:** Seventy four percent of patients were male, 31% had oropharyngeal cancer and 81% stage IV disease. With 45% complete response and 28% partial response an overall response rate of 73% was achieved, 6% had stable disease, and 21% progressed during or directly after completion of treatment. Median survival time was 17 months and 62 patients (40%) survived > or =1 year after

RT. The actuarial rates of loco-regional control, disease-free survival and overall survival were 62%, 32% and 40% at 1-year, respectively and 32%, 14% and 17% at 3-years, respectively. Acute grade ≥ 3 skin and mucosal toxicities were observed in 45% and 65% of patients, respectively. Severe late toxicity was reported in 4.5% of patients. Of patients surviving > 1 year after RT, retrospective chart review showed that 50% gained weight, pain improved in 77%, performance status in 47% and only 29% of them was still feeding-tube dependent. **Conclusions:** Our hypofractionated radiotherapy scheme is an effective, well-tolerated and safe palliative schedule in HNSCC who are unsuitable for curative treatment options. Using 3.125 Gy per fraction (Christie scheme), excellent palliation was achieved resulting in acceptable response rates, excellent symptom control, acceptable toxicity profile, and good QoL of patients surviving > 1 year after completion of treatment.

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Abstract

Introduction: Oral mucositis (OM) is an unavoidable condition of the oral cavity that accompanies chemotherapy for various malignant cases. Chemotherapy-induced oral Mucositis (COM) is a frequent complication due to mucotoxic drugs and is known to deteriorate the general health significantly, while negatively affecting the quality of life (QOL). Studies have reported that low-level laser therapy (LLLT) promotes the tissue healing. The objective of the present study was to explore the efficacy of gallium-arsenide (GaAs) laser in treating COM and its impact on inflammatory cytokine levels in patients receiving chemotherapy for various malignancies. **Methods:** A total of 80 patients with COM received LLLT 6 days/week. OM was graded according to the World Health Organization (WHO) grading scale. The outcome parameters were the serum levels of tumor necrosis factor- α (TNF- α) and interleukin-6 (IL-6) measured before, during and after administration of LLLT. **Results:** After LLLT, a significant decrease was found in the mean values of mucositis grade from 2.35 ± 0.695 to 1.13 ± 0.333 after ($P < 0.001$). A significant reduction in the level of TNF- α was found after LLLT among breast cancer patients ($P = 0.0045$), but not in head and neck cancer and lymphoma patients. A significant reduction was also found in IL-6 level after treatment among head and neck and breast cancer patients ($P = 0.0307$ and 0.019 , respectively). **Conclusion:** The use of GaAs LLLT in treating COM in patients with various malignancies is well tolerated by patients, it results in improvement of mucositis, however; mechanism of action does not seem to be completely linked to the change of pro or anti-inflammatory cytokines. **Keywords:** Cancer; Low-level laser therapy; Oral Mucositis.

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Abstract

Planning effective palliative care requires accurate estimation of survival. A prospective study was performed on 150 hospice inpatients to identify prognostic factors in terminally ill cancer patients. By univariate analysis, eleven factors were found to be significantly associated with shortened survival: poor performance status, dyspnea at rest, death rattle, appetite loss, dysphagia, dry mouth, general malaise, edema, stomatitis, fever, and delirium. Multiple regression analysis showed that five factors were independent predictors of survival: performance status, dyspnea at rest, appetite loss, edema, and delirium. We discussed current problems and future directions of survival prediction for terminally ill cancer patients.

63. Schimmel M, Schoeni P, Müller F. Zahnmedizinische Aspekte in der Palliativmedizin. Möglichkeiten und Grenzen zahnmedizinischer Betreuung und die speziellen Anforderungen an den Zahnarzt [Dental aspects of palliative care. Possibilities and limits of dental care and the special demands on the dentist]. Schweiz Monatsschr Zahnmed. 2008;118(9):851-62. French, German. PMID: 18846977.

Abstract

Palliative medicine deals with patients in the final phase of their life. These terminally ill patients should receive a treatment which focuses on the prevention and relief of suffering by means of early identification and assessment and treatment of pain and other problems, physical, psychosocial and spiritual. The treatment should focus on the improvement of the Quality of Life (QoL) instead of straining curative treatment approaches. It should also deal with the needs of the families. In palliative medicine an interdisciplinary approach is inevitable and imperative. Although an oral care provider should be a member of the palliative care team this is not always the case in palliative care settings. The prevention of infections, treatment of xerostomia, mucositis and candidiasis as well as the removal of sore spots are some of the important aspects of palliative oral treatment. They can have an immediate positive impact on the patients OHRQoL and their comfort in general. The particular dental work profile requires a practitioner with empathy and professional experience.

64. Cunningham D, Zalberg JR, Rath U, Olver I, Van Cutsem E, Svensson C, Seitz JF, Harper P, Kerr D, Perez-Manga G, et al. 'Tomudex' (ZD1694): results of a randomised trial in advanced colorectal cancer demonstrate efficacy and reduced mucositis and leucopenia. The 'Tomudex' Colorectal Cancer Study Group. Eur J Cancer. 1995 Nov;31A(12):1945-54. doi: 10.1016/0959-8049(95)00502-1. PMID: 8562146.

Abstract

'Tomudex' (ZD1694), a direct and specific thymidylate synthase (TS) inhibitor entered phase III studies in November 1993. We present here the first analysis of a randomised multicentre, international phase III study. 439 patients with previously untreated advanced colorectal cancer were randomised to Tomudex 3.0 mg/m² given once every 3 weeks or 5-fluorouracil (5-FU) 425 mg/m² and leucovorin (LV) 20 mg/m² for 5 days (the Mayo regimen), given every 4-5 weeks. Patients were evaluated weekly for toxicity and every 12 weeks for objective response. The two groups were well matched in terms of demographic characteristics. The mean age of the patients was 61 years and most had either liver (78%) or lung (25-29%) metastases. Ninety seven per cent of patients allocated to Tomudex and 94% of those allocated to 5-FU plus LV had measurable disease. Response was assessed using WHO/UICC criteria; all response data were source validated; 19.8% of patients who received Tomudex and 12.7% of patients who received 5-FU plus LV had complete or partial responses (P = 0.059, odds ratio 1.7, 95% confidence limits 0.98-2.81). There were no statistically significant differences in time to progression or survival between the two groups. Patients who received Tomudex spent a substantially shorter time in hospital for dosing and had significantly lower rates of grade 3 and 4 toxicities such as leucopenia and mucositis. Patients who received Tomudex had a significantly higher incidence of reversible grade 3 or 4 increase in transaminases, which appear to be of limited clinical significance. Improvement in quality of life, weight gain and performance status was seen in both groups. Tomudex has benefits in terms of higher response rates, reduced toxicity and more frequent palliative benefits when compared with 5-FU plus LV in the management of advanced colorectal cancer, and has a more convenient administration schedule.

65. Ivanoff CS, Hottel TL. Epidermolysis bullosa acquisita: a rare challenge in dental management. Compend Contin Educ Dent. 2012 Apr;33(4):238-40, 242, 244 passim; quiz 248, 260. PMID: 22536657.

Abstract

Dentists often have the opportunity to detect and intercept serious patient medical conditions. Their role may even be central in helping patients overcome fears about their condition and motivating them to obtain an accurate diagnosis and proper treatment. This article features the case of an elderly woman who presented for treatment of painful intraoral mucosal blisters and erosions beneath her dentures and was diagnosed with potentially fatal epidermolysis bullosa acquisita (EBA). Given how quickly improper diagnosis and treatment could lead to morbidity and potential mortality-especially in a susceptible elderly patient-this case illustrates the importance of good communication between all health professionals involved in the multidisciplinary management of patients with challenges as complex and rare as EBA. The successful outcome of this case was directly dependent on the propitious initiative and intervention of the dentist.

66. Veluthattil AC, Sudha SP, Kandasamy S, Chakkalakkombil SV. Effect of Hypofractionated, Palliative Radiotherapy on Quality of Life in Late-Stage Oral Cavity Cancer: A Prospective Clinical Trial. Indian J Palliat Care. 2019 Jul-Sep;25(3):383-390. doi: 10.4103/IJPC.IJPC_115_18. PMID: 31413453; PMCID: PMC6659542.

Abstract

Context: The study was designed to evaluate the effect of a hypofractionated, palliative conformal radiotherapy regimen of 5250 cGy in 15 fractions in inoperable/incurable oral cavity carcinoma. **Aims:** The primary objective was to assess the change in the quality of life (QOL) with respect to pain and mouth opening pre- and post-radiotherapy using standardized questionnaires. The secondary objective was to assess overall QOL using the same questionnaires and also to assess response rates, survival, compliance, early and late toxicity. **Settings and design:** This was a single-arm, prospective trial. Patients with incurable oral cavity cancer referred for palliative intent radiotherapy to the Department of Radiotherapy, RCC, JIPMER were recruited into the study. **Subjects and methods:** Forty-eight patients were recruited and twenty-five patients were given conformal radiotherapy to a dose of 52.5 Gy in 15 fractions. QOL was assessed using the European Organization of Research and Treatment of Cancer (EORTC) questionnaires before and 2 months after the completion of radiotherapy. The response assessment was made using the Response Evaluation Criteria in Solid Tumors (RECIST) criteria 2 months after radiotherapy. The early and late toxicities were assessed at 2 months and 6 months after radiotherapy completion, respectively. **Statistical analysis used:** Sample size was calculated to be 53. The Wilcoxon signed-rank test was used to compare QOL scores pre- and post-radiotherapy. Median survival was assessed using the Kaplan-Meier method. **Results:** There was a significant improvement in the pain, mouth opening, speech, social contact, social eating, felt ill items of the EORTC QLQ-H and N35 questionnaire and role functioning, emotional functioning, social functioning, fatigue, pain, insomnia, appetite loss, financial difficulties, and Global QOL subscales of the QLQ-C30 questionnaire. 72% of the patients had grade 3 acute radiation oral mucositis and 36% had grade 3 acute radiation dermatitis. There were no significant treatment breaks due to toxicity. There were no grade 3 late toxicities observed. Overall median survival was 5.1 months. The overall response rate was 47%. The median time to treatment completion was 24 days. **Conclusions:** The improvement in QOL parameters suggests that the regimen of 52.5 Gy in 15 fractions is suitable for palliative intent radiotherapy in late-stage oral cavity cancer for effective palliation for short periods. **Keywords:** Conformal radiotherapy; hypofractionated radiotherapy; incurable oral cavity cancer; palliative radiotherapy.

67. Martinsson L, Lundström S, Sundelöf J. Better quality of end-of-life care for persons with advanced dementia in nursing homes compared to hospitals: a Swedish national register study. *BMC Palliat Care*. 2020 Aug 26;19(1):135. doi: 10.1186/s12904-020-00639-5. PMID: 32847571; PMCID: PMC7449048.

Abstract

Background: Hospitalisation of patients with advanced dementia is generally regarded as less preferable compared to care at home or in a nursing home. For patients with other diagnoses, young age has been associated with better end-of-life care. However, studies comparing the quality of palliative care for persons with advanced dementia in hospitals and nursing homes are scarce. The aim of this study was to investigate whether quality of end-of-life care for patients with dementia depends on age, gender and place of death. **Methods:** The Swedish Register of Palliative Care (SRPC) was used to identify patients who died from dementia in hospitals or nursing homes during a three-year period. The likelihood of death occurring at a hospital, based on age and gender differences, was calculated. Associations between 13 end-of-life care quality indicators collected from the SRPC and age, gender and place of care were examined in a logistic regression model. **Results:** Death at a hospital was associated with poorer quality of end-of-life care for 10 of the 13 measured outcomes when compared to death at a nursing home, and with better quality according to two of the outcomes. Death at a hospital was more common for men compared to women and for younger patients compared to older. Receiving fluids intravenously or via enteral tube in the last 24 h of life was strongly associated with death at a hospital. Women were more likely to have their oral health assessed and less likely to have pressure ulcers at death. Eight of 12 end-of-life care outcomes showed better results for the age group 65 to 84 years compared to those 85 years or older. **Conclusions:** Death in hospitals was associated with poorer quality of end-of-life care compared to death in nursing homes. Our data support the importance of advance care planning and individual assessments in nursing homes to avoid referral to hospitals during end of life. Despite established recommendations to avoid hospitalisation if possible, there were strong associations between younger age, male gender and hospitalisation in the end of life. Further studies are needed to investigate the role of socioeconomic factors in end-of-life care for this patient group. **Keywords:** Advanced dementia; Age differences; Dementia; End-of-life care; Gender; Hospitalisation; Palliative care; Place of care.

68. Tinti S, Cassani G, Pinna I, Alberti A, Destrebecq A. Neoplasie testa-collo e cure palliative, sintomi e qualità di vita: revisione della letteratura [Head and neck neoplasms and palliative care, symptoms and quality of life: literature review.]. *Recenti Prog Med*. 2020 Dec;111(12):722-732. Italian. doi: 10.1701/3509.34963. PMID: 33362169.

Abstract

Head-neck neoplasms are the fifth most common cancer. Head-neck patients are particularly exposed to quality of life impairment due to the central anatomical-functional role of this region in primary functions such as breathing, swallowing and phonation. Many patients are already at an advanced stage of the disease at the time of diagnosis and their prognosis remains unfavourable despite new treatment options. They face daily with multiple and simultaneous symptoms. In 20% of cases the average survival is only 5 months, making it appropriate to take charge early for the important need of palliative care. The aim of this review is to deepen the knowledge concerning the neoplasms of the head-neck district, with particular reference to the symptoms and quality of life of people in advanced stage and in palliative care. The literature review was performed through CINAHL, Cochrane Library, Embase, PsycINFO, PubMed, Scopus and Web of Science. The research identified 9 studies that met the inclusion criteria. The results of the studies showed the prevalent symptoms of dyspnea, fatigue, nutrition and oral problems, pain, insomnia, anxiety and depression. Oral nutrition could be compromised, producing weight loss and malnutrition. In such a condition, the enteral route could be necessary. The impact of the symptoms was greater for those who could not maintain adequate nutrition and was a predictor of reduced food intake, weight loss and survival. Malnutrition influenced the performance status and quality of life which seemed to remain unchanged as the end of life approached. Mucositis, dysphagia and xerostomia had a strong association. Dysphagia was related to dysphonia. A worsening of emotional distress was shown in relation to the female gender and the tumor site. Head-neck cancer had a strong impact on the quality of life. Patients considered dyspnea, dysphonia, mobility problems, anger and weakness as the most important issues. Earlier interventions could allow a partial and temporary improvement of quality of life compatible with the patient's conditions. Nursing care involves multidimensional assessment and an early individualized, symptom-driven and needs-oriented approach.

69. Dahlin C. Oral complications at the end of life. *Am J Nurs*. 2004 Jul;104(7):40-7; quiz 48. doi: 10.1097/0000446-200407000-00028. PMID: 15243256.

70. Maire F, Borowski B, Collangettes D, Farsi F, Guichard M, Gourmet R, Kreher P. Standards, Options et Recommendations pour une bonne pratique odontologiques en cancérologie [Standards, Options and Recommendations (SOR) for good practices in dentistry for head and neck cancer patients. Federation of the French Cancer Centres (FNCLCC)]. *Bull Cancer*. 1999 Jul-Aug;86(7-8):640-65. French. PMID: 10477382.

Abstract

Context: The Standards, Options and Recommendations (SOR), initiated in 1993, is a collaborative project between the Federation of the French Cancer Centres (FNCLCC), the 20 French Cancer Centres and specialists from French Public Universities, General Hospitals and Private Clinics. The main objective is the development of clinical practice guidelines to improve the quality of health care and outcomes for cancer patients. The methodology is based on literature review and critical appraisal by a multidisciplinary experts group, with feedback from specialists in cancer care delivery. **Objectives:** To develop clinical practice guidelines for dentistry and oral hygiene in head and neck cancer patients. **Methods:** Data have been identified by literature search using Medline (up to January 1999) and personal reference lists. The main end points considered were risk factors for treatment related late effects, safety and quality of life, efficacy of dental preventative measures and treatment. Once the guidelines were defined, the document was submitted to reviewers for peer review and to the medical committees of the 20 French Cancer Centres for review and agreement. **Results:** The key recommendations are: 1) before receiving radiotherapy, surgery and chemotherapy for head and neck cancer, patients must benefit from a multidisciplinary approach including dental evaluation; 2) the patients must be informed of precautions and educated about oral hygiene; 3) after radiotherapy, the most important dental late effect to prevent is radionecrosis, in accordance with the oral and dental state, the dentist may propose conservation or extraction of teeth, fluoridation and regular follow-up; 4) during chemotherapy, the principal complications are mucositis, haemorrhage and infection risk; 5) after surgery, the dentist may propose prosthetic measures with the aim functional, aesthetic and psychological benefit; 6) in the particular case of children, treatment and prevention are the same as for adults but the follow-up is specific because of the dental development.

71. Ito Y, Kameya A, Kano T, Kobayashi S, Kasugai T, Hotta S. [Indications and limitations of laser treatment for early gastric cancer and palliative treatments for malignant obstruction of the esophagus and stomach]. Gan To Kagaku Ryoho. 1988 Apr;15(4 Pt 2-3):1435-9. Japanese. PMID: 2454611.

Abstract

The long-term effect of endoscopic laser treatment for early gastric cancer as a local curative procedure was reported. Forty-seven patients with endoscopically diagnosed early gastric cancer whose surgical risk was critical or who refused surgery were treated by either photocoagulative Nd: YAG laser (YAG) or photodynamic therapy (PDT) with argon dye laser and hematoporphyrin derivatives (HpD) or both and followed-up for more than 3 years. Thirty-one patients were initially treated by YAG. One patient was lost to follow-up. Sixteen of 30 cases (53%) treated by YAG were negative for cancer on biopsy for 9 to 73 months (mean 3 years and 7 months) after the initial treatment. Sixteen cases were initially treated by PDT. Eight of 14 cases (57%) treated by PDT with argon dye laser were negative for cancer on biopsy for 19 to 35 months (mean 1 year and 7 months). Ten of 13 cases treated by combined laser therapy were negative for cancer on biopsy for 12 to 77 months (mean 3 years and 2 months). Curative effect of YAG and PDT was expected in lesions of superficially elevated mucosal cancer (type IIa less than 20mm and well demarcated superficially depressed mucosal cancer (type IIc) less than 10mm. PDT was superior to YAG in treating early gastric cancer, particularly when the margin is unclear, and depth of cancer invasion is estimated to be submucosal. Risks of lymph node metastasis in these lesions are reportedly minimal as well. Quality of life scores did not decrease when the patients were treated by lasers, but did so statistically significantly in the surgically treated group of patients. Therefore, we conclude that the endoscopic laser is the treatment of choice of treatment for early gastric cancer as a local curative procedure in the aged if they have a curable lesion as mentioned above. As a palliative treatment, 34 patients with neoplastic obstruction of the esophagus and stomach were treated by dilators with or without intubation of prosthesis tube and laser recanalization. Functional efficacy (ability to eat solid or semi-solid diet which could not be eaten before treatment) was noted in 64% of 11 cases treated by dilators alone, 75% of 12 cases treated by intubation of prosthesis tube and 45% of 11 cases treated by lasers. There was a greater complication rate in the intubation group also. Patients with malignant stricture due to mediastinal lymph node metastasis were at higher risk of perforation.

