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ARTICLE REVIEW

Oral disorders in palliative care: approach to xerostomia

Trastornos bucales en cuidados paliativos: abordaje de la xerostomía

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ABSTRACT

Patients with end-stage diseases are more vulnerable and fragile than the general population, since their underlying diseases weaken their immunological and physical condition. Aggressive treatments such as chemotherapy can generate complications such as xerostomia and other complications such as mucositis. Due to the high incidence and mortality of oncological diseases, the present study was carried out with the aim of describing the approach to xerostomia in oncological patients. Oral infections, swallowing and speech difficulties are some of its manifestations. An adequate interrogation and physical examination is necessary to achieve its diagnosis. Although there are therapeutics that can be used to mitigate its effects, there is still no agreement in the literature. It is necessary to train the members of the health care teams on the subject in order to establish therapeutic guidelines personalized to the needs of each patient.

Keywords: Xerostomia; Palliative Care; Neoplasms; Dentistry.

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RESUMEN

Los pacientes con enfermedades en estadios terminales son más vulnerables y frágiles que la población general, puesto que las enfermedades de base que padecen, debilitan su estado inmunológico y físico. Los tratamientos agresivos tales como quimioterapias, pueden generar en ellos complicaciones tales como la xerostomía y otras complicaciones como las mucositis. Debido a la elevada incidencia y mortalidad de las enfermedades oncológicas, se realizó el presente estudio, con el objetivo de describir el abordaje de la xerostomía en el paciente oncológico. Las infecciones bucales, dificultad para deglutir y para hablar son algunas de sus manifestaciones. Es necesario un adecuado interrogatorio y examen físico para lograr su diagnóstico. Aunque existen terapéuticas empleables para mitigar sus efectos, aún no existe un acuerdo en la literatura. Es necesaria una capacitación de los miembros de los equipos de salud sobre el tema para establecer pautas terapéuticas personalizadas a las necesidades de cada paciente.

Palabras clave: Xerostomía; Cuidados Paliativos; Neoplasias; Odontología.

INTRODUCTION

Terminal illnesses compromise the general condition of the patients who suffer from them, since the organism weakens progressively, diminishing the physiological responses to maintain the body's homeostasis and the capacity to respond to pathological states. This situation is aggravated by the medications to which the patient was exposed during the treatment of his disease.

Whether due to the adverse effects of the medications received or due to fatigue states that influence the patient's ability to carry out oral care hygiene, there are several factors that expose palliative patients to oral disorders. Therefore, identifying these factors, making an early diagnosis and applying the appropriate treatment of oral conditions among palliative patients could minimize their pain and suffering.[1]

However, evidence shows that 40 % of palliative care patients lose the ability to communicate their oral health needs. This causes them to suffer from treatable oral conditions over a prolonged period of time or to mistakenly consider this problem to be a common and expected effect of their treatment.[2]

Oral discomfort is commonly reported by patients, and is associated with different types of cancer. Adverse effects of both the disease itself and the treatment often affect the oral health of patients and can cause oral complications, such as salivary gland hypofunction (poor saliva secretion), xerostomia (dry mouth), infectious oral pathologies, dysphagia, mucositis, denture-associated stomatitis, oral ulcers, caries and dysgeusia.[3]

Xerostomia is very common, with a prevalence of approximately 80% according to a Norwegian study of palliative care patients with cancer, while other common oral symptoms, such as infection, oral ulceration and pain, plaques, have a prevalence of 30-35 %. These symptoms in turn can interfere with other bodily functions, and cause nutritional problems, fatigue, and low weight, negatively affecting the patient's quality of life and social interaction.[4]

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There are few studies on the management of xerostomia, which, although it is true, is a symptom that few health professionals pay attention to during the management of terminally ill patients. Even so, it is still a symptom that causes a great deal of discomfort causing conditions such as swallowing, phonation, and sleep.[5]

Xerostomia occurs when the amount of saliva secreted is less than the loss of fluid from the mouth, either by evaporation, absorption through the mucosa and swallowing. It can also occur due to changes in the composition of saliva; in such cases, saliva can become thick, foamy and in some cases even fibrous.[6]

Saliva provides lubrication to the mouth and its mucosa, facilitates speaking, feeding and swallowing, and plays a fundamental role in the maintenance of oral health. It is composed of 99 % water, in addition to electrolytes and proteins. It also has amylase and lingual lipase, useful for digesting starch and fats. It has an antibacterial function, since, through lysozymes, they break down bacterial cell walls, as well as proliferation and wound healing. During mastication, salivary flow increases and this allows the formation of boluses and swallowing. Saliva triggers the perception of thirst and enhances taste perception.[7]

Persistent dry mouth predisposes to oral infections, dental caries, and oral candidiasis. In addition, patients report that dry mouth is a distressing symptom with a significant impact on their quality of life.[5]

The present study aims to describe the approach to xerostomia in the oncology patient.

