Oral cavity complications of patients with advanced cancer

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Abstract

Background: Oral care is especially important in palliative care. Oral pain and adverse symptoms must be controlled during palliative care, because adequate communication with patients makes easy to perform good quality palliative care. In this case preserving verbal communication and comfortable mouth is very important.

Aim: Our aim was to review the literature about the oral cavity complaints of patients with advanced cancer undergoing the palliative care, and to define which complaints are caused by direct impact of oncologic disease and which by the treatment methods.

Materials and Methods: We reviewed most of the existing literature in this field. Unfortunately, there are not too much of publications about mouth problems of palliative patients with advanced cancer, but we used them to overview all known oral problems. Some of them report oral infections, some of them discuss the impact of the treatment methods and etc. We summarized all of them to create a real picture of oral cavity problems of palliative patients.

Conclusion: Literature review proves that xerostomia, oral infections, taste alteration and other pathological conditions of oral cavity are very common in patients with advanced cancer. They lead to malnutrition and communication disorder and with the accompanying pathological condition decrease the quality of life. 

Keywords: Oral cavity complaints, Palliative care, Quality of life.

Introduction

Oral care is especially important in palliative care.¹ Among worldwide palliative medicine guidelines oral care is considered as a separate part of palliative care.

World Health Organization and, correspondingly, Georgian legislation defines palliative care, as an active, multidisciplinary care with main aim to reduce pain and other pathological symptoms, patient’s social, psychological and spiritual support. It covers the patients, whose disease is incurable. Such care is able to improve quality of life of terminally ill patient and their family members.²

Oral pain and adverse symptoms must be also controlled during palliative care, because, adequate communication with patients makes easy to perform high quality palliative care.³ In this case preserving verbal communication and comfortable mouth is very important. Unfortunately studies about oral cavity complaints of palliative patients are very few,³ despite of the patients with chronic incurable diseases and oncological incurable patients first may have increased or exacerbated usual (also aging problems) oral problems, as a result of oncological disease itself or treatment related (pharmacotherapy, chemotherapy or radiotherapy).⁴ Preserving good oral condition makes patients able for normal food intake and communication that supports quality of life on possible high level.⁵

Aim of the study

Our aim was to review the literature about the oral cavity complaints of terminally ill patients undergoing the palliative care, and to separate disease related and treatment related conditions (symptoms).

Literature review confirms, that incurable cancer patients, undergoing the palliative care, have common, nearly same oral complaints, which are described in guidelines of European Association of Palliative Care and International Association for Hospice and Palliative Care.

These symptoms are: Dry mouth; Pain; Taste disturbance; Ulcerations; Oral infections; Denture fitting problems and others.⁶

But it is difficult to implement some strategy in practice because of the lack of noted guidelines and well-documented literature.⁷,⁸

Herewith this category of patients may have several complaints of oral cavity, but it is rare when the patient does not have any of them.⁹ Above mentioned oral symptoms can be caused by cancer (head and neck cancers) or by its treatment. According to studies of Andrew N. Davies et al. [10]...
Salivary gland dysfunction (SGD) can be:

- antiemetics, antiemetics, antidepressants and others
- the side effect of many drugs, which are used in daily practice of supportive or palliative care (for example, analgetics, xerostomia can lead to many other complications
- taste disturbance; also problems related with chewing and swallowing. Patients, receiving chemotherapy or radiotherapy are under the high risk of stomatitis (or any ulceration of mucosa layer). Oral mucositis is characterized by painful atrophic, erosive or ulcerative lesions that affect sleeping, eating, speech and psychological and social well-being. All these factors influence the quality of life.

Association between oral problems and their reasons are shown in Michael Wiseman’s (2006) studies. According to his research there are two main problems in oral cavity: xerostomia and pain. In both cases initial reason is chemotherapy or radiotherapy, after their effect ulcers, stomatitis, candidosis appear, and cause pain. Pain does not allow comfortable food intake that leads to dehydration and debilitation. Treatment methods also cause nausea and vomiting. If patient receives antiemetics, xerostomia occurs.

Depression is very common symptom among oncological patients. Receiving antidepressants causes xerostomia. Xerostomia itself leads to taste alteration which is also related with malnutrition. All these statements cause social isolation and decreasing the quality of life.