72. Al-Taie A, Al-Shohani AD, Albasry Z, Altaee A. Current topical trends and novel therapeutic approaches and delivery systems for oral mucositis management. J Pharm Bioallied Sci. 2020 Apr-Jun;12(2):94-101. doi: 10.4103/jpbs.JPBS_198_19. Epub 2020 Apr 10. PMID: 32742107; PMCID: PMC7373116.

Abstract

Oral mucositis (OM) is an extremely serious and challenging complication of chemoradiotherapy, which may limit the efficacy of cancer treatment. Complications related to OM include potential nutrition impairment, high economic burden, and negative impacts on patients' quality of life. Current therapeutic options with local traditional pharmaceutical formulations are largely focused on controlling symptoms, and only few agents are available for treatment. Several local supportive and palliative agents are used for the prevention of OM; however, a standard treatment for the disease has not been confirmed yet. The efficacy of treatment could be improved through the introduction of new medical agents with updated dosage forms that can enhance and optimize local drug delivery and create greater therapeutic effects with fewer side effects. The focus of this review was to provide clear and direct information about the currently available topical therapeutic agents in clinical practice used to cure and/or reduce the incidence of ulcerative symptoms of OM, excluding the associated pain and other coexisting complications such as bacterial and fungal infections. The review also provides recent evidences regarding agents that could

be used as promising novel therapies in updated local delivering systems. This will support further encouraging options and approaches for the management of OM and will improve compliance that could be translated in better disease control and survival. **Keywords:** Chemotherapy; mucoadhesive films; oral mucositis; radiotherapy; topical therapy.

73. Epstein JB, Klasser GD. Emerging approaches for prophylaxis and management of oropharyngeal mucositis in cancer therapy. Expert Opin Emerg Drugs. 2006 May;11(2):353-73. doi: 10.1517/14728214.11.2.353. PMID: 16634706.

Abstract

Oral mucositis is a common treatment-limiting side effect of cancer therapy that may have a significant impact on quality of life and on the cost of care. Oral mucositis is the most distressing complication of cancer therapy as reported by head and neck cancer patients, in patients receiving dose-dense myelosuppressive chemotherapy and in patients receiving haematopoietic stem cell transplant. Mucositis may increase the risk of local and systemic infection, particularly in myelosuppressed patients. Severe oral mucositis can lead to the need to interrupt or discontinue cancer therapy, and thus may impact cure of the primary disease. Current care of patients with mucositis is essentially palliative, and includes appropriate oral hygiene, nonirritating diet and oral care products, topical palliative mouth rinses, topical anaesthetics and use of systemic opioid analgesics. Emerging approaches for prevention and treatment of oral mucositis are developing based on an increasing understanding of the pathobiology of mucosal damage and repair. New interventions are expected to be administered based on the mechanisms of initiation, progression and resolution of the condition. The approval by the FDA of keratinocyte growth factor (palifermin; Amgen) in 2004 represents a new step in prevention of oral mucositis in stem cell transplant patients based on the increasing understanding of the pathogenesis of mucositis. Progress in the prevention and management of mucositis will improve quality of life, reduce cost of care and facilitate completion of more intensive cancer chemotherapy and radiotherapy protocols. Improved management of mucositis may allow implementation of cancer treatment protocols that are currently excessively mucotoxic, but have potentially higher cure rates of the malignant disease.

74. Radwan-Oczko M. Topical application of drugs used in treatment of oral lichen planus lesions. Adv Clin Exp Med. 2013 Nov-Dec;22(6):893-8. PMID: 24431320.

Abstract

Oral lichen planus is a common, chronic mucosal disease associated with a cell-mediated immunological dysfunction. The clinical manifestation is different when various forms, white and red, are considered. Erosive, atrophic, ulcerative lesions require long-term treatment, because of inflammation and severe pain. Since the etiology is still unknown this symptomatic OLP lesions are not curative. The effectiveness of various modalities applied in topical OLP treatment is presented on the basis of the current literature. This treatment in most cases is palliative because of OLP recalcitrant nature. Described agents such: steroids, immunosuppressants, aloe vera, hyaluronic acid, antifungal showed beneficial effects. They enhance healing, improve signs and symptoms of lesions and thus improve the quality of patients' life. Topical treatment is recommended mainly because of minimal side-effects.

75. McDonald AM, Spencer SA, Willey CD, Bonner JA, Dobelbower MC, Swain TA, Nabell L, McCammon S, Carroll WR, McGwin G, Bhatia S, Yang ES. Lipid microsphere bound oxycodone for pain management in patients receiving radiotherapy for head and neck cancer. Support Care Cancer. 2021 Jan;29(1):263-269. doi: 10.1007/s00520-020-05474-1. Epub 2020 Apr 29. PMID: 32350670.

Abstract

Wax microsphere bound oxycodone was developed as an abuse-deterrent opioid and maintains a similar pharmacokinetic profile whether administered with or without an intact capsule. We hypothesized that microsphere oxycodone could be utilized for extended release analgesia in patients undergoing radiation (RT) for head-and-neck cancer (HNC) and would not need to be discontinued due to dysphagia or gastrostomy tube dependence. **Methods and materials:** We performed a prospective trial that enrolled participants > 18 years with histologically confirmed HNC who were scheduled to receive RT. Analgesia was prescribed in accordance with the WHO pain ladder. Microsphere oxycodone was initiated when total daily opioid dose exceeded 30 mg of morphine sulfate equivalent and was titrated weekly during RT. Pain level and effect on quality of life were assessed using the Brief Pain Inventory. The primary feasibility endpoint was frequency of microsphere oxycodone discontinuation within 3 months of RT for reasons other than pain resolution. **Results:** Twenty-six eligible patients were enrolled. Microsphere oxycodone was initiated in 16 (61.5%) patients. Six (23.1%) patients utilized a gastrostomy tube to administer microsphere oxycodone during all or part of RT. Microsphere oxycodone was discontinued in 1 (7.6%) patient due to perceived inefficacy. No patients were discontinued due to toxicity or difficulty with administration. Ratings for average pain was 3.1 (\pm 3.4) at enrollment, 4.0 (\pm 2.4) at week 6 of RT, and 1.8 (\pm 2.2) at 3-month follow-up. **Conclusions:** These results support the feasibility and safety of microsphere oxycodone for extended release analgesia among patients with HNC undergoing RT. **Keywords:** Abuse deterrent; Extended release; Feeding tube; Head and neck cancer; Mucositis; Opioid; Pain management; Radiation therapy.

76. Plaschke CC, Johannesen HH, Hansen RH, Hendel HW, Kiss K, Gehl J, Wessel I. The DAHANCA 32 study: Electrochemotherapy for recurrent mucosal head and neck cancer. *Head Neck*. 2019 Feb;**41(2)**:329-339. doi: 10.1002/hed.25454. Epub 2018 Dec 15. PMID: 30552847.

Abstract

Background: Electrochemotherapy is an established treatment for cutaneous tumors. This study aimed at determining efficacy of electrochemotherapy in recurrent head and neck cancer. **Methods:** Phase II clinical trial in patients with recurrent head and neck carcinomas with no curative treatment options. Electrochemotherapy was performed under general anesthesia. Primary endpoint was tumor response (CT scanning) evaluated at week 8. Secondary endpoints included biopsy results, MRI and fluorodeoxyglucose-positron emission tomography scanning, safety, toxicity, pain score, and quality-of-life questionnaires. **Results:** Of 26 patients treated, 5 (19%) achieved complete response, 10 (39%) partial response, resulting in an objective response of 58%. Two responders remain without recurrence. No serious adverse events occurred during treatment. Four events occurred posttreatment: one bleeding episode, two episodes with mucosal swelling, and one patient died due to disease progression. **Conclusion:** Electrochemotherapy is efficient against local recurrence of head and neck cancer with an overall response rate of 58%. **Keywords:** bleomycin; electrochemotherapy; electroporation; head and neck cancer; quality-of-life.

77. Carr DB, Goudas LC, Balk EM, Bloch R, Ioannidis JP, Lau J. Evidence report on the treatment of pain in cancer patients. *J Natl Cancer Inst Monogr*. 2004;**(32)**:23-31. doi: 10.1093/jncimonographs/lgh012. PMID: 15263038.

Abstract

Pain associated with cancer is of widespread concern. We conducted a systematic review to evaluate the best available evidence on the efficacy of treatments of cancer-related pain. The sources used were MEDLINE, CancerLit, and the Cochrane Library from 1966 through April 2001, as well as bibliographies of meta-analyses and review articles. We selected randomized controlled trials (RCTs) reporting on cancer pain treatment. We recorded the study characteristics, patient and disease characteristics, treatment comparisons, outcome measures, and results. The methodological quality, applicability, and magnitude of treatment effect for each study were graded. We screened 24 822 titles and selected 213 RCTs to address specific questions. RCTs of cancer pain control often enroll few subjects, have low methodological quality, offer little detail about pain characteristics and mechanisms, and involve heterogeneous interventions and outcomes. Nonsteroidal anti-inflammatory drugs (NSAIDs), opioids, selected adjuvant medications, bisphosphonates, radionuclides, external radiation, palliative chemotherapy, and neurolytic celiac plexus block are each efficacious in relieving cancer pain. However, the retrieved RCTs indicate no difference in the analgesic efficacies of NSAIDs versus other NSAIDs, NSAIDs plus opioids versus NSAIDs alone, or NSAIDs versus opioids. Studies of adjuvant medications and behavioral therapies are too few and varied to synthesize. RCTs of the analgesic effects of corticosteroids were not retrieved in our review, although we did conduct supplemental evidence reviews concerning pain control in oral mucositis, acute herpes zoster, or postherpetic neuralgia. RCTs confirm the efficacy of diverse interventions in relieving cancer pain. The optimal initial and subsequent sequence of choices among analgesic drug types cannot be inferred from the retrieved RCTs. Patient preferences, the relative efficacy of different routes of drug administration, the side effects of analgesics, and the relation of pain control to quality of life have not been studied comprehensively. The quantity and quality of scientific evidence on cancer pain relief compare unfavorably with evidence related to treatment of other high-impact conditions, including cancer itself. One contributor to this gap is the heterogeneity of outcomes instruments employed: of 218 retrieved trials, there were 125 distinct pain outcomes assessed. In the current era of patient-centered care, improving the quality and combinability of trials on cancer pain relief should be a high research priority.

78. Ps SK, Balan A, Sankar A, Bose T. Radiation induced oral mucositis. *Indian J Palliat Care*. 2009 Jul;**15(2)**:95-102. doi: 10.4103/0973-1075.58452. PMID: 20668585; PMCID: PMC2902123.

Abstract

Patients receiving radiotherapy or chemotherapy will receive some degree of oral mucositis the incidence of oral mucositis was especially high in patients: (i) With primary tumors in the oral cavity, oropharynx, or nasopharynx; (ii) who also received concomitant chemotherapy; (iii) who received a total dose over 5,000 cGy; and (iv) who were treated with altered fractionation radiation schedules. Radiation-induced oral mucositis affects the quality of life of the patients and the family concerned. The present day management of oral mucositis is mostly palliative and or supportive care. The newer guidelines are suggesting Palifermin, which is the first active mucositis drug as well as Amifostine, for radiation protection and cryotherapy. The current management should focus more on palliative measures, such as pain management, nutritional support, and maintenance, of good oral hygiene. **Keywords:** Mucositis; Oral cancer; Radiation.

79. Al-Mamgani A, Kessels R, Verhoef CG, Navran A, Hamming-Vrietze O, Kaanders JHAM, Steenbakkers RJHM, Tans L, Hoebbers F, Ong F, van Werkhoven E, Langendijk JA. Randomized controlled trial to identify the optimal radiotherapy scheme for palliative treatment of incurable head and neck squamous cell carcinoma. *Radiother Oncol*. 2020 Aug;**149**:181-188. doi: 10.1016/j.radonc.2020.05.020. Epub 2020 May 14. PMID: 32417345.

Abstract

Background: No randomized controlled trials (RCT) have yet identified the optimal palliative radiotherapy scheme in patients with incurable head and neck squamous cell carcinoma (HNSCC). We conducted RCT to compare two radiation schemes in terms of efficacy, toxicity and quality-of-life (QoL). **Materials and methods:** Patients with locally-advanced HNSCC who were ineligible for radical treatment and those with limited metastatic disease were randomly assigned in 1:1 ratio to arm 1 (36 Gy in 6 fractions, twice a week) or arm 2 (50 Gy in 16 fractions, four times a week). **Results:** The trial was discontinued early because of slow accrual (34 patients enrolled). Objective response rates were 38.9% and 57.1% for arm 1 and 2 respectively ($p = 0.476$). The median time to loco-regional progression was not reached. The loco-regional control rates at 1 year was 57.4% and 69.3% in arm 1 and 2 ($p = 0.450$, HR = 0.56, 95%CI 0.12-2.58). One-year overall survival was 33.3% and 57.1%, with medians of 35.4 and 59.5 weeks, respectively ($p = 0.215$, HR = 0.55, 95%CI 0.21-1.43). Acute grade ≥ 3 toxicity was lower in arm 1 (16.7% versus 57.1%, $p = 0.027$), with the largest difference in grade 3 mucositis (5.6% versus 42.9%, $p = 0.027$). However, no significant deterioration in any of the patient-reported QoL-scales was found. **Conclusion:** No solid conclusion could be made on this incomplete study which is closed early. Long-course radiotherapy did not show significantly better oncologic outcomes, but was associated with more acute grade 3 mucositis. No meaningful differences in QoL-scores were found. Therefore, the shorter schedule might be carefully advocated. However, this recommendation should be interpreted with great caution because of the inadequate statistical power. **Trial registration:** ClinicalTrials.gov [NCT02421458](https://clinicaltrials.gov/ct2/show/study/NCT02421458). **Keywords:** Head and neck cancer; Incurable cancer; Palliative radiotherapy; Randomized controlled trial; Squamous cell carcinoma.

80. Plaschke CC, Bertino G, McCaul JA, Grau JJ, de Bree R, Sersa G, Occhini A, Groselj A, Langdon C, Heuveling DA, Cemazar M, Strojjan P, Leemans CR, Benazzo M, De Terlizzi F, Wessel I, Gehl J. European Research on Electrochemotherapy in Head and Neck Cancer (EURECA) project: Results from the treatment of mucosal cancers. *Eur J Cancer*. 2017 Dec;87:172-181. doi: 10.1016/j.ejca.2017.10.008. PMID: 29156298.

Abstract

Aim: Electrochemotherapy is an effective local treatment for cutaneous tumours and metastases. In this prospective trial, six European institutions investigated electrochemotherapy in recurrent, mucosal head and neck tumours. **Patient and methods:** Forty-three patients with recurrent mucosal head and neck tumours and no further curative or reasonably effective palliative treatment options were enrolled and treated with electrochemotherapy. Patients were treated in general anaesthesia using intravenous or local injection of bleomycin followed by delivery of electric pulses to the tumour area. Primary end-point was local tumour response. Secondary end-points were safety and toxicity, overall and progression free survival, and quality-of-life. **Results:** Thirty-seven patients were evaluable for tumour response, pain score, side-effects and quality of life questionnaires. Six patients were not evaluable due to lost follow-up, disease progression or death before evaluation. Intention to treat analysis revealed an objective response of 56% (complete response 8 (19%), partial response 16 (37%), stable disease 10 (23%), progressive disease 3 (7%), and not evaluable 6 (14%). Three patients (7%) remained in complete response at 30, 34, and 84 months post-treatment. The treatment procedure was generally well tolerated. Swelling of the mucosa was observed in the first days after treatment. Pain and use of pain medication rose temporarily; fatigue and dysphagia were also noted in the quality of life assessment. **Conclusion:** Electrochemotherapy can be applied to mucosal head and neck recurrent tumours accessible to the procedure with promising objective response, survival and toxicity profile. Attention should be paid to post-treatment swelling and planning of pain medication. These favourable results indicate that electrochemotherapy could play a role in patients with recurrent head and neck cancer. **Keywords:** Electrochemotherapy; Head and neck cancer; Palliative treatment; Quality of life; Squamous cell carcinoma.

81. Saini R, Marawar P, Shete S, Saini S, Mani A. Dental expression and role in palliative treatment. *Indian J Palliat Care*. 2009 Jan;15(1):26-9. doi: 10.4103/0973-1075.53508. PMID: 20606852; PMCID: PMC2886216.

Abstract

World Health Organization defines palliative care as the active total care of patients whose disease is not responding to curative treatment. Palliative care for the terminally ill is based on a multidimensional approach to provide whole-person comfort care while maintaining optimal function; dental care plays an important role in this multidisciplinary approach. The aim of the present study is to review significance of dentist's role to determine whether mouth care was effectively assessed and implemented in the palliative care setting. The oral problems experienced by the hospice head and neck patient clearly affect the quality of his or her remaining life. Dentist plays an essential role in palliative care by the maintenance of oral hygiene; dental examination may identify and cure opportunistic infections and dental disease like caries, periodontal disease, oral mucosal problems or prosthetic requirement. Oral care may reduce not only the microbial load of the mouth but the risk for pain and oral infection as well. This multidisciplinary approach to palliative care, including a dentist, may reduce the oral debilities that influence the patient's ability to speak, eat or swallow. This review highlighted that without effective assessment of the mouth, the appropriate implementation of care will not be delivered. Palliative dental care has been fundamental in management of patients with active, progressive, far-advanced disease in which the oral cavity has been compromised either by the disease directly or by its treatment; the focus of care is quality of life. **Keywords:** Dental expression; Hospice care; Oral lesions; Pain; Palliative care.

82. Khan L, Tjong M, Raziee H, Lee J, Erler D, Chin L, Poon I. Role of stereotactic body radiotherapy for symptom control in head and neck cancer patients. *Support Care Cancer*. 2015 Apr;23(4):1099-103. doi: 10.1007/s00520-014-2421-y. Epub 2014 Oct 9. PMID: 25294656.

Abstract

Purpose: Our aim was to determine the efficacy and quality of life outcomes of head and neck (HN) stereotactic body radiotherapy (SBRT) in a palliative population with significant proportions of de novo HN tumors not amenable to surgery or protracted course of curative radiotherapy (RT). **Methods:** A retrospective review of a prospective database identified 21 patients with 24 sites that were treated. Patients were treated with intensity modulated RT (IMRT), usually 7-9 static fields with a 2-3-mm margin from gross tumor volume to planning target volume only with no microscopic margin added. Electronic patient records and treatment plans were reviewed. Basic demographic information was collected. The EORTC QLQ-H&N35 questionnaire was the tool used to collect QOL data both pre- and on-treatment fraction 5. Univariate analysis was performed for predictors of local control (LC) and prognostic factors for overall survival (OS). **Results:** A total of 21 patients had 24 sites that were treated. The median age was 87 (range 25-103) and median KPS was 70. The most common histology was squamous cell carcinoma (SCC) 19/24 (79 %), basal cell carcinoma (BCC) 3/24 (16 %), and melanoma (4 %). The median maximal diameter was 3.7 cm (range 1-10 cm). The most commonly treated site was lymph nodes in the neck 13/24 (54 %), skin 8/24 (33 %), 4/24 (16 %) other HN mucosal primary sites. Of the 24 lesions, 17 (71 %) were de novo, without prior treatment and 7/24 (29 %) were recurrent. The most commonly used dose/fraction (fx) was 40 Gy/5 (fx) (range 35/5fx-48/6fx). Of the 24 lesions, 6 (25 %) had complete response, 16/24 (67 %) had partial response, and 2/24 (8 %) had no response. Control was defined as no further progression after treatment. For the entire cohort, LC at 3, 6, and 9 months were 66, 50, and 33 %, respectively. In the de novo group, 2/16 (12.5 %) had local failures with the LC rate of 94, 94, and 87 % at 3 months, 6 months, and 1 year, respectively. In the recurrent group, 4/8 (50 %) had failure with LC rates of 87. 5, 62.5, and 50 % at 3 months, 6 months, and 1 year, respectively. Of the 21 patients, 10 died during follow up, with the OS rate at 3 months, 6 months, and 1 year of 90, 70, and 60 %, respectively. Being defined "de novo" showed a trend toward statistical significance $p = 0.046$ for local failure. Overall survival did not show significant difference between de novo and recurrent with a p value of 0.267. No significant prognostic variables for OS were found. Pre-treatment QOL scores for the entire cohort were 53/130 versus 38/130 (lower scores indicating better QOL) scores with a trend toward statistical significance $p = 0.05$. **Conclusions:** SBRT is efficacious with improved quality of life within this elderly frail population in the treatment of de novo and recurrent tumors of the head and neck with promising quality of life scores.