DEVELOPMENT

Decreased saliva secretion may be caused by changes in salivary gland structures due to treatments such as immunotherapy, radiation,[8] autoimmune diseases, or endocrine disorders. Other causes may be temporary, such as dehydration, depression, and anxiety.

The most frequent causes of dry mouth are the side effects of drugs that affect the salivary reflex at different sites in the central nervous system and/or at the receptor level in the salivary glands. Opioid analgesics, sedatives, antidepressants, anxiolytics, neuroleptics and anticholinergics frequently used in palliative treatment, especially for terminally ill patients, give rise to xerostomia. In addition, in palliative patients, low fluid intake, fever and medications can influence electrolyte imbalance and lead to dehydration. In patients with severe disease, dry mouth is worsened by mouth breathing, damaged or very thin oral mucosa that may increase fluid absorption, and by damaged salivary glands.[9]

Diagnosis

Dry mouth sensation is a common complaint of patients in advanced stages of their disease. It occurs in all ages, but a chronic and severe degree of dry mouth especially affects the elderly with polypharmacy, chronic and/or terminal illness. The condition is not always discovered during routine examinations. Due to general deterioration, patients may have trouble communicating their symptoms. Dry mouth and oral infections are often accompanied by halitosis (bad breath). Therefore, a seemingly trivial condition, such as dry mouth, can lead to a significant deterioration of the patient's physical and mental health and well-being.[10]

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In view of the above, an adequate and complete medical history with investigation of the type of disease afflicting the patient, the treatment received, general care, as well as the performance of an adequate physical examination, facilitates the individualized management of the patient.

From a search of the use of sialometry in other populations, it was found that some patients complaining of dry mouth do not show reduced flow rates and, on the contrary, some individuals show an objective decrease in saliva flow, but do not complain of oral dryness. Furthermore, the ratio of dry mouth to total resting salivary flow rate (UWSFR) was found to be a relatively sensitive (85 % sensitivity) but nonspecific (30 % specificity) method for detecting xerostomia. Similarly, the relationship between dry mouth and stimulated total salivary flow rate (SWSFR) is a relatively sensitive method (sensitivity 85 %) but not specific (specificity 30 %) for detecting xerostomia.[11]

(SWSFR) is a relatively specific (specificity 78 %) but insensitive (sensitivity 47 %) method for detecting xerostomia. Based on these findings, the authors suggested that there is no indication for routine measurement of salivary flow rates in the clinical evaluation of patients complaining of dry mouth.[12]

Treatment

There are not enough studies on the management of xerostomia in palliative patients, since the causes may be various according to the disease or treatment that the patient receives.[13]

Most recommendations are directed to preventive management and general care. The active participation of dentists and dental hygienists in the collaborative multidisciplinary practice of palliative care to improve oral health through proper management of oral function and hygiene is extremely important to maintain and improve the quality of life of terminally ill patients.[11,14]

Various mouth rinses and products are currently available to prevent caries, treat infections and reduce inflammation. However, the lack of awareness among nurses and physicians of these products and their effectiveness in treating common oral symptoms may lead to inadequate guidance and oral hygiene practices.[15,16]

In addition, differences in the severity of side effects associated with cancer and its medical treatment may require individual approaches when choosing products. Therefore, an optimal solution for patients would be to introduce a variety of mouth rinses suitable for oral health care that are convenient to use and have been shown to be effective in reducing distressing oral symptoms.[17]

A systematic review of the literature on the management of dry mouth in patients with advanced cancer identified only three randomized controlled trials and three prospective studies. Overall, the randomized controlled trials support the use of pilocarpine, artificial saliva, and chewing gum for the treatment of xerostomia. However, the evidence is of low quality.[5]

The majority of patients, commented in different studies, need to use resources to keep the mouth moist, using a variety of pharmacologic and nonpharmacologic items. Beverages were the most commonly used method to relieve dry mouth and evidence suggested that water was equally effective. Salivary substitutes only replace oral moisture and should be taken very regularly, including during meals.