Saliva has very important defending function in oral cavity; its reduction is associated with the risk of oral complication.

**Xerostomia**

Xerostomia is the subjective sensation of dry mouth, which is related with dysfunction of salivary gland. Salivary glands dysfunction (SGD) is any alteration in qualitative or quantitative output of saliva. The prevalence of xerostomia is 22-26% in general population, whereas in palliative patients -78-82%. Salivary glands dysfunction is common in patients with chronic diseases.

As the saliva plays very important role in supporting oral health, xerostomia can lead to many other complications and can debilitate. There are many reasons of SGD and xerostomia in palliative patients with advance cancer, but medical treatment is the most common. Xerostomia is the side effect of many drugs, which are used in daily practice of supportive or palliative care (for example, analgetics, antiemetics, antidepressants and others).

Salivary gland dysfunction (SGD) can be:

- cancer related, for example, tumour infiltration, paraneoplastic syndrome;
- cancer treatment-related, for example, radiotherapy, graft-versus-host disease;
- other causes, for example, dehydration, malnutrition, anxiety, and depression;

Xerostomia can also occur as a result of changes in composition of saliva. It can be associated with local (oral) problems in the same way as with some general problems, which is decreasing the quality of life. According to the data-base of Andrew N. Davies et al., we can build the table of general symptoms of SGD (table 2).

**Taste alteration**

Taste disturbance occurs as a result of taste reduction (hypoguesia), as an absence of taste sensation (ageusia) or distortion of normal taste sensation (dysguesia). Prevalence of taste alteration among palliative patients is 44-50%, especially it is wide spread in patients with head and neck cancer undergoing the radiotherapy.

The reasons of taste disturbance: 1. Cancer related, for example, damage to taste buds, damage cranial nerves, damage to central nervous system (CNS); 2. Cancer treatment related, for example, local surgery, local radiotherapy, systemic chemotherapy; 3. Oral problems, for example, SGD, poor oral hygiene, oral infections; 4. Neurological problems, for example, damage cranial nerves, damage to CNS; 5. Metabolic problems, for example, malnutrition, zinc deficiency, renal dysfunction; 6. Miscellaneous, for example, ageing, menopause, drug treatment.

The patients can complain on any type of taste disturbance (for example, ageusia for all food), or combination of disturbance (ex., hypoguesia for one type of food and dysguesia for another type). Based on the some researches of palliative patients the prevalence of ageusia is 40%, hypoguesia – 31%, dysguesia – 53%. During dysguesia patients can report variety of different sensation disorder, but in every case food has very unpleasant taste. Taste alteration can lead to other physical, psychological and social problems that are related with low level of QL.

For example, taste disturbance can be associated with anorexia, malnutrition and weight loss.

**Oral infections**

Oral infections are very common among the palliative patients with advanced cancer. Mucosa ulceration is common component of the oral problems of palliative patients, that causes terrible pain and does not allow to maintain daily hygiene and nutrition; all these conditions are directly related with decreased quality of life. Some researches had proved the association between occurrence of oral candidosis and poor performance status. Oral candidosis is commensal infection and is considered as a “disease of the disease”. Some other researches show association of caries (20-35%) and gingivitis (36%) with oral infections. Simple herpes virus is also prevalent among the palliative patients with advance cancer.

Variety of fungi is reported as the reason of oral infections. Certain Candida species in oral cavity is considered as symbiotic organism. Yeast carriage of general population is 34%, for palliative patients with advance cancer it varies between 47 and 87%. Similar, oral candidosis is common among palliative patients undergoing the palliative care (8-83%).
Oral candidosis is common in immunosuppressed patients. As it is widely believed, systematic use of corticosteroids and antibiotics causes oral candidosis. But some research showed that there is no relation between systematic use of corticosteroids and antibiotics and oral candidosis. By the way, it is proved the association between local use of corticosteroids and antibiotics with oral candidosis.

Oral candidosis is most common in patients with SGD and the patient carrying dentures, especially with upper denture.

Oral candidosis has several clinical features, sometimes symptoms are preserved after treating: **Pseudomembranous candidosis** is very common. Generally, it’s asymptomatic. White spots and plaques on oral mucosa are characteristic for pseudomembranous candidosis, that can be easily removed.