83. Roldan CJ, Chung M, Feng L, Bruera E. Methylene Blue for the Treatment of Intractable Pain From Oral Mucositis Related to Cancer Treatment: An Uncontrolled Cohort. *J Natl Compr Canc Netw*. 2021 Jan 4:1-7. doi: 10.6004/jnccn.2020.7651. Epub ahead of print. PMID: 33395626.

Abstract

Background: Oral mucositis is a complication of cancer therapy, causing severe pain that affects oral functioning, nutrition, and quality of life, as well as therapy nonadherence or dose-limiting toxicity. Anecdotal experience has suggested that methylene blue (MB) oral rinse may be an effective and safe treatment of this oral pain. **Methods:** To evaluate the efficacy and safety of MB oral rinse for the treatment of oral pain due to mucositis in patients with cancer, we retrospectively evaluated patients who experienced refractory pain despite conventional therapy. **Results:** We identified 281 patients who received MB oral rinse. Most were receiving treatment for leukemia ($n=85$; 30.3%) and head and neck squamous cell carcinoma ($n=84$; 29.9%). The most common treatments were radiation therapy alone ($n=108$; 38.4%) and chemoradiation ($n=86$; 30.6%). Median duration of symptoms was 14 days. Mean (SD) numeric rating scale pain scores were 7.7 (1.83; median, 8) before MB oral rinse and 2.51 (2.76; median, 2) after MB oral rinse ($P<.0001$). Most patients achieved pain control within the first 3 doses. The effectiveness of MB oral rinse was independent of patient age, sex, cancer type, cancer stage, MB dilution, and pain duration or baseline pain scores. The lowest response to treatment was reported in individuals with esophageal mucositis. Few patients experienced adverse effects of MB oral rinse ($n=13$; 4.6%); 10 had a transient burning sensation, 2 had transient blue discoloration of the teeth and mouth, and 1 had increased pain. **Conclusions:** MB oral rinse is an effective and safe treatment for refractory pain from oral mucositis related to cancer treatment.

84. Das S, Thomas S, Pal SK, Isiah R, John S. Hypofractionated Palliative Radiotherapy in Locally Advanced Inoperable Head and Neck Cancer: CMC Vellore Experience. *Indian J Palliat Care*. 2013 May;19(2):93-8. doi: 10.4103/0973-1075.116709. PMID: 24049349; PMCID: PMC3775031.

Abstract

Background: A novel, short duration, palliative radiotherapy schedule for inoperable head and neck cancer was evaluated in terms of palliation of cancer-related symptoms and acute toxicities. **Materials and methods:** Thirty-six patients with inoperable head and neck cancer were included in the study (2010-2012). All patients received 40 Gy in 10 fractions (equivalent dose: 49.8 Gy in conventional fractionation) with 2 fractions per week. Treatment-related toxicity was assessed using Radiation Therapy Oncology Group criteria. Functional Assessment of Cancer Therapy (Head and Neck, FACT H and N) quality of life

(QOL) tool was administered before starting and at the completion of radiotherapy. Mean value before and after treatment was compared (paired t-test, $P = 0.05$, two-tailed for significance). **Results:** Thirty-three patients (male: 29, female: 4, mean age: 57.8 ± 9.7 years) were included in the analysis (three patients discontinued treatment due to socioeconomic reasons). All patients had advanced inoperable head and neck cancers (27% IVA, 61% IVB, 9% IVC, TNM stage and 3% recurrent disease). Distressing pain at primary site (42%), dysphagia (18%), neck swelling (30%), and hoarseness (10%) were common presentations. Incidence of grade III mucositis and dermatitis and pain was 18%, 3%, and 24%, respectively. Planned radiotherapy without any interruptions was completed by 73% patients. QOL assessment showed improvement in social well-being (17.4 vs. 20.01, $P = 0.03$), but no significant change was observed in head and neck specific score (25.1 vs. 25.0, $P = NS$) after treatment. Reduction of pain was observed in 88% patients and 60% patients had improvement of performance status. Median overall survival of the cohort was 7 months. **Conclusions:** The study shows that this short duration palliative radiotherapy schedule is a clinically viable option for advanced inoperable head and neck cancer to achieve significant palliation of the main presenting symptoms like pain, dysphagia, and throat pain. **Keywords:** Cancer pain; Hypofractionated radiotherapy; Inoperable head and neck cancer; Palliative radiotherapy.

85. Balducci L. New paradigms for treating elderly patients with cancer: the comprehensive geriatric assessment and guidelines for supportive care. J Support Oncol. 2003 Nov-Dec;1(4 Suppl 2):30-7. PMID: 15346998.

Abstract

Strategies for treating cancer are evolving to address the growing number of elderly patients with cancer. Older patients have highly variable physiologic ages, and their treatment should be individualized for optimal outcomes. Treatment paradigms should also take into account the diversity of patients' life expectancy, functional reserve, social support, and personal preference. A Comprehensive Geriatric Assessment (CGA) is a useful tool for estimating life expectancy and tolerance of treatment and for identifying reversible factors that may interfere with cancer treatment, including depression, malnutrition, anemia, neutropenia, and lack of caregiver support. Adopting a common language to describe older patients may facilitate the design and analysis of studies to determine effective drugs and care strategies for them. Information from a CGA can guide the prescription of potentially curative therapy, determine the best use of supportive care agents, and help identify frail patients for whom palliative care is the best option. There is evidence in a number of settings that the routine use of a CGA has a positive effect on health outcomes by reducing hospitalizations, preserving functional independence, and preventing geriatric syndromes. Guidelines for supportive care are also important in treating elderly patients with cancer. Pain, caused by cancer or its treatment, is prevalent, and guidelines for its assessment and treatment should be implemented to improve quality of life. Toxicities such as neutropenia and mucositis should be managed aggressively. Growth factors reduce the incidence and severity of neutropenia and its complications in older patients, particularly when they are administered in the early cycles of chemotherapy. The development of effective strategies for the management of toxicity caused by anticancer drugs may help the elderly, as much as younger patients, expect and look forward to a positive outcome with their treatment.

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Abstract

Background: Melanoma of the anorectal mucosa is a rare but highly aggressive tumor. Its presenting symptoms are frequently confused with hemorrhoids, thereby causing a delay in diagnosis. Anorectal melanoma carries with it a very poor prognosis. There is a paucity of data investigating management options for anorectal melanoma, and even fewer data reporting recurrent or refractory cases. **Case presentation:** This case documents a 41-year-old female with a long history of hemorrhoids presenting with anorectal discharge. She was incidentally found have anorectal melanoma following surgical resection. Systemic diagnostic work-up demonstrated PET-avid lymphadenopathy in her right groin. She underwent right groin dissection. However, seven months later she recurred in her right groin and a new recurrent mass was found in her pelvis. She underwent a second groin dissection and resection of the pelvic recurrence. This was followed by a course of hypofractionated radiation therapy then systemic immunotherapy. **Discussion:** Surgery has been the mainstay of treatment. However, the extent of surgery has been the topic of investigation. Historically, radical resections have been performed but they result in high rates of post-operative morbidity. Newer studies have compared radical resection with wide local excisions and found comparable outcomes. Anorectal melanoma is frequently a systemic disease. The ideal systemic therapy regimen has not yet been determined but numerous studies show a benefit to multi-agent treatments. Radiation therapy is typically given in the post-operative or palliative setting. **Conclusions:** Anorectal mucosal melanoma is a very rare but aggressive disease with a poor prognosis. The overall treatment goal should strive to optimize quality of life and tumor control while minimizing treatment-related morbidities. **Keywords:** Anorectal; radiation treatment; recurrent anal melanoma; surgery.

87. Fox PC. Xerostomia: recognition and management. Dent Assist. 2008 Sep-Oct;77(5):18, 20, 44-8; quiz 50-1. PMID: 18982854.

Abstract

Awareness and recognition of xerostomia are essential in order to help patients minimize dryness symptoms, to institute preventive measures and to limit oral complications. The dental professional has the opportunity to ask every patient if they are experiencing dry mouth. In particular, complaints of dryness while eating, or difficulty swallowing dry foods, or the necessity of using liquids to ease swallowing are important clues that salivary function may be impaired. As part of a routine oral examination, one should examine the oral cavity carefully for signs of salivary gland dysfunction. Findings such as an increase in caries activity, mucosal alterations, infection or salivary gland enlargement may indicate salivary dysfunction. Evaluation should be conducted proactively at each patient visit. Early recognition will minimize damage and dysfunction and allow appropriate management to begin. Although the salivary dysfunction may be irreversible, preventive measures and conservative treatments can avoid or limit mucosal breakdown, infections and permanent damage to teeth. Adequate symptomatic relief is possible with local palliative and systemic measures in many patients. Appropriate management of symptoms and increasing saliva output may help patients feel more comfortable and improve their quality of life.

88. Nagaoka H, Momo K, Hamano J, Miyaji T, Oyamada S, Kawaguchi T, Homma M, Yamaguchi T, Morita T, Kizawa Y. Effects of an Indomethacin Oral Spray on Pain Due to Oral Mucositis in Cancer Patients Treated With Radiotherapy and Chemotherapy: A Double-Blind, Randomized, Placebo-Controlled Trial (JORTC-PAL04). J Pain Symptom Manage. 2021 Jan 28:S0885-3924(21)00144-5. doi: 10.1016/j.jpainsymman.2021.01.123. Epub ahead of print. PMID: 33516927.

Abstract

Context: Oral mucositis (OM) pain due to anticancer chemo- and radiotherapy has a very negative impact on patient quality of life. However, no high-quality studies have been performed regarding the analgesic efficacy of indomethacin (IM) oral spray for OM pain. **Objectives:** This randomized, placebo-controlled, double-blind trial aimed to evaluate the analgesic efficacy of IM oral spray for OM pain due to anticancer chemo- and radiotherapy. **Methods:** From July 2015 to December 2016, we enrolled adult cancer patients with OM pain that was due to anticancer chemo- or radiotherapy and was rated 4 or higher on Brief Pain Inventory (BPI) Item 5. Patients were randomly assigned in a 1:1 ratio to receive either IM oral spray or placebo. The primary endpoint was the change in the BPI Item 6 ("current pain") score from before to 30 minutes after treatment. Secondary endpoints were the areas under the curves of BPI Item 6 at 15, 60, 120, 180, and 240 minutes after treatment; five items related to meals and conversation from the European Organization for Research and Treatment of Cancer (EORTC) Quality of Life Questionnaire, Head and Neck Module 35; the Clinical Global Impressions-Improvement (CGI-I) scale; and adverse events. **Results:** A total of 60 patients were assigned to receive IM oral spray (n = 33) or placebo spray (n = 27). The average change in the BPI item 6 score from before to 30 minutes after treatment was -1.85 (95% confidence interval: -2.37 to -1.32) in the IM spray group and -0.59 (-1.02 to -0.16) in the placebo group, indicating a significant difference (-1.26, -1.94 to -0.57, P < 0.01). The pain improvement persisted for 180 minutes. The intergroup differences in ability to drink liquids, ease in conversing, and CGI-I were all significant (P = 0.03, P = 0.02, and P < 0.01, respectively). No serious adverse events were reported. **Conclusion:** IM oral spray alleviated short-term OM pain due to anticancer chemo- and radiotherapy, and may reduce the difficulty in eating meals. **Keywords:** Oral mucositis; chemotherapy; indomethacin oral spray; pain control; radiotherapy.

89. Plemons JM, Al-Hashimi I, Marek CL; American Dental Association Council on Scientific Affairs. Managing xerostomia and salivary gland hypofunction: executive summary of a report from the American Dental Association Council on Scientific Affairs. J Am Dent Assoc. 2014 Aug;145(8):867-73. doi: 10.14219/jada.2014.44. PMID: 25082939.

Abstract

Background and overview: Xerostomia, also known as "dry mouth," is a common but frequently overlooked condition that is typically associated with salivary gland hypofunction, which is the objective measurement of reduced salivary flow. Patients with dry mouth exhibit symptoms of variable severity that are commonly attributed to medication use, chronic disease and medical treatment, such as radiotherapy to the head and neck region. Chronic xerostomia significantly increases the risk of experiencing dental caries, demineralization, tooth sensitivity, candidiasis and other oral diseases that may affect quality of life negatively. This article presents a multidisciplinary approach to the clinical management of xerostomia, consistent with the findings of published systematic reviews on this key clinical issue. **Conclusions and practice implications:** Initial evaluation of patients with dry mouth should include a detailed health history to facilitate early detection and identify underlying causes. Comprehensive evaluation, diagnostic testing and periodic assessment of salivary flow, followed by corrective actions, may help prevent significant oral disease. A systematic approach to xerostomia management can facilitate interdisciplinary patient care, including collaboration with physicians regarding systemic conditions and medication use. Comprehensive management of xerostomia and hyposalivation should emphasize patient education and lifestyle modifications. It also should focus on various palliative and preventive measures, including pharmacological treatment with salivary stimulants, topical fluoride interventions and the use of sugar-free chewing gum to relieve dry-mouth symptoms and improve the patient's quality of life. **Keywords:** Xerostomia; saliva; salivary flow.

90. Strojan P, Grošelj A, Serša G, Plaschke CC, Vermorken JB, Nuyts S, de Bree R, Eisbruch A, Mendenhall WM, Smee R, Ferlito A. Electrochemotherapy in Mucosal Cancer of the Head and Neck: A Systematic Review. *Cancers (Basel)*. 2021 Mar 12;13(6):1254. doi: 10.3390/cancers13061254. PMID: 33809141.

Abstract

Electrochemotherapy (ECT) is a local ablative treatment that is based on the reversible electroporation and intracellular accumulation of hydrophilic drug molecules, which greatly increases their cytotoxicity. In mucosal head and neck cancer (HNC), experience with ECT is limited due to the poor accessibility of tumors. In order to review the experience with ECT in mucosal HNC, we undertook a systematic review of the literature. In 22 articles, published between 1998 and 2020, 16 studies with 164 patients were described. Curative and palliative intent treatment were given to 36 (22%) and 128 patients (78%), respectively. The majority of tumors were squamous cell carcinomas (79.3%) and located in the oral cavity (62.8%). In the curative intent group, complete response after one ECT treatment was achieved in 80.5% of the patients, and in the palliative intent group, the objective (complete and partial) response rate was 73.1% (31.2% and 41.9%). No serious adverse events were reported during or soon after ECT and late effects were rare (19 events in 17 patients). The quality-of-life assessments did not show a significant deterioration at 12 months post-ECT. Provided these preliminary data are confirmed in randomized controlled trials, ECT may be an interesting treatment option in selected patients with HNC not amenable to standard local treatment. **Keywords:** electrochemotherapy; head and neck cancer; quality of life; systematic review.

91. Vormittag L, Erovic B, Schopper C, Zielinski CC, Kornek G, Thurnher D. Unilateral face swelling as first manifestation of metastatic pancreatic cancer: case report and review of the literature. *Wien Klin Wochenschr*. 2008;120(21-22):693-6. doi: 10.1007/s00508-008-1084-4. PMID: 19116711.

Abstract

Objective: Metastasis to the jaw is a rare finding in pancreatic cancer; only five cases of tumor spread to the oral region have been described. **Case report:** We report on a previously healthy 54-year-old man who attended the hospital in 2006 because of a mandibular mass. Histology was positive for adenocarcinoma and computed tomography led to the diagnosis of pancreatic cancer. Chemoradiotherapy was started but had to be stopped early because of intraoral bleeding from the metastasis. The patient subsequently received palliative chemotherapy. The primary cancer was stabilized but the mandibular mass progressed despite cytostatic therapy. Despite best supportive measures the patient died nine months after presentation. **Conclusion:** In making the decision on whether metastasectomy should be performed in an uncommon site of metastatic spread such as the mandibula, both the possibility of cure and also the potentially decreased response to conservative therapy and the patient's decreased quality of life have to be considered.

92. Medical Advisory Secretariat. Extracorporeal photophoresis: an evidence-based analysis. *Ont Health Technol Assess Ser*. 2006;6(6):1-82. Epub 2006 Mar 1. PMID: 23074497; PMCID: PMC3379535.