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Salivary stimulants or sialogogues such as pilocarpine, betanecol and cevimeline improve salivary flow by agonist action on muscarinic cholinergic receptors, but are reserved for use in certain countries, while they are not approved in others. Pilocarpine functions mainly as a muscarinic-cholinergic agonist with mild beta-adrenergic activity and is licensed for dry mouth after radiotherapy for head and neck cancer and in Sjogren's syndrome. However, a recent feasibility study of pilocarpine in patients with advanced cancer found that the treatment was unacceptable for most patients because of its side-effect profile.[18]

Basic oral care can be effective in controlling dry mouth. The spontaneous improvement of dry mouth in palliative care studies may be related to the increased emphasis on mouth care. One study involving elderly patients in a long-term care facility found that tooth brushing and mouth rinsing reduced dry mouth and oral plaque on the tongue.[19]

Addressing dry mouth alone is often not enough. Keeping the lips and nostrils moist is also essential and can be helped by administering simple water-based gels and ensuring humidification. Another common concern in patients was dysphagia and the perception of dysphagia. This can have effects on the patient's diet, as well as an impact on fluid intake, further contributing to the dry mouth symptom for which the use of ice or slushies may be helpful. Many patients reported a disturbance in sleep so simple attention to ensure that there is a drink at the patients' bedside can help minimize discomfort and may result in improved sleep quality. Periodic medical management is also essential so that by monitoring, assessing the doses of medications used, reviewing their efficacy and examining the potential for dose reduction or discontinuation to lead to improvements in dry mouth without compromising the control of other symptoms.[5]

Oral care in the critically ill and dying should include identification and diagnosis of dry mouth, lubrication of the lips, cleaning of the teeth, cleaning and moistening of the mucosa. Teeth should be cleaned with a soft brush. Toothpaste containing sodium lauryl sulfate should be avoided because this causes dehydration of the mucosa. The mucosa should be cleaned with physiological saline solution, possibly with 0,5 % hydrogen peroxide. The application of a 17 % glycerol solution can be used as a moisturizer. This solution relieves dry mouth, but should be applied frequently because the effect is short-lived. In very dry mucous membranes, products with high viscosity may appear sticky and uncomfortable. Nausea occurs frequently in palliative care patients. Therefore, products with a mild taste and a pleasant consistency are important. Because symptoms and preferences vary, patients should try different types.[9]

Saliva substitutes

There are several saliva substitutes (rinse products, gels, sprays) that claim to relieve dry mouth. These often mimic the appearance and viscosity of saliva, but do not have the equivalent enzymatic, antimicrobial, antifungal, or antiviral properties. They also do not have the physical properties of saliva.[9]

Glycerol

Glycerol in aqueous solutions has been the most widely used product in oral and dry mouth care in Norway since the 1950s. However, there are conflicting recommendations regarding glycerol. In some countries its use is discouraged because it is claimed to be drying rather than moisturizing. This glycerol solution provides good immediate relief, but the effect wears off after a short period of time. The long-term effect of such a glycerol solution on the mucosa is unknown, but short-term use seems unlikely to cause particular problems. If a glycerol solution is used, it should be mixed with water in a 1:4 ratio and applied frequently.[9]

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Stimulation of saliva secretion
Saliva secretion can be increased by the use of chewing gum, lozenges and apple, lemon or ascorbic acid. Palliative patients with hyposalivation may have difficulty dissolving lozenges. Chewing gum is often unsuitable due to insufficient chewing force. Pilocarpine is a muscarinic agonist that increases exocrine gland secretion and may provide effective treatment for xerostomia at doses of at least 20 mg per day. However, use carries undesirable side effects such as sweating, headache, urination, and vasodilation. Pilocarpine (Salagen) tablets can only be prescribed with approval and in some countries their use is restricted. However, medication that stimulates secretion is only effective in patients with salivary glands that have some remaining function.[9,20]

Artificial hydration
Artificial hydration involves fluids administered intravenously, subcutaneously, dermally, rectally, or as a component of enteral or parenteral nutrition. In palliative patients, artificial hydration is challenging due to physical factors such as fluid retention and pulmonary edema, but also for moral, ethical, and cultural reasons. Discontinuation of fluids and nutrition in dying patients is a topic of discussion in the literature.[9]

CONCLUSIONS

The health status of the oncologic patient, as well as the medication used to palliate the disease, are causes of xerostomia. Oral infections, swallowing and speech difficulties are some of its manifestations. An adequate interrogation and physical examination is necessary to achieve its diagnosis. Although there are therapeutics that can be used to mitigate its effects, there is still no agreement in the literature. Training of health team members on the subject is necessary to establish therapeutic guidelines personalized to the needs of each patient.

Conflict of interest
The authors declare that there is no conflict of interest.

Authors' contribution
All authors participated in the conceptualization, formal analysis, project management, writing - original draft, writing - revision, editing and approval of the final manuscript.

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