**Erythematous candidosis** is also common in palliative patients. Patients often complain on local discomfort or pain. It always involves tongue and buccal mucosa, which is presented as inflamed mucosa.

**Denture stomatitis** is very often among the patients with oral candidosis. Some patients complain on palatinal pain and discomfort. It is characterized by the presence of variety of inflammation on the hard palate, confluent inflammation and areas of hypoplasia.

**Angular cheilitis** is more common among edentulous patients. Patients complain on localized discomfort and lesions may be bleeding. In this case both angles of mouth is involved, and presents cracking of mucosa and skin. Denture stomatitis is often associated with angular cheilitis.

Other types of oral candidosis, for example, rhomboid glossitis is very rare.

**Denture related problems**

Denture related problems are very common in palliative patients with advanced cancer. 45–86% of patients have subjective complains. Objective problems have 57–83% of patients. Common problem is poor fitting of denture (discomfort, ulceration, food getting under the denture). Denture related fungal infections are also common among the palliative patients (denture stomatitis, angular cheilitis). Prevalence of denture stomatitis is 12,5 %, angular cheilitis – 5%, both – 3,5%. All above mentioned diseases and problems have different reasons, which can be divided into 2 main groups: I. Direct effect of oncological disease; II. Indirect effect of treatment methods (chemotherapy, radiotherapy).

Thus, distinction of reasons and differential diagnosis of diseases are very important for choosing correct future treatment strategy.

**Conclusion**

Literature review proves that xerostomia, oral infections, taste alteration and other pathological conditions of oral cavity are very common in patients with advance cancer. They lead to malnutrition and communication disorder and with the accompanying pathological conditions decrease the quality of life. Accordingly, supporting oral health care is one of the main problems of palliative care. Although palliative care international guidelines note these problems and supply symptom control methods, we think that oral problems of palliative patients with advance cancer are not still assessed sufficiently. We assume so because there are no real researches defining the role of oral problems in decreasing quality of life of palliative patients. This condition is setting the pace for planning new researches and for improving the palliative care.

**Conflicting Interests**

The author(s) declared no potential conflicts of interest with respect to the authorship and/or publication of this article.

**Table 1. Reasons causing oral complications in patients with advance cancer.**

<table>
<thead>
<tr>
<th>Oral problems may be related to:</th>
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<tbody>
<tr>
<td>1. Direct (‘anatomical’) effect of the primary disease</td>
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<tr>
<td>2. Indirect (‘physiological’) effect of the primary disease</td>
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<tr>
<td>3. Treatment of the primary disease</td>
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<tr>
<td>4. Direct/indirect effect of a coexisting disease</td>
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<tr>
<td>5. Treatment of the coexisting disease</td>
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<td>6. Combinations of the above factors.</td>
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Table 2. Clinical features of SGD

<table>
<thead>
<tr>
<th>Problems:</th>
<th>Symptoms:</th>
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<tbody>
<tr>
<td>General problems</td>
<td>discomfort, lip discomfort, cracking of lips</td>
</tr>
<tr>
<td>Eating-related problems</td>
<td>anorexia, taste disturbance, difficulty chewing, difficulty swallowing, decreased intake of nutrition</td>
</tr>
<tr>
<td>Speech-related problems</td>
<td>difficulty of speaking</td>
</tr>
<tr>
<td>Oral hygiene</td>
<td>poor oral hygiene, halitosis</td>
</tr>
<tr>
<td>Oral infections</td>
<td>oral candidosis, dental caries, periodontal disease, salivary gland infections</td>
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<tr>
<td>Systemic infections</td>
<td>secondary to oral infection (e.g. pneumonia, sepsis)</td>
</tr>
<tr>
<td>Dental/denture prosthesis problems</td>
<td>dental erosion (leading to dental sensitivity/trauma to oral mucosa)</td>
</tr>
<tr>
<td>Psychosocial problems</td>
<td>embarrassment, anxiety, depression, social isolation</td>
</tr>
<tr>
<td>Miscellaneous problems</td>
<td>sleep disturbance, difficulty using oral transmucosal medication (i.e. sublingual/buccal medication), oesophagitis, urinary frequency (secondary to increased intake of fluid).</td>
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References