Abstract

Objective: To assess the effectiveness, safety and cost-effectiveness of extracorporeal photophoresis (ECP) for the treatment of refractory erythrodermic cutaneous T cell lymphoma (CTCL) and refractory chronic graft versus host disease (cGvHD). **Background:** CUTANEOUS T CELL LYMPHOMA: Cutaneous T cell lymphoma (CTCL) is a general name for a group of skin affecting disorders caused by malignant white blood cells (T lymphocytes). Cutaneous T cell lymphoma is relatively uncommon and represents slightly more than 2% of all lymphomas in the United States. The most frequently diagnosed form of CTCL is mycosis fungoides (MF) and its leukemic variant Sezary syndrome (SS). The relative frequency and disease-specific 5-year survival of 1,905 primary cutaneous lymphomas classified according to the World Health Organization-European Organization for Research and Treatment of Cancer (WHO-EORTC) classification (Appendix 1). Mycosis fungoides had a frequency of 44% and a disease specific 5-year survival of 88%. Sezary syndrome had a frequency of 3% and a disease specific 5-year survival of 24%. Cutaneous T cell lymphoma has an annual incidence of approximately 0.4 per 100,000 and it mainly occurs in the 5(th) to 6(th) decade of life, with a male/female ratio of 2:1. Mycosis fungoides is an indolent lymphoma with patients often having several years of eczematous or dermatitic skin lesions before the diagnosis is finally established. Mycosis fungoides commonly presents as chronic eczematous patches or plaques and can remain stable for many years. Early in the disease biopsies are often difficult to interpret and the diagnosis may only become apparent by observing the patient over time. The clinical course of MF is unpredictable. Most patients will live normal lives and experience skin symptoms without serious complications. Approximately 10% of MF patients will experience progressive disease involving lymph nodes, peripheral blood, bone marrow and visceral organs. A particular syndrome in these patients involves erythroderma (intense and usually widespread reddening of the skin from dilation of blood vessels, often preceding or associated with exfoliation), and circulating tumour cells. This is known as SS. It has been estimated that approximately 5-10% of CTCL patients have SS. Patients with SS have a median survival of approximately 30 months. CHRONIC GRAFT VERSUS HOST DISEASE: Allogeneic hematopoietic cell transplantation (HCT) is a treatment used for a variety of malignant and nonmalignant disease of the bone marrow and immune system. The procedure is often associated with serious immunological complications, particularly graft versus host disease (GvHD). A chronic form of GvHD (cGvHD) afflicts many allogeneic HCT recipients, which results in dysfunction of numerous organ systems or even a profound state of immunodeficiency. Chronic GVHD is the most frequent cause of poor long-term outcome and quality of life

after allogeneic HCT. The syndrome typically develops several months after transplantation, when the patient may no longer be under the direct care of the transplant team. Approximately 50% of patients with cGvHD have limited disease and a good prognosis. Of the patients with extensive disease, approximately 60% will respond to treatment and eventually be able to discontinue immunosuppressive therapy. The remaining patients will develop opportunistic infection, or require prolonged treatment with immunosuppressive agents. Chronic GvHD occurs in at least 30% to 50% of recipients of transplants from human leukocyte antigen matched siblings and at least 60% to 70% of recipients of transplants from unrelated donors. Risk factors include older age of patient or donor, higher degree of histoincompatibility, unrelated versus related donor, use of hematopoietic cells obtained from the blood rather than the marrow, and previous acute GvHD. Bhushan and Collins estimated that the incidence of severe cGvHD has probably increased in recent years because of the use of more unrelated transplants, donor leukocyte infusions, nonmyeloablative transplants and stem cells obtained from the blood rather than the marrow. The syndrome typically occurs 4 to 7 months after transplantation but may begin as early as 2 months or as late as 2 or more years after transplantation. Chronic GvHD may occur by itself, evolve from acute GvHD, or occur after resolution of acute GvHD. The onset of the syndrome may be abrupt but is frequently insidious with manifestations evolving gradually for several weeks. The extent of involvement varies significantly from mild involvement limited to a few patches of skin to severe involvement of numerous organ systems and profound immunodeficiency. The most commonly involved tissues are the skin, liver, mouth, and eyes. Patients with limited disease have localized skin involvement, evidence of liver dysfunction, or both, whereas those with more involvement of the skin or involvement of other organs have extensive disease.

Treatment: CUTANEOUS T CELL LYMPHOMA: The optimal management of MF is undetermined because of its low prevalence, and its highly variable natural history, with frequent spontaneous remissions and exacerbations and often prolonged survival. Nonaggressive approaches to therapy are usually warranted with treatment aimed at improving symptoms and physical appearance while limiting toxicity. Given that multiple skin sites are usually involved, the initial treatment choices are usually topical or intralesional corticosteroids or phototherapy using psoralen (a compound found in plants which make the skin temporarily sensitive to ultraviolet A) (PUVA). PUVA is not curative and its influence on disease progression remains uncertain. Repeated courses are usually required which may lead to an increased risk of both melanoma and nonmelanoma skin cancer. For thicker plaques, particularly if localized, radiotherapy with superficial electrons is an option. "Second line" therapy for early stage disease is often topical chemotherapy, radiotherapy or total skin electron beam radiation (TSEB). Treatment of advanced stage (IIB-IV) MF usually consists of topical or systemic therapy in refractory or rapidly progressive SS. Bone marrow transplantation and peripheral blood stem cell transplantation have been used to treat many malignant hematologic disorders (e.g., leukemias) that are refractory to conventional treatment. Reports on the use of these procedures for the treatment of CTCL are limited and mostly consist of case reports or small case series.

CHRONIC GRAFT VERSUS HOST DISEASE: Patients who develop cGvHD require reinstitution of immunosuppressive medication (if already discontinued) or an increase in dosage and possibly addition of other agents. The current literature regarding cGvHD therapy is less than optimal and many recommendations about therapy are based on common practices that await definitive testing. Patients with disease that is extensive by definition but is indolent in clinical appearance may respond to prednisone. However, patients with more aggressive disease are treated with higher doses of corticosteroids and/or cyclosporine. Numerous salvage therapies have been considered in patients with refractory cGvHD, including ECP. Due to uncertainty around salvage therapies, Bhushan and Collins suggested that ideally, patients with refractory cGvHD should be entered into clinical trials. Two Ontario expert consultants jointly estimated that there may be approximately 30 new erythrodermic treatment resistant CTCL patients and 30 new treatment resistant cGvHD patients per year who are unresponsive to other forms of therapy and may be candidates for ECP. Extracorporeal photopheresis is a procedure that was initially developed as a treatment for CTCL, particularly SS.

CURRENT TECHNIQUE: Extracorporeal photopheresis is an immunomodulatory technique based on pheresis of light sensitive cells. Whole blood is removed from patients followed by pheresis. Lymphocytes are separated by centrifugation to create a concentrated layer of white blood cells. The lymphocyte layer is treated with methoxsalen (a drug that sensitizes the lymphocytes to light) and exposed to UVA, following which the lymphocytes are returned to the patient. Red blood cells and plasma are returned to the patient between each cycle. Photosensitization is achieved by administering methoxsalen to the patient orally 2 hours before the procedure, or by injecting methoxsalen directly into the leucocyte rich fraction. The latter approach avoids potential side effects such as nausea, and provides a more consistent drug level within the machine. In general, from the time the intravenous line is inserted until the white blood cells are returned to the patient takes approximately 2.5-3.5 hours. For CTCL, the treatment schedule is generally 2 consecutive days every 4 weeks for a median of 6 months. For cGvHD, an expert in the field estimated that the treatment schedule would be 3 times a week for the 1(st) month, then 2 consecutive days every 2 weeks after that (i.e., 4 treatments a month) for a median of 6 to 9 months.

Regulatory status: The UVAR XTS Photopheresis System is licensed by Health Canada as a Class 3 medical device (license # 7703) for the "palliative treatment of skin manifestations of CTCL." It is not licensed for the treatment of cGvHD. UVADEX (sterile solution methoxsalen) is not licensed by Health Canada, but can be used in Canada via the Special Access Program. (Personal communication, Therakos, February 16, 2006) According to the manufacturer, the UVAR XTS photopheresis system licensed by Health Canada can also be used with oral methoxsalen. (Personal communication, Therakos, February 16, 2006) However, oral methoxsalen is associated with side effects, must be taken by the patient in advance of ECP, and has variable absorption in the gastrointestinal tract. (ABSTRACT TRUNCATED)

93. Fox PC, van der Ven PF, Sonies BC, Weiffenbach JM, Baum BJ. Xerostomia: evaluation of a symptom with increasing significance. J Am Dent Assoc. 1985 Apr;110(4):519-25. doi: 10.14219/jada.archive.1985.0384. PMID: 3858368.

Abstract

Xerostomia is the subjective sensation of oral dryness. Although it is most commonly associated with salivary gland dysfunction, it may also occur with normal gland activity. Xerostomia may be an early symptom of several morbid systemic conditions with important implications for the medical and dental management of patients. Oral dryness also has negative effects on an individual's emotional well-being and quality of life. The complaint of xerostomia necessitates a complete evaluation of a patient's general health, salivary gland function, and oral motor and sensory abilities. The salivary gland assessment includes symptom review, analysis of glandular secretions, scintiscanning, and minor labial gland biopsy. No single component is sufficient to adequately diagnose the presence, extent, or cause of salivary dysfunction. Treatment of a dry mouth, to date, is mainly palliative in nature, with the intent of preserving oral structures and functions. Better therapies are essential in the management of xerostomia, whatever the cause. The importance of xerostomia as a symptom is increasingly recognized in medicine and dentistry. The dentist is commonly the first health professional to hear this complaint and may be critical in directing a full and appropriate evaluation.

94. Antonacci, G., Cerati, C., Racis, M., Lo Russo, I., Togliardi, E., Cusmai, R., & Saibene, G. (2016). Mucositis pain: Treatment Options for the patient. Annals of Oncology, 27. <https://doi.org/10.1093/annonc/mdw344.11>

Abstract

Background: Oral mucositis (OM) is the most frequent complication deriving from oncology treatment, causing pain of the oral cavity and dysphagia that greatly compromise the patient's quality of life. Under-treated pain of OM, can lead to malnutrition, weight-loss, asthenia and emotional stress. Therefore, swift, effective symptom-management of OM is of vital importance. Analgesic therapy is often inappropriate or ineffective, whereas opiates such as Morphine are available only to a limited number of patients. Moreover, the difficulty in executing multicentric studies on narcotic drugs makes for a very grim scenario indeed. Morphine is still considered the number one drug of choice for moderate to severe oncological pain, according to EAPC (European Association for Palliative Care). However, Morphine is not generally administered for the treatment of OM pain. The objective of this article is to assess the efficacy of analgesic therapy administered during cancer treatment with specific regard to OM. Materials (patients) and methods: Assessment of pain intensity of OM during oncology treatment in patients of the National Tumor Institute of Milan. Results: Of the 150 subjects with OM in relation to various regimes of oncology treatment, 138 referred oral cavity pain of differing intensity. Data analysis revealed that 58% (88 subjects) referred oral-pharyngeal pain (NRS 5 or more) that was uncontrolled, and 27% of the same group (41 patients) received no pain medication. Of the 52 patients that referred severe pain (NRS 7-10), 42% (22 subjects) used no pain medication while only 19% (10 subjects) received strong, IV opiates. Conclusions: OM pain receives little consideration, hence inadequate treatment, negatively influencing the patient's quality of life. The WHO Assessment Scale most utilized for confirming OM is not specific for identifying pain intensity of the oral cavity. Despite the fact that Morphine is considered one of the drugs of choice for oncological pain, it is not generally administered as treatment for moderate/severe OM. Proper use of specific assessment tools, identification of the most appropriate treatment for pain relief for OM as well as reference to common guidelines would greatly assist in resolving the issue so that patients may continue oncology treatment, unhindered by complications deriving from OM.

95. Black, C. (2009). Pharmacological management of pain in palliative care. International Journal on Disability and Human Development, 8(1), 3–8.

This paper will examine the prevalence of pain as a symptom within palliative care and the pharmacological management of this symptom at the end of life. Differences between the pharmacological pain management in cancer and other non-curative conditions will be considered. The use of the World Health Organization pain ladder will be discussed and suggestions for practice offered.

96. Elad, S., Raber-Durlacher, J. E., Brennan, M. T., Saunders, D. P., Mank, A. P., Zadik, Y., Quinn, B., Epstein, J. B., Blijlevens, N. M. A., Waltimo, T., Passweg, J. R., Correa, M. E. P., Dahllöf, G., Garming-Legert, K. U. E., Logan, R. M., Potting, C. M. J., Shapira, M. Y., Soga, Y., Stringer, J., ... Jensen, S. B. (2015). Basic oral care for hematology–oncology patients and hematopoietic stem cell transplantation recipients: a position paper from the joint task force of the Multinational Association of Supportive Care in Cancer/International Society of Oral Oncology (MASCC/ISOO) and the European Society for Blood and Marrow Transplantation (EBMT). Supportive Care in Cancer, 23(1), 223–236. <https://doi.org/10.1007/s00520-014-2378-x>

Abstract

Purpose: Hematology–oncology patients undergoing chemotherapy and hematopoietic stem cell transplantation (HSCT) recipients are at risk for oral complications which may cause significant morbidity and a potential risk of mortality. This emphasizes the importance of basic oral care prior to, during and following chemotherapy/HSCT. While scientific evidence is

available to support some of the clinical practices used to manage the oral complications, expert opinion is needed to shape the current optimal protocols.

Methods: This position paper was developed by members of the Oral Care Study Group, Multinational Association of Supportive Care in Cancer/International Society of Oral Oncology (MASCC/ISOO) and the European Society for Blood and Marrow Transplantation (EBMT) in attempt to provide guidance to the health care providers managing these patient populations.

Results: The protocol on basic oral care outlined in this position paper is presented based on the following principles: prevention of infections, pain control, maintaining oral function, the interplay with managing oral complications of cancer treatment and improving quality of life.

Conclusion: Using these fundamental elements, we developed a protocol to assist the health care provider and present a practical approach for basic oral care. Research is warranted to provide robust scientific evidence and to enhance this clinical protocol.

97. Gibbs, M. (2007). Patient safety and freedom from pain dominate treatment choices in palliative care. *Pharmacy in Practice*, 17(2), 69–72.

98. Leppert, W., Wordliczek, J., Malec-Milewska, M., Krajnik, M., Dobrogowski, J., Góraj, E., Wyrwicz, L., & Krzakowski, M. (2018). Recommendations for assessment and management of pain in cancer patients. *Palliative Medicine in Practice*, 12(1), 30–43.

Abstract

According to the authors, the guidelines contains the most justified principles of diagnostic and therapeutic procedures. They should, however, be interpreted in the context of the individual clinical situation. Recommendations do not always correspond to the current refund rules in force in Poland. In case of doubt, you should be sure of the current refund possibilities of each procedure.

99. Meuser, T., Pietruck, C., Radbruch, L., Stute, P., Lehmann, K. A., & Grond, S. (2002). Symptoms during cancer pain treatment following WHO-guidelines: A longitudinal follow-up study of symptom prevalence, severity and etiology. *Revista de la Sociedad Espanola del Dolor*, 9(4), 201–216.

Most patients with advanced cancer develop diverse symptoms that can limit the efficacy of pain treatment and undermine their quality of life. The present study surveys symptom prevalence, etiology and severity in 593 cancer patients treated by a pain service. Non-opioid analgesics, opioids and adjuvants were administered following the WHO-guidelines for cancer pain relief. Other symptoms were systematically treated by appropriate adjuvant drugs. Pain and symptom severity was measured daily by patient self-assessment; the physicians of the pain service assessed symptom etiology and the severity of confusion, coma and gastrointestinal obstruction at each visit. The patients were treated for an average period of 51 days. Efficacy of pain treatment was good in 70%, satisfactory in 16% and inadequate in 14% of patients. The initial treatment caused a significant reduction in the average number of symptoms from four to three. Prevalence and severity of anorexia, impaired activity, confusion, mood changes, insomnia, constipation, dyspepsia, dyspnoea, coughing, dysphagia and urinary symptoms were significantly reduced, those of sedation, other neuropsychiatric symptoms and dry mouth were significantly increased and those of coma, vertigo, diarrhea, nausea, vomiting, intestinal obstruction, erythema, pruritus and sweating remained unchanged. The most frequent symptoms were impaired activity (74% of days), mood changes (22%), constipation (23%), nausea (23%) and dry mouth (20%). The highest severity scores were associated with impaired activity, sedation, coma, intestinal obstruction, dysphagia and urinary symptoms. Of all 23 symptoms, only constipation, erythema and dry mouth were assessed as being most frequently caused by the analgesic regimen. In conclusion, the high prevalence and severity of many symptoms in far advanced cancer can be reduced, if pain treatment is combined with systematic symptom control. Nevertheless, general, neuropsychiatric and gastrointestinal symptoms are experienced during a major part of treatment time and pain relief was inadequate in 14% of patients. Cancer pain management has to be embedded in a frame of palliative care, taking all the possibilities of symptom management into consideration.

100. Mifsud, I., & Bonanno, P. V. (2015). Medicines management in the palliative care of cancer patients. *Journal of the Malta College of Pharmacy Practice*, 21(1), 4–12.

Abstract

Cancer is one of the leading causes of death in Malta. Palliative care is a mainstay in the care of such patients. Commonly encountered symptoms include pain, nausea and vomiting, constipation and oropharyngeal complications. All of these bear an impact on the quality of life of the patient and also of the carers. Drug treatment is an integral part of the management of these symptoms. Patients and their carers may have concerns regarding their medication. The community pharmacist is well positioned and competent to support the needs of these patients as part of their holistic care.

101. O'Neill, B., & Fallon, M. (1997). Principles of palliative care and pain control. British Medical Journal, 315(7111), 801–804.

102. Panwar, V. (2017). Role of glossopharyngeal nerve block in palliation of pain from head and neck cancer. European Journal of Cancer, 72, S46.

Abstract

Background: Pain is most troublesome feature in advanced or recurrent Head and Neck cancer. Carcinoma of Tongue, Buccal Mucosa, Central arch region, Alveolobuccal region often present in advanced stage where cure is not possible even with multidisciplinary management. In these scenarios palliation of symptoms remains one of the goals of treatment. As these patients had difficulty in deglutition and compliance of oral analgesia is poor therefore an alternate mode of analgesia is required. Glossopharyngeal nerve block produces effective palliation of pain and adds to the quality of life to the patients. Material and Methods: During past two year 46 patients were managed by Glossopharyngeal nerve block for the management of pain in head and neck region for carcinoma of head and neck. 30(63.82%) Patients were having carcinoma buccal mucosa, 15 (32.60%) patients were having carcinoma Tongue and 1(2.17%) patient had carcinoma central arch region. 2.5 ml of 0.5% Bupivacaine was injected to confirm the position of the nerve with respect to needle and 4 ml of 50% alcohol was used to block Glossopharyngeal nerve near tip of styloid process. Results: 26 (56.52%) patients were blocked in single attempt 19 (41.30%) patients' required two attempts and one patient required three attempts to block the nerve. Patients felt pain relief after nerve block and were able to swallow without pain and were able to eat. Pain relief was adequate till 4 weeks in 10 (21.73%) patients 3 to 4 weeks in 26 (56.52%) patients, 2-3 weeks in 9 (19.56%) patients and less than 1 week in 1 (2.17%) patient. Conclusion: Glossopharyngeal nerve block is an effective method to palliate pain in advanced head and neck carcinoma.

103. Pease, N., & Dorman, S. (2007). Palliative care. Medicine, 35(5), 292–295. <https://doi.org/10.1016/j.mpmed.2007.03.011>

Abstract

2007 is a landmark year for palliative care: 40 years since the first hospice, St Christopher's, opened in the UK, and 20 years since palliative medicine was first recognized as a medical specialty. In that time, palliative care has developed a firm foundation based largely on the care of patients with cancer. More recently, the specialty has broadened to encompass the care of adults and children with non-malignant life-limiting illnesses. Patient-centred care, which attempts to optimize quality-of-life, remains at the core of palliative medicine. A holistic approach to the assessment of physical, psychological, social and spiritual domains remains central [Saunders C. The symptomatic treatment of incurable malignant disease. *Prescr J* 1964e; 4: 68-73]. Carers' needs are also important. Advances have been made in therapeutic interventions for symptom control and models of the way palliative care can be delivered. This article highlights some examples. It also highlights legislative changes that will impact on health care for this population. © 2007 Elsevier Ltd. All rights reserved.

104. Porta-Sales, J. (2010). Breakthrough cancer pain and current treatment options. European Journal of Pain Supplements, 4(3), 181–185. <https://doi.org/10.1016/j.eujps.2010.06.002>

Abstract

Cancer patients with relatively stable chronic background pain may experience transient episodes of pain, known as breakthrough cancer pain (BTP). There is no universally accepted definition for BTP, although recent efforts have been made by the Association for Palliative Medicine of Great Britain and Ireland to refine existing definitions and diagnostic criteria. Common clinical features of a typical BTP episode include a rapid onset peaking within minutes, a severe intensity and a short duration. BTP affects patients' quality of life through functional impairment and affective disturbances, and may also impact on healthcare resources through increased visits to physicians, hospitalisations due to pain, etc. As such, effective treatment is critical. Oral opioids are the mainstay of treatment for BTP. However, these are slow-acting with characteristics that do not match those of a typical BTP episode, and have the potential for over-medication and side effects. More favourable options would include treatments with a rapid onset, such as recently developed formulations of fentanyl, e.g., oral transmucosal fentanyl citrate (OTFC), buccal fentanyl citrate (FBT), and sublingual fentanyl citrate (SLF). However, these all require saliva/moisture to dissolve, potentially causing administration problems for cancer patients who commonly suffer from a dry mouth. The recently developed intranasal formulation of fentanyl (intranasal fentanyl spray) has a rapid onset and overcomes oral difficulties. It is a promising new option for the treatment of BTP. © 2010 European Federation of International Association for the Study of Pain Chapters.

105. Ueberall, M. A., Lorenzl, S., Lux, E. A., Voltz, R., & Perelman, M. (2016). Efficacy, safety, and tolerability of fentanyl pectin nasal spray in patients with breakthrough cancer pain. Journal of Pain Research, 9, 571–585. <https://doi.org/10.2147/JPR.S106177>

Abstract

Objective: Assessment of analgesic effectiveness, safety, and tolerability of fentanyl pectin nasal spray (FPNS) in the treatment of breakthrough cancer pain (BTcP) in routine clinical practice. **Methods:** A prospective, open-label, noninterventional study (4-week observation period, 3 month follow-up) of opioid-tolerant adults with BTcP in 41 pain and palliative care centers in Germany. Standardized BTcP questionnaires and patient diaries were used. Evaluation was made of patient-reported outcomes with respect to “time to first effect”, “time to maximum effect”, BTcP relief, as well as changes in BTcP-related impairment of daily life activities, quality-of-life restrictions, and health care resource utilization. **Results:** A total of 235 patients were recruited of whom 220 completed all questionnaires and reported on 1,569 BTcP episodes. Patients reported a significant reduction of maximum BTcP intensity (11-stage numerical rating scale [0= no pain, 10= worst pain conceivable]) with FPNS (mean ± standard deviation = 2.8±2.3) compared with either that reported at baseline (8.5±1.5), experienced immediately before FPNS application (7.4±1.7), or that achieved with previous BTcP medication (6.0±2.0; P<0.001 for each comparison). In 12.3% of BTcP episodes, onset of pain relief occurred ≤2 minutes and in 48.4% ≤5 minutes; maximum effects were reported within 10 minutes for 37.9% and within 15 minutes for 79.4%. By the end of the study, there had been significant improvements versus baseline in BTcP-related daily life activities (28.3±16.9 vs 53.1±11.9), physical (35.9±8.4 vs 26.8±6.5), and mental quality of life (38.7±8.5 vs 29.9±7.9) (P<0.001 for each comparison vs baseline); in addition, health care resource utilization requirements directly related to BTcP were reduced by 67.5%. FPNS was well tolerated; seven patients (3.2%) experienced eight treatment-emergent adverse events of which none was serious. There were no indicators of misuse or abuse. **Conclusion:** FPNS provided rapid and highly effective BTcP relief in opioid-tolerant cancer patients with substantial improvements in daily functioning and quality of life. FPNS was well tolerated and associated with significant reductions in health care resource utilization and nursing assistance.

106. Ushiyama, M., Ikeda, R., Nitta, T., Tazitsu, Y., Miyawaki, A., Nishizawa, Y., Yamaguchi, T., Yamaguchi, H., Akatsuka, C., Shimodouzono, Y., Ushinohama, K., Sugawara, H., Sugihara, K., Nakamura, N., Takeda, Y., & Yamada, K. (2009). Stability of hospital preparations of Azunol Water Gargles for pain relief in oral cancer patients with oral mucositis. *Cancer Therapy*, 7(ISSUE A), 277–281.

Abstract

An important factor in caring for oral cancer patients receiving chemotherapy and/or radiation therapy is palliation of oral mucositis and acute oral pain due to oral mucositis. One effective treatment is the Azunol Gargle, which contains sodium gualenate hydrate (GAS-Na) with or without lidocaine hydrochloride, and is prepared in four forms: Azunol Saline Gargle (AS, saline solution containing 0.006% GAS-Na), Azunol Lidocaine Saline Gargle (ALS, AS with lidocaine), Azunol Water Gargle (AW, aqueous solution containing 0.006% GAS-Na) and Azunol Lidocaine Water Gargle (ALW, AW with lidocaine). However, the four Azunol Gargles are expected to improve the quality of life of patients with oral mucositis, little is known about the stability of AW and ALW. Therefore, we examined stability of those solutions to the light and the temperature as an index of residual ratio of GAS-Na. As a result, AW and ALW were stable for seven days at room temperature if shielded from light, and at 4°C under lighting conditions similar to those at nursing stations. These results provide useful information regarding the management of oral mucositis in oral cancer patients.

107. Vadalouca, A., Raptis, E., Moka, E., & Sykioti, P. (2012). Management of neuropathic pain in cancer survivors. *Regional Anesthesia and Pain Medicine*, 37(5), E47–E49. <https://doi.org/10.1097/AAP.0b013e31826a8366>

Abstract

Pain is prevalent in patients with cancer and considerably undermines their quality of life, thereby making the development of a comprehensive pain management approach essential. Neuropathic pain (NP) is commonly encountered in cancer patients and is considered a well-established entity for more than 20 years. Approximately, 1/3 of cancer patients experience NP, usually mixed with nociceptive components, but, also, as a single, autonomous entity. As advances in cancer identification/therapy prolong life expectancy, physicians' efforts target in quality of life improvement. Cancer pain usually results from mixed mechanisms. An absolute distinction between cancer and non-cancer related NP is perhaps artificial. NCP pathophysiology basically remains similar to non-cancer NP, with common cross-referencing between the two conditions. Research on NCP determined distinct differences in the signature of neuroreceptors/transmitters' alterations, unique damage and interruption of neuronal function and may yet elucidate pain induction or maintenance differences. NCP possesses unique characteristics and exhibits an incomparable molecular signature. However, therapy similarities to non-cancer related neuropathies, may explain the ability of drugs (e.g. gabapentinoids) in treating cancer pain, indicating possible neuropathic components. Metastatic spread of cancer to bone is one of the most important causes of NCP and painful muscle spasm, whereas breakthrough pain (defined as transitory flare of pain occurring on a background of relatively well-controlled baseline pain) may be prevalent, due to numerous aetiological factors (bone metastases, triggering pain on movement). Infiltration and injury of sensory neurons that innervate the bone marrow cause pain. Alterations in normal bone turn over occur, with loss of mechanisms that normally regulate the balance between osteoclast and osteoblast activity. With advanced disease, the bone loses mechanical strength and is subject to osteolysis, pathological fracture, and microfractures. Mechanical distortion of the periosteum may be a major source of pain. NCP can also arise as a consequence of cancer-directed therapy, such as surgery, radiotherapy and chemotherapy (treatment-related therapy). Treatment adverse effects include joint pain following chemotherapy and hormonal therapy or/and painful mucositis due to radiotherapy and chemotherapy with certain

agents. Drugs such as paclitaxel, vincristine, cisplatin and bortezomib have been widely reported to produce sensory neuropathies. Radiotherapy can induce injury, leading to microvascular insufficiency and fibrotic changes (radiation-induced fibrosis), affecting peripheral nerves and perineural tissues (e.g. brachial plexus fibrosis) and causing chronic NP that begins months to years following treatment. Chemotherapy induced NP (CINP) has been widely reported in controlled and uncontrolled studies. On one hand, more patients experience the excellent outcomes of chemotherapy, with prolonged survival. On the other hand, increasing numbers of patients are unable to complete full treatment because of CINP development. Long-term pain management is therefore a challenging treatment aspect for neurologists, oncologists and pain specialists. CINP incidence is rising due to increased number of neurotoxic agents and because patients live longer, receiving multiple chemotherapy drugs. CINP symptoms are often under-recognized, in part because of difficulties in diagnosis, in addition to patients' underreporting. CINP is documented frequently with vincristine, taxanes and platinum-based agents. New approaches are desperately demanding in controlling cancer pain. Neuropathic Cancer Pain (NCP) frequently becomes severe as disease advances, requiring miscellaneous types of analgesics, at different time-points. The intrinsic difficulties in performing randomized controlled trials in cancer pain have traditionally justified the acceptance of drugs already known to be effective in benign neuropathic pain for the management of malignancy-related neuropathic pain despite the lack of relevant high quality data. Review of available literature reveals that the management of neuropathic cancer pain has changed dramatically in the past few years thanks to the improved perception of the problem, new therapeutic approaches and novel drugs. Current therapeutic strategies depend on pharmacotherapy, mainly with the inclusion of adjuvants. At present, variable agents are used to treat NCP, but despite the advances in pathophysiology understanding, management is still suboptimal. Intractable NCP remains an important epidemiological, clinical and economical burden worldwide, posing significant societal impacts. Specific guidelines on the pharmacological treatment of NCP have been suggested by the European Federation of Neurological Societies (EFNS) Task Force. This Task Force concluded that there is a level A of evidence for the efficacy of gabapentin (one study), a level B for TCAs and tramadol and inefficacy of valproate. In the following pages, non-opioid and opioid drugs that are recommended by the WHO for cancer pain therapy, as well as various classes of adjuvant analgesic drugs for NCP treatment will be presented.

Non-Opioid Analgesic Drugs Non-opioids, such as NSAIDs, acetaminophen and COX-2 inhibitors, have limited usefulness in the management of NCP. However, some patients do report relief, so a trial may be indicated. Many patients have concomitant neuropathic and nociceptive pain, which may respond to non-opioids.

Opioid Analgesics The role of opioids has been re-evaluated during NCP therapy. Controlled-release oxycodone has been applied, because it is safe, well-tolerated and effective, although it is unlikely that opioids will replace antidepressants and antiepileptic drugs for NCP therapy. However, co-administration of oxycodone and paracetamol resulted in a low-dose synergic combination in different pain types. It has been reported that such a combination can be useful in cancer-related pain, including those situations that are complicated by a neuropathic component. Morphine combined with gabapentin achieved better analgesia, at lower doses of each drug, than either as a single agent, with constipation, sedation and dry mouth as the most frequent adverse effects. Clinically, opioids provide effective relief of cancer pain, although occasionally high doses must be administered, to suppress "breakthrough" pain or pain from nerve involvement. The most common adverse effects of opioids are constipation, sedation, drowsiness and nausea. Recently, according to a systematic review of 35 years, conducted by WHO (2005), due to its favourable analgesic properties and low cost, methadone has been recognized as an important player in the treatment of both nociceptive and neuropathic pain and has been characterized as an essential analgesic in cancer pain management.

Tramadol Hydrochloride Tramadol is a norepinephrine and serotonin reuptake inhibitor (SNRI), centrally-acting analgesic, which has direct, but weak opioid action (metabolite with major K-opioid agonist effect) and indirect monoaminergic action (like TCAs). It is also devoid of immunosuppressive activity. RCTs have yielded positive results from tramadol and tramadol/acetaminophen combination in PDN, PHN and various NP states. In all trials, tramadol, titrated to a maximum dosage of 400 mgr/day significantly relieved pain, compared with placebo. Its beneficial effects on allodynia and quality of life are also reported. The most frequent side-effects of tramadol include dizziness, nausea, constipation, somnolence and orthostatic hypotension.

Adjuvant Drugs (Adjuvants) The widely-used adjuvants represent a major aspect in our NCP armamentarium. These include gabapentinoids (gabapentin, pregabalin), AEDs, antidepressants (TCAs, duloxetine, venlafaxine), corticosteroids, capsaicin 8% patch, bisphosphonates, NMDA-antagonists, cannabinoids and other substances. An adjuvant analgesic is an agent, whose primary indication is other than pain, exerting analgesic effects in certain painful conditions. Not only are adjuvants important per se, but they also hold opioid-sparing effects.

Tricyclic Antidepressants (TCAs) TCAs inhibit norepinephrine and serotonin reuptake, followed by augmentation of biogenic amines' activity. Their action includes sodium channels' modulation in the periphery and NMDA antagonism. As a result, TCAs enhance dorsal root inhibition and reduce peripheral sensitization. TCAs are started with a low bedtime dose (10-25 mgr), which is gradually increased or titrated weekly, every 3-7 days (by 10-25 mgr/day), usually up to 150 mgr, or until further dose increase is forbidden due to adverse effects. Although TCAs analgesic properties probably occur at lower dosages than those for an antidepressant effect, no systematic evidence supporting this assumption exists. Some data suggest a possible dose-response relationship. An adequate trial of a TCA should have duration of 6-8 weeks, with at least 1 to 2 weeks at the maximum tolerated dosage. For NP, dosing escalation to antidepressant blood levels is advised for 4-6 weeks. Common side-effects of TCAs are sedation, anticholinergic consequences (dry mouth, constipation, postural hypotension and weight gain) [94]. In one large-scale study, TCAs long term administration was associated with a 2.2-fold greater relative risk of myocardial infarction and a 1.7-fold increase in overall mortality, compared with placebo.

Other Antidepressants (ADs): SSRIs, SNRIs (Venlafaxine, Duloxetine),

NDRIs (Bupropion) Selective Serotonin Reuptake Inhibitors (SSRIs) produce less side-effects and are better tolerated than TCAs. At present, in NCP treatment there is insufficient evidence to support the use of SSRIs.

108. Oneschuk D, Hanson J, Bruera E. A survey of mouth pain and dryness in patients with advanced cancer. Support Care Cancer. 2000 Sep;8(5):372-6. doi: 10.1007/s005200050005. PMID: 10975686.

Abstract

An 11-item face-to-face survey was conducted in 99 consecutive patients with advanced cancer to determine the prevalence, intensity, reporting and treatment, presumed cause(s), and importance of mouth pain and dryness. Sixteen of the 99 patients (16%) reported experiencing mouth pain at a mean intensity corresponding to 5.5 +/- SD 2.21 on a 0 (no pain) to 10 (worst possible pain) numerical scale, and 88 (88%) patients reported dry mouth at a mean intensity corresponding to 6.2 +/- SD 2.21. Nine (56%) of the 16 patients with mouth pain and 39 (44%) of the 88 patients with mouth dryness reported these symptoms to their attending physician(s). Sixty-nine percent (27/39) of patients who reported having a dry mouth were advised by their physician(s) to pursue one or more treatments. The most common treatments recommended (and frequencies) were drinking water/taking sips of fluid (13), gargling with bicarbonate mouthwash (4), using an artificial saliva spray (4), and using an oral fungal suspension for thrush (4). The most common findings on oral examination included: possible thrush (53 patients), upper and lower dentures (33 patients), and multiple dental restorations (23 patients). The causes most frequently assumed to be responsible were ill-fitting dentures for mouth pain, and medications and possible oral fungal infections for mouth dryness. The mean values given for the importance of the symptoms of mouth pain and dryness relative to other symptoms or problems experienced by the patients were 4.4 +/- SD 1.84 and 3.6 +/- SD 1.67, respectively, on a Likert scale ranging from 1 (not important) to 7 (great importance). Mouth dryness was more frequently reported than mouth pain. The mean rating for the intensity of mouth pain was higher than that for mouth dryness, although both were of moderate importance to patients relative to other symptoms or problems experienced at the time. Patients tended to underreport mouth pain and dryness, and physicians tended to address such complaints inadequately.

e. Proceso de extracción de información de artículos

A cada artículo se le extrajeron los datos y la información pertinente y fueron consignados en la tabla de Excel de extracción de datos para cada artículo. Esto con el fin de sustraer de manera organizada la información y facilitar la redacción del artículo final evitando el plagio.

La información que se extrajo para los artículos de la primera fase: referencia Vancouver del artículo, título del artículo, año de publicación, idioma, nombre de la revista, nivel de impacto de la revista (scimago), H-index de la revista, país de la revista, resumen del artículo, tipo de estudio, link de consulta o DOI.

Consideraciones éticas

Este trabajo de grado se realizará bajo la normatividad que dispone la resolución 8430 de 1993, tomando el ARTÍCULO 11 como referencia y en donde hace mención a lo siguiente:

Investigación sin riesgo: Son aquellos estudios que emplean técnicas y métodos de investigación documental retrospectivos y aquellos en los que no se realiza ninguna intervención o modificación intencionada de las variables biológicas, fisiológicas, psicológicas o sociales de los individuos que participan en el estudio, entre los que se consideran: revisión de historias clínicas, entrevistas, cuestionarios y otros en los que no se le identifique ni se traten aspectos sensitivos de su conducta. (Ministerio de salud de Colombia, 1993).

Resultados

En la fase inicial de la búsqueda de información para la revisión sistemática de la participación del odontólogo en el manejo de pacientes que se encuentran bajo cuidados paliativos con manifestaciones orales, se tuvieron en cuenta las bases de datos de PubMed y Embase y se obtuvieron 290 artículos siguiendo la estructura PICO antes definida y realizando la normalización de los términos con las herramientas indicadas.

De los 290 artículos se descartan 75 artículos en la primera lectura de títulos y abstract de los artículos encontrados en PubMed, y de Embase se descartan 91 artículos que no eran exclusivos de esta base de datos, con el fin de evitar duplicados.

De estos 124 artículos que quedan, se realiza una primera lectura de los artículos de embase descartando 16 artículos que no tenían relación directa con la temática de cuidados paliativos para quedar así con un total de 108 artículos.

Ya con estos 108 artículos se realiza una segunda lectura de título y abstract descartando 11 artículos más porque no evaluaban intervenciones y un artículo que se encontraba repetido obteniendo un total de 96 artículos.

A estos 96 artículos se les extrajo la siguiente información: referencia Vancouver, título del artículo, año de publicación, idioma, nombre de la revista, nivel de impacto de la revista (scimago), H-index, país de la revista, resumen del artículo, tipo de estudio, link de consulta o DOI.

La información anteriormente descrita fue tabulada en una cuadro de Excel y se envió a los participantes de la investigación, así mismo se logró encontrar 75 de los 96 artículos en texto completo, estos fueron enviados por correo electrónico a todos los miembros del grupo de investigación.

De los 96 artículos encontrados, 27 son publicaciones de Estados Unidos, 26 son del Reino Unido, 13 de Alemania, 8 de Holanda, 7 de la India, 2 de Japón, Francia, Austria y Polonia y una publicación de Malta, Irán, Canadá, Italia, Suiza, España y Nueva Zelanda respectivamente. Así mismo se evidencian 87 artículos publicados en inglés, 6 en alemán, 2 en francés, uno en italiano, uno en japonés y uno en español.

Con respecto a los años de publicación 2 artículos fueron publicados antes de 1990, 5 artículos fueron publicados antes del año 2000, 13 artículos fueron publicados entre el 2000 y el 2005, 20 artículos entre el año 2006 y 2010, 15 artículos entre el 2011 y el 2015, 35 artículos entre el 2016 y el 2020 y 6 artículos recientes publicados en 2021.

En cuanto al tipo de estudio 39 artículos fueron revisiones de la literatura, 15 artículos estudios de cohorte prospectivo, 14 artículos ensayos clínicos, 5 artículos no definen tipo de estudio, 5 artículos fueron revisiones sistemáticas, 4 artículos Meta-análisis, 4 artículos opiniones de expertos, 3 artículos estudios de cohorte retrospectivo, 1 artículo un estudio multicéntrico, 1 artículo abstract de conferencia, 1 artículo estudio de caso, 1 artículo estudio de prevalencia, 1 reporte de caso, 2 guía de manejo clínico, 1 estudio de corte transversal

Los artículos como revisiones de la literatura, revisiones sistemáticas, opiniones de expertos, guías de manejo clínico y estudios no primarios no se utilizarán como artículos finales en la revisión sistemática, pero se consideran útiles para el marco conceptual, la justificación y los antecedentes de la investigación.

La tabla 7 es una tabla resumen de la información extraída, no se inserta en esta tabla el abstract de los artículos teniendo en cuenta que esta información se encuentra consignada en la tabla 6 y por la cantidad de información no era práctico consignarla en esta columna, ya teniéndola documentada anteriormente.

Tabla 7. Extracción de información de artículos iniciales seleccionados										
	Referencia Vancouver	Título	Año	Idioma	Journal	Nivel de impacto	H índice	País	Tipo de estudio	DOI o link de consulta
1	Taylor J, Glenny AM, Walsh T, Brocklehurst P, Riley P, Gorodkin R, Pemberton MN. Interventions for the management of oral ulcers in Behçet's disease. Cochrane Database Syst Rev. 2014 Sep 25;2014(9)	Interventions for the management of oral ulcers in Behçet's disease.	2014	Inglés	Cochrane Database of systematic reviews	Q1	261	Reino Unido	Revisión sistemática	doi: 10.1002/14651858.CD011018.pub2
2	Blakaj A, Bonomi M, Gamez ME, Blakaj DM. Oral mucositis in head and neck cancer: Evidence-based management and review of clinical trial data. Oral Oncol. 2019 Aug;95:29-34.	Oral mucositis in head and neck cancer: Evidence-based management and review of clinical trial data	2019	Inglés	Journal of Oral Oncology	Q1	108	Reino Unido	Revisión de la literatura	doi: 10.1016/j.oraloncology.2019.05.013
3	Bossi P, Giusti R, Tarsitano A, Airoidi M, De Sanctis V, Caspiani O, Alterio D, Tartaro T, Alfieri S, Siano M. The point of pain in head and	The point of pain in head and neck cancer	2019	Inglés	Critical reviews in oncology/hematology	Q1	119	Países Bajos	Revisión de la literatura	doi: 10.1016/j.critrevonc.2019.04.001

	neck cancer. Crit Rev Oncol Hematol. 2019 Jun;138:51-59									
4	Wiseman M. Palliative Care Dentistry: Focusing on Quality of Life. Compend Contin Educ Dent. 2017 Sep;38(8):529-534; quiz 535. PMID: 28862468.	Palliative Care Dentistry: Focusing on Quality of Life.	2017	Inglés	Compendium of continuing education in dentistry (Jamesburg, N.J. : 1995)	Q3	46	Estados Unidos	Revisión de la literatura	PMID: 28862468
5	Mercadante S, Aielli F, Adile C, Ferrera P, Valle A, Fusco F, Caruselli A, Cartoni C, Massimo P, Masedu F, Valenti M, Porzio G. Prevalence of oral mucositis, dry mouth, and dysphagia in advanced cancer patients. Support Care Cancer. 2015 Nov;23(11):3249-55	Prevalence of oral mucositis, dry mouth, and dysphagia in advanced cancer patients. Support Care Cancer.	2015	Alemán	official journal of the Multinational Association of Supportive Care in Cancer	Q2	105	Alemania	Estudio Multicéntrico Observacional	doi: 10.1007/s00520-015-2720-y
6	Magnani C, Mastroianni C, Giannarelli D, Stefanelli MC, Di Cenzo V,	Oral Hygiene Care in Patients With Advanced Disease: An Essential Measure to	2019	Inglés	The American journal of hospice & palliative medicine	Q2	48	Estados Unidos	Estudio de Cohorte prospectivo	doi: 10.1177/1049909119829411

	Valerioti T, Casale G. Oral Hygiene Care in Patients With Advanced Disease: An Essential Measure to Improve Oral Cavity Conditions and Symptom Management. Am J Hosp Palliat Care. 2019 Sep;36(9):815-819	Improve Oral Cavity Conditions and Symptom Management. Am J Hosp Palliat Care								
7	Yadav V, Kumar V, Sharma S, Chawla A, Logani A. Palliative dental care: Ignored dimension of dentistry amidst COVID-19 pandemic. Spec Care Dentist. 2020 Nov;40(6):613-615. doi: 10.1111/scd.12517. Epub 2020 Sep 3. PMID: 32882066.	Palliative dental care: Ignored dimension of dentistry amidst COVID-19 pandemic.	2020	Inglés	American Association of Hospital Dentists, the Academy of Dentistry for the Handicapped, and the American Society for Geriatric Dentistry	Q3	39	Estados Unidos	No definido	doi: 10.1111/scd.12517
8	Ruiz M, Reynolds P, Marranzini R, Khan A, Ketterer J, Brahim A. Role of Early Palliative Care Interventions in	Role of Early Palliative Care Interventions in Hematological Malignancies and Bone Marrow Transplant Patients: Barriers and	2018	Inglés	The American journal of hospice & palliative medicine	Q2	48	Estados Unidos	Revision narrativa	doi: 10.1177/1049909118772849

	Hematological Malignancies and Bone Marrow Transplant Patients: Barriers and Potential Solutions. Am J Hosp Palliat Care. 2018 Nov;35(11): 1456-1460	Potential Solutions								
9	Lalla RV, Sonis ST, Peterson DE. Management of oral mucositis in patients who have cancer. Dent Clin North Am. 2008 Jan;52(1):61-77	Management of oral mucositis in patients who have cancer	2008	Inglés	Dental Clinics of North America	Q1	63	Reino Unido	Revisión de la literatura	doi: 10.1016/j.cden.2007.10.002.
10	Wiffen PJ, Cooper TE, Anderson AK, Gray AL, Grégoire MC, Ljungman G, Zernikow B. Opioids for cancer-related pain in children and adolescents . Cochrane Database Syst Rev. 2017 Jul 19;7(7)	Opioids for cancer-related pain in children and adolescents	2017	Inglés	Cochrane Database of systematic reviews	Q1	261	Reino Unido	Revisiones Sistemática	doi: 10.1002/14651858.CD012564
11	Wulf H, Volberg C, Morin A. Symptomkontrolle in der Palliativmedizin (ohne	Symptom Control in Palliative Care	2020	Aleman	Anesthesiologie, Intensivmedizin, Notfallmedizin, Schmerztherapie : AINS	Q4	26	Alemania	Revisión de la literatura	doi: 10.1055/a-0862-4189

	Schmerztherapie) [Symptom Control in Palliative Care]. Anesthesiol Intensivmed Notfallmed Schmerzther. 2020 Jan;55(1):12-26.									
12	Mudgal A, Arya AK, Yadav I, Chaudhary S. Role of hypofractionated palliative radiotherapy in patients with stage four head-and-neck squamous cell carcinoma. J Cancer Res Ther. 2019 Jul-Sep;15(3):528-532	Role of hypofractionated palliative radiotherapy in patients with stage four head-and-neck squamous cell carcinoma.	2019	Inglés	Journal of cancer research and therapeutics	Q2	34	India	Ensayo Clínico	doi: 10.4103/jcrt.JCRT_116_18
13	Rathe M, Shen RL, Sangild PT. Trophic factors in the treatment and prevention of alimentary tract mucositis. Curr Opin Support Palliat Care. 2018 Jun;12(2):181-186.	Trophic factors in the treatment and prevention of alimentary tract mucositis	2018	Inglés	Current Opinion in Supportive and Palliative Care	Q2	36	Estados Unidos	Revisión de la literatura	doi: 10.1097/SPC.0000000000000340.
14	Chang VT, Ingham J. Symptom	Symptom control	2003	Inglés	Cancer investigation	Q1	80	Estados Unidos	Revisión de la literatura	doi: 10.1081/cn

	control. Cancer Invest. 2003;21(4): 564-78.									v-12002 2376
15	Radwany SM, von Gruenigen VE. Palliative and end-of-life care for patients with ovarian cancer. Clin Obstet Gynecol. 2012 Mar;55(1):1 73-84.	Palliative and end-of-life care for patients with ovarian cancer	2012	Inglés	Clinical obstetrics and gynecology	Q2	71	Estados Unidos	Revisión de la literatura	doi: 10.10 97/GR F.0b0 13e31 824b1 af1
16	Carlucci A, Guerrieri A, Nava S. Palliative care in COPD patients: is it only an end-of-life issue? Eur Respir Rev. 2012 Dec 1;21(126):3 47-54	Palliative care in COPD patients: is it only an end-of-life issue?	2012	Inglés	European respiratory review	Q1	61	Reino Unido	Revisión de la literatura	doi: 10.11 83/09 05918 0.000 01512
17	El Bousaadani A, Eljahd L, Abada R, Rouadi S, Roubal M, Mahtar M. Actualités de la prévention et du traitement des mucites orales chez les enfants cancéreux : recommandations pratiques [Prevention and treatment of mucositis	Prevention and treatment of mucositis in children with oral cancers: Practical recommendations	2016	Francés	Cancer radiotherapie : journal de la Societe francaise de radiotherapie oncologique	Q3	30	Francia	Revisión dela literatura	doi: 10.10 16/j.c anrad. 2015. 11.00 6

	in children with oral cancers: Practical recommendations]. Cancer Radiother. 2016 May;20(3):26-30.									
18	Vadhan-Raj S, Goldberg JD, Perales MA, Berger DP, van den Brink MR. Clinical applications of palifermin: amelioration of oral mucositis and other potential indications. J Cell Mol Med. 2013 Nov;17(11):1371-84.	Clinical applications of palifermin: amelioration of oral mucositis and other potential indications.	2013	Inglés	Journal of Cellular and Molecular Medicine	Q1	123	Reino Unido	Revisión de la literatura	doi: 10.1111/jcmm.12169
19	Chaitanya NC, Muthukrishnan A, Babu DBG, Kumari CS, Lakshmi MA, Palat G, Alam KS. Role of Vitamin E and Vitamin A in Oral Mucositis Induced by Cancer Chemo/Radiotherapy- A Meta-analysis. J Clin Diagn Res. 2017 May;11(5):ZE06-ZE09.	Role of Vitamin E and Vitamin A in Oral Mucositis Induced by Cancer Chemo/Radiotherapy- A Meta-analysis	2017	Inglés	Journal of clinical and diagnostic research : JCDR	Q3	35	India	Meta-análisis	doi: 10.7860/JC DR/2017/26845
20	Bossi P, Cossu Rocca M, Corvò R,	The vicious circle of treatment-	2017	Inglés	Critical reviews in	Q1	119	Países Bajos	Revisión de la literatura	doi: 10.1016/j.cr

	Depenni R, Guardamagna V, Marinangeli F, Miccichè F, Trippa F. The vicious circle of treatment-induced toxicities in locally advanced head and neck cancer and the impact on treatment intensity. Crit Rev Oncol Hematol. 2017 Aug;116:82-88	induced toxicities in locally advanced head and neck cancer and the impact on treatment intensity			oncology/hematology					itrevonc.2017.05.012
21	Paiva BSR, Barroso EM, Cadamuro SA, Paula LAB, Pirola WE, Serrano CVMP, Paiva CE. The Children's International Mucositis Evaluation Scale Is Valid and Reliable for the Assessment of Mucositis Among Brazilian Children With Cancer. J Pain Symptom Manage. 2018 Nov;56(5):774-780	The Children's International Mucositis Evaluation Scale Is Valid and Reliable for the Assessment of Mucositis Among Brazilian Children With Cancer	2018	Inglés	Journal of pain and symptom management	Q1	135	Paises Bajos	Estudio descriptivo de corte transversal	doi: 10.1016/j.jpainsymman.2018.07.015.
22	Couriel DR. Ancillary and	Ancillary and supportive care in	2008	Inglés	Best practice & research.	Q2	73	Paises Bajos	Revisión de la literatura	doi: 10.1016/j.b

	supportive care in chronic graft-versus-host disease. Best Pract Res Clin Haematol. 2008 Jun;21(2):291-307	chronic graft-versus-host disease.			Clinical haematology					eha.2008.02.014
23	Classen YH, van der Valk MJ, Breugom AJ, Frouws MA, Bastiaannet E, Liefers GJ, van de Velde CJ, Kapiteijn E. Survival differences with immediate versus delayed chemotherapy for asymptomatic incurable metastatic colorectal cancer. Cochrane Database Syst Rev. 2018 Nov 21;11(11)	Survival differences with immediate versus delayed chemotherapy for asymptomatic incurable metastatic colorectal cancer	2018	Inglés	Cochrane Database of systematic reviews	Q1	261	Reino Unido	Meta-análisis	doi: 10.1002/14651858.CD012326
24	Nakajima N. Characteristics of Oral Problems and Effects of Oral Care in Terminally Ill Patients With Cancer. Am J Hosp Palliat Care. 2017 Jun;34(5):430-434.	Characteristics of Oral Problems and Effects of Oral Care in Terminally Ill Patients With Cancer.	2017	Inglés	The American journal of hospice & palliative medicine	Q2	48	Estados Unidos	Estudio de cohorte retrospectivo	doi: 10.1177/109909116633063

25	Andersson S, Årestedt K, Lindqvist O, Fürst CJ, Brännström M. Factors Associated With Symptom Relief in End-of-Life Care in Residential Care Homes: A National Register-Based Study. <i>J Pain Symptom Manage.</i> 2018 May;55(5):1304-1312.	Factors Associated With Symptom Relief in End-of-Life Care in Residential Care Homes: A National Register-Based Study	2018	Inglés	Journal of pain and symptom management	Q1	135	Estados Unidos	Estudio descriptivo	doi: 10.1016/j.jpainsymman.2017.12.489
26	Neumann TK, Foote M. The development of supportive-care agents for patients with cancer. <i>Biotechnol Annu Rev.</i> 2003;9:397-417	The development of supportive-care agents for patients with cancer.	2003	Inglés	Biotechnology annual review	No tiene asignado cuartil	41	Países Bajos	Revisión de la literatura	doi: 10.1016/s1387-2656(03)09011-2
27	Epstein JB, Schubert MM. Oropharyngeal mucositis in cancer therapy. Review of pathogenesis, diagnosis, and management. <i>Oncology (Williston Park).</i> 2003 Dec;17(12):1767-79; discussion	Oropharyngeal mucositis in cancer therapy. Review of pathogenesis, diagnosis, and management	2003	Inglés	Oncology (Williston Park, N.Y.)	Q3	71	Estados Unidos	Revisión de la literatura	PMID: 14723014

	1779-82, 1791-2.									
28	Napenas JJ, Shetty KV, Streckfus CF. Oral mucositis: review of pathogenesis, diagnosis, prevention, and management. Gen Dent. 2007 Jul-Aug;55(4):335-44; quiz 345-6, 376.	Oral mucositis: review of pathogenesis, diagnosis, prevention, and management	2007	Ingles	General dentistry	Q3	33	Estados Unidos	Revisión de la literatura	PMID: 17682645
29	Storey DJ, Fallon MT, Smyth JF. The interface between medical oncology and supportive and palliative cancer care. Semin Oncol. 2011 Jun;38(3):337-42.	The interface between medical oncology and supportive and palliative cancer care	2011	Ingles	Seminars in oncology	Q1	130	Reino Unido	Revisión de la literatura	doi: 10.1053/j.semincol.2011.03.021
30	Wiseman M. The treatment of oral problems in the palliative patient. J Can Dent Assoc. 2006 Jun;72(5):453-8.	The treatment of oral problems in the palliative patient	2006	Ingles	Journal (Canadian Dental Association)	Q3	56	Canadá	Revisión de la literatura	PMID: 16772071.
31	Wilberg P, Hjermsstad MJ, Ottesen S, Herlofson BB. Oral health is an important issue in end-of-life	Oral health is an important issue in end-of-life cancer care. Support Care Cancer	2012	Ingles	official journal of the Multinational Association of Supportive Care in Cancer	Q2	105	Alemania	Estudio descriptivo de corte transversal	doi: 10.1007/s00520-012-1441-8

	cancer care. Support Care Cancer. 2012 Dec;20(12):3115-22									
32	Bauvet F, Klastersky J, Awada A. Soins de support en oncologie: concepts, accomplissements et nouveaux défis [Supportive care in cancer: concepts, achievements and challenges]. Bull Cancer. 2008 Mar;95(3):381-8.	Supportive care in cancer: concepts, achievements and challenges	2008	Francés	Bulletin du cancer	Q3	37	Francia	Revisión de la literatura	doi: 10.1684/bdc.2008.0586. PMID: 18390421.
33	Stein P, Aalboe J. Dental Care in the Frail Older Adult: Special Considerations and Recommendations. J Calif Dent Assoc. 2015 Jul;43(7):363-8.	Dental Care in the Frail Older Adult: Special Considerations and Recommendations	2015	Inglés	Journal of the California Dental Association	Q3	38	Estados Unidos	Revisión de la literatura	PMID: 26819997.
34	Elackattu A, Jalisi S. Living with head and neck cancer and coping with dying when treatments fail. Otolaryngol Clin North Am. 2009 Feb;42(1):171-84,	Living with head and neck cancer and coping with dying when treatments fail	2009	Inglés	Otolaryngologic clinics of North America	Q2	65	Reino Unido	Revisión de la literatura	doi: 10.1016/j.otc.2008.09.004

35	Clarkson JE, Worthington HV, Eden OB. Interventions for treating oral mucositis for patients with cancer receiving treatment. Cochrane Database Syst Rev. 2007 Apr 18;(2)	Interventions for treating oral mucositis for patients with cancer receiving treatment.	2007	Inglés	Cochrane Database of systematic reviews	Q1	261	Reino Unido	Meta-análisis	doi: 10.1002/14651858.CD001973
36	Keefe DM, Sonis ST, Bowen JM. Emerging drugs for chemotherapy-induced mucositis. Expert Opin Emerg Drugs. 2008 Sep;13(3):511-22	. Emerging drugs for chemotherapy-induced mucositis	2014	Inglés	Expert opinion on emerging drugs	Q2	46	Reino Unido	Artículo de revisión - Opinión de expertos	doi: 10.1517/14728214.13.3.511
37	Fogh S, Yom SS. Symptom management during the radiation oncology treatment course: a practical guide for the oncology clinician. Semin Oncol. 2014 Dec;41(6):764-75	Symptom management during the radiation oncology treatment course: a practical guide for the oncology clinician.	2014	Inglés	Seminars in oncology	Q1	130	Reino Unido	Revisión de la literatura	doi: 10.1053/j.semincol.2014.09.020
38	Saito H, Watanabe Y, Sato K, Ikawa H, Yoshida Y, Katakura A, Takayama S, Sato M.	Effects of professional oral health care on reducing the risk of chemotherapy-induced oral	2014	Inglés	official journal of the Multinational Association of Supportive Care in Cancer	Q2	105	Alemania	Ensayo Clínico controlado	doi: 10.1007/s00520-014-2282-4

	Effects of professional oral health care on reducing the risk of chemotherapy-induced oral mucositis. Support Care Cancer. 2014 Nov;22(11):2935-40.	mucositis. Support Care Cancer								
39	Specht L. Oral complications in the head and neck radiation patient. Introduction and scope of the problem. Support Care Cancer. 2002 Jan;10(1):36-9	Oral complications in the head and neck radiation patient. Introduction and scope of the problem	2002	Inglés	official journal of the Multinational Association of Supportive Care in Cancer	Q2	105	Alemania	Revisión de la literatura	doi: 10.1007/s005200100283
40	Scully C, Epstein J, Sonis S. Oral mucositis: a challenging complication of radiotherapy, chemotherapy, and radiochemotherapy. Part 2: diagnosis and management of mucositis. Head Neck. 2004 Jan;26(1):77-84	Oral mucositis: a challenging complication of radiotherapy, chemotherapy, and radiochemotherapy. Part 2: diagnosis and management of mucositis	2004	Inglés	Head & neck	Q1	120	Estados Unidos	Revisión de la literatura	doi: 10.1002/head.10326

41	Pienaar ED, Young T, Holmes H. Interventions for the prevention and management of oropharyngeal candidiasis associated with HIV infection in adults and children. Cochrane Database Syst Rev. 2010 Nov 10;2010(11)	Interventions for the prevention and management of oropharyngeal candidiasis associated with HIV infection in adults and children	2010	Inglés	Cochrane Database of systematic reviews	Q1	261	Reino Unido	Meta-análisis	doi: 10.1002/14651858.CD003940
42	Gerson LB, Triadafilopoulos G. Palliative care in inflammatory bowel disease: an evidence-based approach. Inflamm Bowel Dis. 2000 Aug;6(3):228-43	Palliative care in inflammatory bowel disease: an evidence-based approach	2000	Inglés	Inflammatory bowel diseases	Q1	138	Estados Unidos	Revisión sistemática	doi: 10.1097/00054725-200008000-00009
43	Murphy BA, Gilbert J. Oral cancers: supportive care issues. Periodontol 2000. 2011 Oct;57(1):18-31.	Oral cancers: supportive care issues	2011	Inglés	Periodontology 2000	Q1	115	Reino Unido	Revisión de la literatura	doi: 10.1111/j.1600-0757.2011.00394.x
44	Paunovich ED, Aubertin MA, Saunders MJ, Prange M. The role of dentistry in palliative care of the	The role of dentistry in palliative care of the head and neck cancer patient.	2000	Inglés	Texas dental journal	No tiene asignado cuartil	12	Estados Unidos	Revisión de la literatura	PMID: 11857854.

	head and neck cancer patient. <i>Tex Dent J.</i> 2000 Jun;117(6):36-45.									
45	Rosenthal C, Karthaus M. Aktuelle Ansätze in der Prophylaxe und Therapie der chemo- und strahlentherapieinduzierten oralen Mukositis [Current approaches in prevention and therapy of chemo- and radiotherapy-induced oral mucositis]. <i>Wien Med Wochenschr.</i> 2001;151(3-4):53-65.	Current approaches in prevention and therapy of chemo- and radiotherapy-induced oral mucositis	2001	Aleman	Wiener Medizinische Wochenschrift	Q3	36	Austria	Revisión de la literatura	PMID: 11789420
46	Boyar M, Raftopoulos H. Supportive care in lung cancer. <i>Hematol Oncol Clin North Am.</i> 2005 Apr;19(2):369-87.	Supportive care in lung cancer	2005	Inglés	Hematology/oncology clinics of North America	Q1	78	Reino Unido	Revisión de la literatura	doi: 10.1016/j.hoc.2005.02.007
47	Sen S, Priyadarshini SR, Sahoo PK, Dutta A, Singh AK, Kumar U. Palliative oral care in	Palliative oral care in patients undergoing radiotherapy: Integrated review	2020	Inglés	Family Medicine and Primary Care Review	Q3	7	Polonia	Revisión de la literatura	doi: 10.4103/jfmpc.jfmpc_827_20

	patients undergoing radiotherapy: Integrated review. J Family Med Prim Care. 2020 Oct 30;9(10):5127-5131									
48	Alkhouli M, Lafloof M, Alhaddad M. Efficacy of Aloe-Vera Use for Prevention of Chemotherapy-Induced Oral Mucositis in Children with Acute Lymphoblastic Leukemia: A Randomized Controlled Clinical Trial. Compr Child Adolesc Nurs. 2021 Mar;44(1):49-62	Efficacy of Aloe-Vera Use for Prevention of Chemotherapy-Induced Oral Mucositis in Children with Acute Lymphoblastic Leukemia: A Randomized Controlled Clinical Trial	2021	Inglés	Comprehensive child and adolescent nursing	Q3	36	Reino Unido	Ensayo clínico controlado aleatorizado	doi: 10.1080/24694193.2020.1727065
49	Guchelaar HJ, Vermes A, Meerwaldt JH. Radiation-induced xerostomia: pathophysiology, clinical course and supportive treatment. Support Care Cancer. 1997	Radiation-induced xerostomia: pathophysiology, clinical course and supportive treatment	1997	Inglés	official journal of the Multinational Association of Supportive Care in Cancer	Q2	105	Alemania	Revisión de la literatura	doi: 10.1007/s00520050075

	Jul;5(4):281-8.									
50	Molassiotis A, Brearley S, Saunders M, Craven O, Wardley A, Farrell C, Swindell R, Todd C, Luker K. Effectiveness of a home care nursing program in the symptom management of patients with colorectal and breast cancer receiving oral chemotherapy: a randomized, controlled trial. J Clin Oncol. 2009 Dec 20;27(36):6191-8.	Effectiveness of a home care nursing program in the symptom management of patients with colorectal and breast cancer receiving oral chemotherapy: a randomized, controlled trial	2009	Inglés	Journal of clinical oncology : official journal of the American Society of Clinical Oncology	Q1	525	Estados Unidos	Ensayo Clínico controlado aleatorizado	doi: 10.1200/JCO.2009.20.6755
51	Laverty D. Treating cancer-related breakthrough pain: the oral transmucosal route. Int J Palliat Nurs. 2007 Jul;13(7):326-31	Treating cancer-related breakthrough pain: the oral transmucosal route	2007	Inglés	International journal of palliative nursing	Q2	37	Reino Unido	Revisión de la literatura	doi: 10.12968/ijpn.2007.13.7.24344
52	Herrmann A, Lock G, Hollerbach C, Jauch KW. Parenterale und enterale Ernährung in der	Parenteral and enteral nutrition in palliative medicine	1999	Aleman	Zentralblatt für Chirurgie	Q4	32	Alemania	No definido	PMID: 10474869.

	Palliative dizin [Parenteral and enteral nutrition in palliative medicine]. Zentralbl Chir. 1999;124(7) :573-84.									
53	Porceddu SV, Rosser B, Burmeister BH, Jones M, Hickey B, Baumann K, Gogna K, Pullar A, Poulsen M, Holt T. Hypofractiona ted radiotherapy for the palliation of advanced head and neck cancer in patients unsuitable for curative treatment-- "Hypo Trial". Radiother Oncol. 2007 Dec;85(3):4 56-62	Hypofractiona ted radiotherapy for the palliation of advanced head and neck cancer in patients unsuitable for curative treatment-- "Hypo Trial"	2007	Inglés	Radiotherapy and Oncology	Q1	150	Paises Bajos	Ensayo Clinico controlado	doi: 10.10 16/j.ra donc. 2007. 10.02 0
54	Mendes MSS, Chester LN, Fernandes Dos Santos JF, Chen X, Caplan DJ, Marchini L. Self- perceived oral health among institutional ized older adults in Taubate, Brazil. Spec Care Dentist.	Self-perceived oral health among institutional ized older adults in Taubate, Brazil	2020	Inglés	Special Care in Dentistry	Q3	39	Estados Unidos	Estudio de cohorte	doi: 10.11 11/sc d.124 30

	2020 Jan;40(1):49-54									
55	De Conno F, Ripamonti C, Sbanotto A, Ventafridda V. Oral complications in patients with advanced cancer. J Palliat Care. 1989 Mar;5(1):7-15.	Oral complications in patients with advanced cancer.	1989	Inglés	Journal of palliative care	Q2	49	Estados Unidos	Revisión de la literatura	doi.org/10.1177/082585978900500102
56	Al-mamgani A, Tans L, Van rooij PH, Noever I, Baatenburg de jong RJ, Levendag PC. Hypofractionated radiotherapy denoted as the "Christie scheme": an effective means of palliating patients with head and neck cancers not suitable for curative treatment. Acta Oncol. 2009;48(4):562-70	Hypofractionated radiotherapy denoted as the "Christie scheme": an effective means of palliating patients with head and neck cancers not suitable for curative treatment	2009	Inglés	Acta oncologica	Q1	93	Reino Unido	Estudio prospectivo	doi: 10.1080/02841860902740899
57	Rezk-Allah SS, Abd Elshaf HM, Farid RJ, Hassan MAE, Alsirafy SA. Effect of Low-Level Laser	Effect of Low-Level Laser Therapy in Treatment of Chemotherapy Induced Oral Mucositis	2019	Inglés	Journal of lasers in medical sciences	Q2	18	Irán	Ensayo Clínico	doi: 10.15171/jlms.2019.20

	Therapy in Treatment of Chemotherapy Induced Oral Mucositis. J Lasers Med Sci. 2019 Spring;10(2):125-130.									
58	Morita T, Tsunoda J, Inoue S, Chihara S, Ishimoto O, Hisaoka N, Itoh M. [Prediction of survival of terminally ill cancer patients--a prospective study]. Gan To Kagaku Ryoho. 1998 Jul;25(8):1203-11. Japanese	Prediction of survival of terminally ill cancer patients--a prospective study	1998	Inglés	Biotherapy	No tiene asignado cuartil	8	Japón	Estudio prospectivo	PMID: 9679584
59	Schimmel M, Schoeni P, Müller F. Zahnmedizinische Aspekte in der Palliativmedizin. Möglichkeit en und Grenzen zahnmedizinischer Betreuung und die speziellen Anforderungen an den Zahnarzt [Dental aspects of palliative care. Possibilities and limits of dental	Dental aspects of palliative care. Possibilities and limits of dental care and the special demands on the dentist	2008	Aleman	Schweiz Monatsschr Zahnmed	No definido	no definido	Alemania	No definido	PMID: 18846977.

	care and the special demands on the dentist]. Schweiz Monatsschr Zahnmed. 2008;118(9):851-62									
60	Cunningham D, Zalcberg JR, Rath U, Olver I, Van Cutsem E, Svensson C, Seitz JF, Harper P, Kerr D, Perez-Manga G, et al. 'Tomudex' (ZD1694): results of a randomised trial in advanced colorectal cancer demonstrate efficacy and reduced mucositis and leucopenia. The 'Tomudex' Colorectal Cancer Study Group. Eur J Cancer. 1995 Nov;31A(12):1945-54	'Tomudex' (ZD1694): results of a randomised trial in advanced colorectal cancer demonstrate efficacy and reduced mucositis and leucopenia.	1995	Inglés	European journal of cancer	Q1	205	Reino Unido	Ensayo Clínico	doi: 10.1016/0959-8049(95)00502-1
61	Veluthattil AC, Sudhasp, Kandasamy S, Chakkalakkooombil SV. Effect of Hypofractionated, Palliative	Effect of Hypofractionated, Palliative Radiotherapy on Quality of Life in Late-Stage Oral Cavity Cancer: A Prospective Clinical Trial	2019	Inglés	Indian Journal of Palliative Care	Q3	23	India	Ensayo Clínico	doi: 10.4103/IJPC.11518

	Radiotherapy on Quality of Life in Late-Stage Oral Cavity Cancer: A Prospective Clinical Trial. Indian J Palliat Care. 2019 Jul-Sep;25(3):383-390									
62	Martinsson L, Lundström S, Sundelöf J. Better quality of end-of-life care for persons with advanced dementia in nursing homes compared to hospitals: a Swedish national register study. BMC Palliat Care. 2020 Aug 26;19(1):135	Better quality of end-of-life care for persons with advanced dementia in nursing homes compared to hospitals: a Swedish national register study	2020	Inglés	BMC Palliative Care	Q1	36	Reino Unido	Ensayo Clínico	doi: 10.1186/s12904-020-00639-5
63	Tinti S, Cassani G, Pinna I, Alberti A, Destrebecq A. Neoplasie testa-collo e cure palliative, sintomi e qualità di vita: revisione della letteratura [Head and neck neoplasms	Head and neck neoplasms and palliative care, symptoms and quality of life: literature review.	2020	Italiano	Recenti progressi in medicina	Q4	17	Italia	Revisión de la literatura	doi: 10.1701/3509.34963

	and palliative care, symptoms and quality of life: literature review.]. Recenti Prog Med. 2020 Dec;111(12) :722-732									
64	Dahlin C. Oral complications at the end of life. Am J Nurs. 2004 Jul;104(7):40-7.	Oral complications at the end of life.	2004	Inglés	The American journal of nursing	Q3	51	Estados Unidos	Estudio de caso	doi: 10.1097/0000446-200407000-00028
65	Maire F, Borowski B, Collangettes D, Farsi F, Guichard M, Gourmet R, Kreher P. Standards, Options et Recommendations pour une bonne pratique odontologique en cancérologie [Standards, Options and Recommendations (SOR) for good practices in dentistry for head and neck cancer patients. Federation of the French Cancer Centres (FNCLCC)]. Bull Cancer.	Standards, Options and Recommendations (SOR) for good practices in dentistry for head and neck cancer patients. Federation of the French Cancer Centres	1999	Francés	Bulletin du Cancer	Q3	37	Francia	Guia de práctica clínica	PMID: 10477382

	1999 Jul-Aug;86(7-8):640-65.									
66	Ito Y, Kameya A, Kano T, Kobayashi S, Kasugai T, Hotta S. [Indications and limitations of laser treatment for early gastric cancer and palliative treatments for malignant obstruction of the esophagus and stomach]. Gan To Kagaku Ryoho. 1988 Apr;15(4 Pt 2-3):1435-9.	Indications and limitations of laser treatment for early gastric cancer and palliative treatments for malignant obstruction of the esophagus and stomach	1988	Japonés	Biotherapy	No tiene asignado cuartil	8	Japón	Estudio prospectivo	PMID: 2454611.
67	Al-Taie A, Al-Shohani AD, Albasry Z, Altaee A. Current topical trends and novel therapeutic approaches and delivery systems for oral mucositis management. J Pharm Bioallied Sci. 2020 Apr-Jun;12(2):94-101	Current topical trends and novel therapeutic approaches and delivery systems for oral mucositis management.	2020	Inglés	Journal of Pharmacy and Bioallied Sciences	Q2	31	India	Revisión de la literatura	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7373116/
68	Epstein JB, Klasser GD. Emerging approaches	Emerging approaches for prophylaxis	2006	Inglés	Expert opinion on emerging drugs	Q2	46	Reino Unido	Opinión de expertos	doi: 10.1517/1472821

	for prophylaxis and management of oropharyngeal mucositis in cancer therapy. Expert Opin Emerg Drugs. 2006 May;11(2):353-73	and management of oropharyngeal mucositis in cancer therapy.								4.11.2 .353
69	McDonald AM, Spencer SA, Willey CD, Bonner JA, Dobelbower MC, Swain TA, Nabell L, McCammon S, Carroll WR, McGwin G, Bhatia S, Yang ES. Lipid microsphere bound oxycodone for pain management in patients receiving radiotherapy for head and neck cancer. Support Care Cancer. 2021 Jan;29(1):263-269	Lipid microsphere bound oxycodone for pain management in patients receiving radiotherapy for head and neck cancer	2021	Inglés	official journal of the Multinational Association of Supportive Care in Cancer	Q2	105	Alemania	Estudio Clínico prospectivo	doi: 10.1007/s00520-020-05474-1
70	Plaschke CC, Johannesen HH, Hansen RH, Hendel HW, Kiss K, Gehl J, Wessel I. The DAHANCA	Electrochemotherapy for recurrent mucosal head and neck cancer	2019	Inglés	Head and Neck	Q1	120	Estados Unidos	Ensayo Clínico	doi: 10.1002/head.25454

	32 study: Electroche motherapy for recurrent mucosal head and neck cancer. Head Neck. 2019 Feb;41(2):3 29-339									
71	Carr DB, Goudas LC, Balk EM, Bloch R, Ioannidis JP, Lau J. Evidence report on the treatment of pain in cancer patients. J Natl Cancer Inst Monogr. 2004;(32):2 3-31.	Evidence report on the treatment of pain in cancer patients	2004	Inglés	Journal of the National Cancer Institute Monographs	Q1	84	Estados Unidos	Revisión sistemática	doi: 10.10 93/jnc imonog raphs/ lgh0 12
72	Ps SK, Balan A, Sankar A, Bose T. Radiation induced oral mucositis. Indian J Palliat Care. 2009 Jul;15(2):95- 102.	Radiation induced oral mucositis	2009		Indian journal of palliative care	Q3	23	India	Revisión de la literatura	doi: 10.41 03/09 73- 1075. 58452
73	Al-Mamgani A, Kessels R, Verhoef CG, Navran A, Hamming- Vrieze O, Kaanders JHAM, Steenbakker s RJHM, Tans L, Hoebbers F, Ong F, van Werkhoven E, Langendijk	Randomized controlled trial to identify the optimal radiotherapy scheme for palliative treatment of incurable head and neck squamous cell carcinoma	2020	Inglés	Radiotherapy and Oncology	Q1	150	Países Bajos	Ensayo Clinico controlado aleatorizado	doi: 10.10 16/j.ra donc. 2020. 05.02 0

	JA. Randomized controlled trial to identify the optimal radiotherapy scheme for palliative treatment of incurable head and neck squamous cell carcinoma. Radiother Oncol. 2020 Aug;149:181-188.									
74	Plaschke CC, Bertino G, McCaul JA, Grau JJ, de Bree R, Sersa G, Occhini A, Grosej A, Langdon C, Heuveling DA, Cemazar M, Strojjan P, Leemans CR, Benazzo M, De Terlizzi F, Wessel I, Gehl J. European Research on Electrochemotherapy in Head and Neck Cancer (EURECA) project: Results from the treatment of mucosal cancers. Eur J Cancer. 2017 Dec;87:172-181.	European Research on Electrochemotherapy in Head and Neck Cancer (EURECA) project: Results from the treatment of mucosal cancers	2017	Inglés	European journal of cancer	Q1	205	Reino Unido	Ensayo Clínico	doi: 10.1016/j.ejca.2017.10.008
75	Oneschuk D, Hanson J, Bruera E. A	A survey of mouth pain and dryness in	2000	Inglés	Supportive care in cancer : official	Q2	102	Canada /	Estudio de prevalencia	doi: 10.1007/s0

	survey of mouth pain and dryness in patients with advanced cancer. Support Care Cancer. 2000 Sep;8(5):372-6.	patients with advanced cancer			journal of the Multinational Association of Supportive Care in Cancer			Alemania		0520050005
76	Saini R, Marawar P, Shete S, Saini S, Mani A. Dental expression and role in palliative treatment. Indian J Palliat Care. 2009 Jan;15(1):26-9	Dental expression and role in palliative treatment	2009	Inglés	Indian journal of palliative care	Q3	23	India	Revisión de la literatura	doi: 10.4103/0973-1075.53508
77	Khan L, Tjong M, Raziee H, Lee J, Erler D, Chin L, Poon I. Role of stereotactic body radiotherapy for symptom control in head and neck cancer patients. Support Care Cancer. 2015 Apr;23(4):1099-103.	Role of stereotactic body radiotherapy for symptom control in head and neck cancer patients	2015	Inglés	Supportive care in cancer : official journal of the Multinational Association of Supportive Care in Cancer	Q2	102	Alemania	Estudio de cohorte retrospectivo	doi: 10.1007/s00520-014-2421-y
78	Roldan CJ, Chung M, Feng L, Bruera E. Methylene Blue for the Treatment of Intractable Pain From Oral Mucositis Related to Cancer	Methylene Blue for the Treatment of Intractable Pain From Oral Mucositis Related to Cancer	2021	Inglés	Journal of the National Comprehensive Cancer Network : JNCCN	Q1	96	Estados Unidos	Estudio de cohorte	doi: 10.6004/jncn.2020.7651

	Intractable Pain From Oral Mucositis Related to Cancer Treatment: An Uncontrolled Cohort. J Natl Compr Canc Netw. 2021 Jan 4:1-7	Treatment: An Uncontrolled Cohort								
79	Das S, Thomas S, Pal SK, Isiah R, John S. Hypofractionated Palliative Radiotherapy in Locally Advanced Inoperable Head and Neck Cancer: CMC Vellore Experience. Indian J Palliat Care. 2013 May;19(2):93-8.	Hypofractionated Palliative Radiotherapy in Locally Advanced Inoperable Head and Neck Cancer: CMC Vellore Experience	2013	Inglés	Indian journal of palliative care	Q3	23	India	Ensayo Clínico	doi: 10.4103/0973-1075.116709
80	Balducci L. New paradigms for treating elderly patients with cancer: the comprehensive geriatric assessment and guidelines for supportive care. J Support Oncol. 2003 Nov-Dec;1(4 Suppl 2):30-7	New paradigms for treating elderly patients with cancer: the comprehensive geriatric assessment and guidelines for supportive care	2003	Inglés	journal of supportive oncology	No tiene asignado cuartil	57	Estados Unidos	No definido	PMID: 15346998.

81	<p>Nagaoka H, Momo K, Hamano J, Miyaji T, Oyamada S, Kawaguchi T, Homma M, Yamaguchi T, Morita T, Kizawa Y. Effects of an Indomethacin Oral Spray on Pain Due to Oral Mucositis in Cancer Patients Treated With Radiotherapy and Chemotherapy: A Double-Blind, Randomized, Placebo-Controlled Trial (JORTC-PAL04). J Pain Symptom Manage. 2021 Jan 28:S0885-3924(21)00144-5</p>	<p>Effects of an Indomethacin Oral Spray on Pain Due to Oral Mucositis in Cancer Patients Treated With Radiotherapy and Chemotherapy: A Double-Blind, Randomized, Placebo-Controlled Trial</p>	2021	Inglés	Journal of Pain Symptom Manage	Q1	135	Países Bajos	<p>Ensayo doble ciego, aleatorizado y controlado con placebo</p>	<p>https://www.jpjournal.com/article/S0885-3924(21)00144-5/fulltext</p>
82	<p>Plemons JM, Al-Hashimi I, Marek CL; American Dental Association Council on Scientific Affairs. Managing xerostomia and salivary gland hypofunction: executive summary of a report from the American Dental Association Council on Scientific Affairs</p>	<p>Managing xerostomia and salivary gland hypofunction: executive summary of a report from the American Dental Association Council on Scientific Affairs</p>	2014	Inglés	Journal of the American Dental Association	Q2	112	Estados Unidos	<p>Consenso de expertos</p>	<p>doi: 10.14219/jada.2014.44. PMID: 25082939.</p>

	a report from the American Dental Association Council on Scientific Affairs. J Am Dent Assoc. 2014 Aug;145(8): 867-73.									
83	Strojan P, Grošelj A, Serša G, Plaschke CC, Vermorken JB, Nuyts S, de Bree R, Eisbruch A, Mendenhall WM, Smeets R, Ferlito A. Electrochemotherapy in Mucosal Cancer of the Head and Neck: A Systematic Review. Cancers (Basel). 2021 Mar 12;13(6):1254.	Electrochemotherapy in Mucosal Cancer of the Head and Neck: A Systematic Review.	2021	Inglés	Cancers	Q1	64	Suiza	Revisión sistemática	doi: 10.3390/cancers13061254. PMID: 33809141.
84	Vormittag L, Erovic B, Schopper C, Zielinski CC, Kornek G, Thurnher D. Unilateral face swelling as first manifestation of metastatic pancreatic cancer: case report and review of the literature. Wien Klin Wochenschr.	Unilateral face swelling as first manifestation of metastatic pancreatic cancer: case report and review of the literature	2008	Inglés	Wien Klin Wochenschr.	Q3	50	Austria	Reporte de caso y revisión de la literatura	doi: 10.1007/s00508-008-1084-4

	2008;120(21-22):693-6.									
85	Antonacci, G., Cerati, C., Racis, M., Lo Russo, I., Togliardi, E., Cusmai, R., & Saibene, G. (2016). Mucositis pain: Treatment Options for the patient. <i>Annals of Oncology</i> , 27.	Mucositis pain: Treatment Options for the patient	2016	Inglés	Annals of Oncology	Q1	229	Reino Unido	Ensayo Clínico	doi.org/10.1093/annonc/mdw344.11
86	Black, C. (2009). Pharmacological management of pain in palliative care. <i>International Journal on Disability and Human Development</i> , 8(1), 3–8.	Pharmacological management of pain in palliative care	2009	Inglés	Journal on Disability and Human Development	Q4	24	Alemania	No especificado	No tiene
87	Elad, S., Raber-Durlacher, J. E., Brennan, M. T., Saunders, D. P., Mank, A. P., Zadik, Y., Quinn, B., Epstein, J. B., Blijlevens, N. M. A., Waltimo, T., Passweg, J. R., Correa, M. E. P., Dahllöf, G., Garming-Legert, K. U. E., Logan, R.	Basic oral care for hematology–oncology patients and hematopoietic stem cell transplantation recipients: a position paper from the joint task force of the Multinational Association of Supportive Care in Cancer/International Society of Oral Oncology (MASCC/ISOO	2015	Inglés	Supportive care in cancer : official journal of the Multinational Association of Supportive Care in Cancer	Q2	102	Alemania	Opinión de expertos, protocolo de manejo clínico	doi.org/10.1007/s00520-014-2378-x

	<p>M., Potting, C. M. J., Shapira, M. Y., Soga, Y., Stringer, J., ... Jensen, S. B. (2015). Basic oral care for hematology –oncology patients and hematopoietic stem cell transplantation recipients: a position paper from the joint task force of the Multinational Association of Supportive Care in Cancer/International Society of Oral Oncology (MASCC/ISOO) and the European Society for Blood and Marrow Transplantation (EBMT). <i>Supportive Care in Cancer</i>, 23(1), 223–236.</p>	<p>) and the European Society for Blood and Marrow Transplantation (EBMT)</p>								
88	<p>Leppert, W., Wordliczek, J., Malec-Milewska, M., Krajnik, M., Dobrogowski, J., Góraj, E., Wyrwicz, L., &</p>	<p>Recommendations for assessment and management of pain in cancer patients. <i>Palliative Medicine in Practice</i></p>	2018	Inglés	Palliative Medicine in Practice	Q4	1	Polonia	Guías de manejo	No tiene

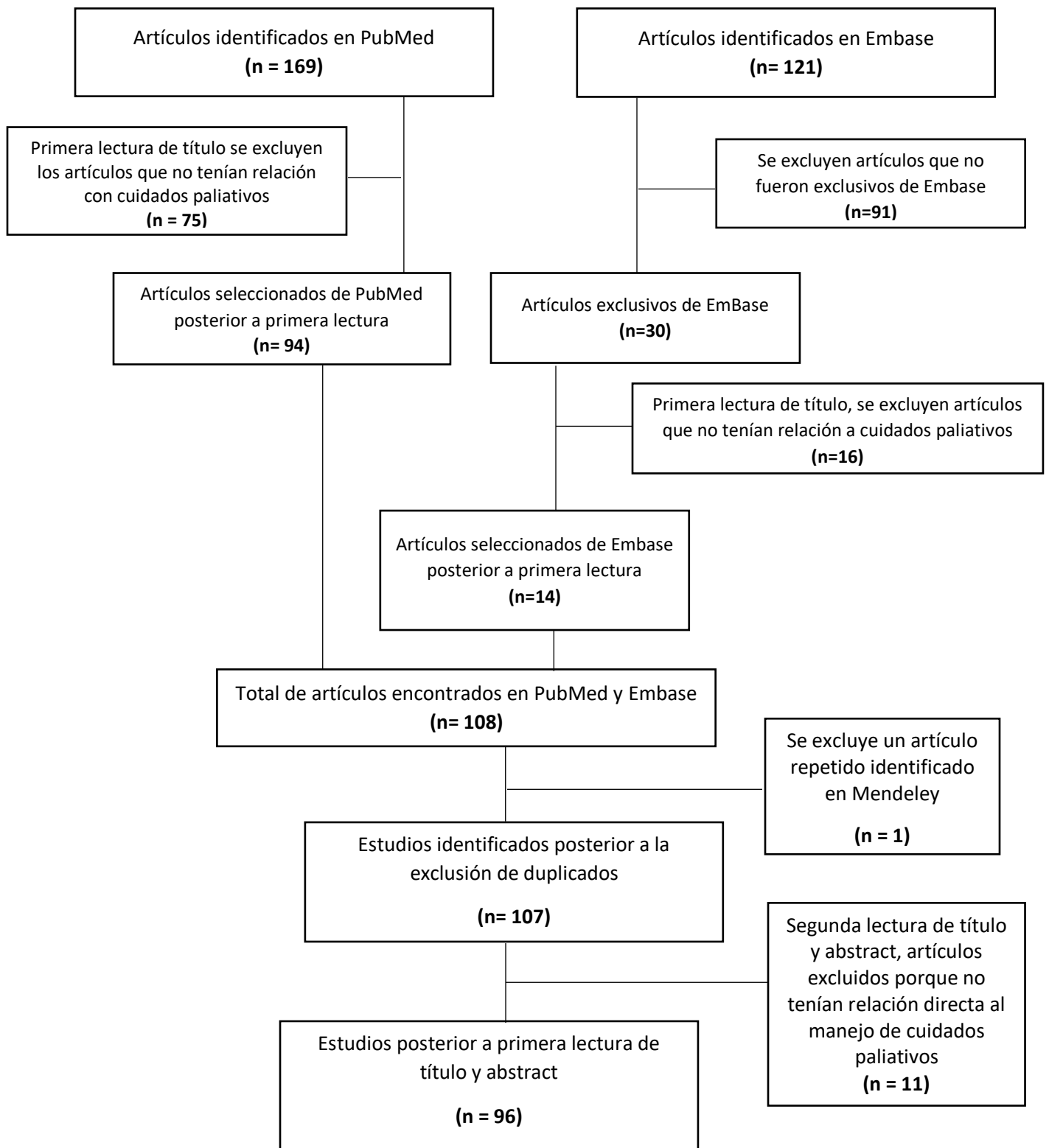
	Krzakowski, M. (2018). Recommendations for assessment and management of pain in cancer patients. <i>Palliative Medicine in Practice</i> , 12(1), 30–43.									
89	Meuser, T., Pietruck, C., Radbruch, L., Stute, P., Lehmann, K. A., & Grond, S. (2002). Symptoms during cancer pain treatment following WHO-guidelines: A longitudinal follow-up study of symptom prevalence, severity and etiology. <i>Revista de la Sociedad Espanola del Dolor</i> , 9(4), 201–216.	Symptoms during cancer pain treatment following WHO-guidelines: A longitudinal follow-up study of symptom prevalence, severity and etiology.	2002	Español	Revista de la Sociedad Española del Dolor	Q4	14	España	Ensayo Clinico	DOI: 10.1016/S0304-3959(01)00324-4
90	Mifsud, I., & Bonanno, P. V. (2015). Medicines management in the palliative care of cancer patients. <i>Journal of the Malta College of Pharmacy Practice</i>	Medicines management in the palliative care of cancer patients	2015	Inglés	Journal of the Malta College of Pharmacy Practice	Q4	1	Malta	No especificado	https://www.semanticscholar.org/paper/Medicines-management-in-the-palliative-

	Practice, 21(1), 4–12.									care-of-Mifsubonano/1f2a75c71d669fd91c6691a9921d592bb548bb37
91	Panwar, V. (2017). Role of glossopharyngeal nerve block in palliation of pain from head and neck cancer. European Journal of Cancer, 72, S46.	Role of glossopharyngeal nerve block in palliation of pain from head and neck cancer	2017	Inglés	European Journal of Cancer	Q1	205	Reino Unido	Estudio retrospectivo	No tiene
92	Pease, N., & Dorman, S. (2007). Palliative care. Medicine, 35(5), 292–295	Palliative care. Medicine	2007	Inglés	Medicine	Q1	123	Reino Unido	Estudio retrospectivo	doi.org/10.1016/j.mpmed.2007.03.011
93	Porta-Sales, J. (2010). Breakthrough cancer pain and current treatment options. European Journal of Pain Supplements, 4(3), 181–185.	Breakthrough cancer pain and current treatment options	2010	Inglés	European Journal of Pain Supplements	No tiene asignado cuartil	11	Reino Unido	Revisión de la literatura	doi.org/10.1016/j.eujps.2010.06.002
94	Ueberall, M. A., Lorenzl, S., Lux, E. A., Voltz, R., & Perelman, M. (2016). Efficacy,	Efficacy, safety, and tolerability of fentanyl pectin nasal spray in patients with	2016	Inglés	Journal of Pain Research	Q1	42	Nueva Zelanda	Estudio prospectivo, abierto y no intervencionista	doi.org/10.2147/JPR.S106177

	safety, and tolerability of fentanyl pectin nasal spray in patients with breakthrough cancer pain. Journal of Pain Research, 9, 571–585.	breakthrough cancer pain.								
95	Ushiyama, M., Ikeda, R., Nitta, T., Tazitsu, Y., Miyawaki, A., Nishizawa, Y., Yamaguchi, T., Yamaguchi, H., Akatsuka, C., Shimodouzo, Y., Ushinohama, K., Sugawara, H., Sugihara, K., Nakamura, N., Takeda, Y., & Yamada, K. (2009). Stability of hospital preparations of Azunol Water Gargles for pain relief in oral cancer patients with oral mucositis. Cancer Therapy, 7(ISSUE A), 277–281.	Stability of hospital preparations of Azunol Water Gargles for pain relief in oral cancer patients with oral mucositis	2009	Inglés	Cancer Therapy	No tiene asignado cuartil	8	Estados Unidos	No se define	https://www.embase.com/search/results?subaction=viewrecord&id=L355218490&from=export
96	Vadalouca, A., Raptis,	Management of	2012	Inglés	Regional Anesthesia	Q1	103	Estados Unidos	Ensayo Clínico -	doi.org/10.1

	E., Moka, E., & Sykioti, P. (2012). Management of neuropathic pain in cancer survivors. Regional Anesthesia and Pain Medicine, 37(5), E47–E49.	neuropathic pain in cancer survivors. Regional Anesthesia and Pain Medicine			and Pain Medicine				Abstracts de conferencias	097/AP.0b013e31826a8366
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Figura 1. Diagrama de flujo de la selección de artículos – primera fase



Discusión

Una revisión sistemática, es un artículo de «síntesis de la evidencia disponible», en el que se realiza una revisión de aspectos cuantitativos y cualitativos de estudios primarios, con el objetivo de resumir la información existente respecto de un tema en particular (Manterola et al., 2015).

Las revisiones sistemáticas cuya población a estudio son ensayos clínicos con asignación aleatoria posiblemente determinan el nivel de evidencia primaria, para la primera fase de búsqueda se encontraron 14 artículos de este tipo, para la segunda fase se requiere de un análisis muy exhaustivo y juicioso de estos estudios primarios que se incluirán en la investigación determinando las variables de cada estudio, los instrumentos de medición, la correlación existente, el diseño y la viabilidad de comparación de los resultados.

Se deben utilizar estrategias que limiten los sesgos y errores aleatorios en la revisión sistemática, estas pueden ser: búsqueda exhaustiva de todos los artículos relevantes, criterios reproducibles y explícitos de selección, valoración del diseño y características de los estudios y síntesis e interpretación de los resultados. Con la información obtenida en esta primera fase del estudio esta tarea se realizará más rápido y sencilla para los investigadores.

Los 96 artículos encontrados aportan información para la construcción del trabajo de grado en todas sus partes: introducción, antecedentes, justificación, marco teórico, pero solo los 14 artículos de ensayo clínico podrían evaluarse para ser parte del artículo final de revisión sistemática.

Conclusiones

La primera fase de la revisión sistemática se enfocó en la estructuración de la pregunta PICO, la normalización de los terminos de búsqueda, la creación de la estrategia, así como la consecución de los artículos que serían útiles para la revisión.

Se elaboró una tabla de la búsqueda inicial de artículos donde se recopilaron los datos de interés de estos. En esta tabla se incluyeron tanto artículos primarios para la revisión sistemática como otro tipo de investigaciones que resultan útiles para el marco conceptual, la justificación, los antecedentes y referentes de más bibliografías.

Se presentó un diagrama de flujo sobre los artículos que se utilizarán en la primera fase de la revisión sistemática, resumiendo la cantidad de artículos encontrados y los filtros realizados para llegar al total de artículos iniciales, siendo un ejemplo del diagrama final que se debe realizar en la revisión sistemática.

Se encontraron setenta y cinco artículos en texto completo en PDF, que fueron compartidos con los participantes de la investigación para su consulta, de esta manera se agilizó la búsqueda de la información para el grupo de investigación y se acortaron tiempos de trabajo en bases de datos.

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3. Al-Mamgani A, Kessels R, Verhoef CG, Navran A, Hamming-Vrieze O, Kaanders JHAM et al. Randomized controlled trial to identify the optimal radiotherapy scheme for palliative treatment of incurable head and neck squamous cell carcinoma. *Radiother Oncol*. 2020 Aug;149:181-188.
4. Al-Mamgani A, Tans L, Van rooij PH, Noever I, Baatenburg de jong RJ, Levendag PC. Hypofractionated radiotherapy denoted as the "Christie scheme": an effective means of palliating patients with head and neck cancers not suitable for curative treatment. *Acta Oncol*. 2009;48(4):562-70
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6. Andersson S, Årestedt K, Lindqvist O, Fürst CJ, Brännström M. Factors Associated With Symptom Relief in End-of-Life Care in Residential Care Homes: A National Register-Based Study. *J Pain Symptom Manage*. 2018 May;55(5):1304-1312.
7. Antonacci, G., Cerati, C., Racis, M., Lo Russo, I., Togliardi, E., Cusmai, R., et al. Mucositis pain: Treatment Options for the patient. *Annals of Oncology* 2016, 27.
8. Balducci L. New paradigms for treating elderly patients with cancer: the comprehensive geriatric assessment and guidelines for supportive care. *J Support Oncol*. 2003 Nov-Dec;1(4 Suppl 2):30-7
9. Bauvet F, Klastersky J, Awada A. Soins de support en oncologie: concepts, accomplissements et nouveaux défis [Supportive care in cancer: concepts, achievements and challenges]. *Bull Cancer*. 2008 Mar;95(3):381-8.
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12. Bossi P, Cossu Rocca M, Corvò R, Depenni R, Guardamagna V, Marinangeli F, et al. The vicious circle of treatment-induced toxicities in locally advanced head and neck cancer and the impact on treatment intensity. *Crit Rev Oncol Hematol*. 2017 Aug;116:82-88

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