Dentist Role in Oral Treatment Before Head Neck Cancer Therapy

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Abstract

Background: Various intra-oral conditions can be found in patient prior the cancer treatment that might include lesions associated with decreased immunity, such as viral infections and fungal infections. Dentist has a significant role to prepare the oral cavity to be in the best possible condition, in order to minimize oral disturbance and complaints of cancer patients.

Objective: The purpose of this article is to review the importance of intra-oral treatment prior cancer therapy in patients with head and neck cancer.

Case Report: A 35-years-old male patient was referred from the ENT Department, Cipto Mangunkusumo Hospital with suspected Nasopharyngeal Carcinoma for investigating the intra oral focal infection sources. Intra oral examination revealed various focal infection sources and pseudomembranous candidiasis. The candidiasis was completely healed after antifungal medication.

Conclusion: Dentists’ role in preparing the oral condition prior cancer treatment is very important to reduce further oral complication. All oral lesions including fungal infection should be treated before the commencement of cancer treatment.

Keywords: cancer therapy, candidiasis, oral treatment

Introduction

Cancer is a condition in which the uncontrolled of tissue growth that result from an imbalance between cell division and apoptosis.1 Cancer can be experienced by nearly every complex multicellular organism. It involves in the process of disruption in proliferation, differentiation, senescence and apoptosis.2 Etiology of cancer vary, but a wide range of risk factors can be determined as of the food, the environment, tobacco and excessive alcohol consumption. Head and neck cancer (HANC) states the variation of tumors existing in the aero-digestive tract of the head and neck.3

Pretreatment oral evaluation is suggested for patients with cancer before the initiation of therapy. The aims of the evaluation are to eliminated oral disease that may get worse during cancer therapy, provide a baseline for assessment and sequelae monitoring of cancer therapy damage, detect metastatic lesions, and finally, is to minimize oral discomfort during cancer therapy.1

Dentist has an important role in the management of patient with cancer. The primary role is in early recognition of the disease. Moreover, the dentist is responsible for all fitness of oral cavity before, during and after cancer treatment is executed. A good oral health condition is very closely related with overall body, as it’s important role in the function of digestive. Healthy oral condition may also prevent the onset of psychological problems that may arise as a result of oral complications related to cancer therapy.

Objective

In this paper, we report a case of nasopharyngeal carcinoma patient who suffered from pseudomembranous candidiasis. We also discuss the intra-oral conditions can be found in patients with head and neck cancer and the role of dentists in the intra-oral treatment before the cancer therapy.

Case Report

A 35-years-old male patient was referred from Ear Nose Throat (ENT) Department with Nasopharyngeal carcinoma for investigating the intra oral focal infection
sources. There was a history of smoking since childhood and a history of drinking alcohol since 5 years ago. There were complaints numbness on the left cheek, somewhat diminished hearing, difficulty in swallowing and the clogged nose. In addition, the left eye looked swollen and the patient also admitted to have impair vision. The patient consumed 0.5 mg of oral corticosteroid 4 times daily which was given by neurology. Pathology examination of the cancer was resulting in the conclusion of Nasopharyngeal Carcinoma, not keratinized, undifferentiated, type A, with medium degree of malignancy.

Intra oral examination revealed poor oral hygiene condition, with gingival inflammation, tooth remnants on 28, 37, 36, dentinal caries on 26, 27, 38, 46, and some white patches with erythematous base in almost all oral mucosal surface (Figure 1). The patient was diagnosed to have Pseudomembranous candidiasis, with various focal infection sources such as chronic gingivitis and tooth radix on 28, 37, 36 and pulp hyperemia on 26, 27, 38, 46.

At the first visit, the patient was educated and instructed about the importance oral health and hygiene maintenance, especially since he would undergo cancer therapy. In order to eliminate all focal infection sources and to improve his oral condition, the patient was recommended to perform scaling and root planning, residual root extraction and also cavity filling, but these dental treatments could not be performed yet since the patient did not have complete blood count examination result yet. For the treatment of pseudomembranous candidiasis, Nystatin oral suspension was prescribed at a dose of 1 ml 4 times a day, to be swished and swallowed.

For the treatment of oral candidiasis, anti-fungal drug application can be considered. And In our case, the use of nystatin oral suspension brought a good result. Nystatin is a topical antifungal agent that work effectively for fungal infections.

The oral condition in the patient was not in good shape. Various focal infection sources can be found in his mouth, including gingival inflammation, tooth remnants and dental caries. Those conditions need to be restored prior the start of his cancer treatment. Oral pre-treatment of cancer therapies need to be done in order to prevent excessive pain during therapy, lowers the risk of infection and specially to prepare oral conditions in the best condition. Some possible complications that would be suffered by patients undergoing cancer therapy might include: mucositis, infections, xerostomia, changes in taste ability, and decreased ability of mastication. These complications can lead to a decrease in nutritional status of patients that may disrupt the success of cancer treatment. Eventually, these oral complications will also affect the total cost of the patient during cancer therapy. Therefore, it is very important to reduce the risk of oral complications during and after cancer therapy by performing the proper oral pretreatment.
In patients who suffered head and neck cancer, oral mucosal changes are frequently seen. It may be associated with the proximity location between the cancer and oral cavity, and related to decrease in the immune status of patients. These changes can also be caused by immunosuppressive condition (influence of drugs or disease), hypo salivation (influenced by drugs, disease or radiotherapy), damage to mucosal tissue of the mouth or mucositis (chemotherapy or radiotherapy induced). In addition, other more severe complications include radiation caries, trismus and osteoradionecrosis.

This case report shows the importance of dental examination prior head and neck cancer therapy. As dentist is a health practitioner who has high responsibility in oral health care, that include the head and neck cancer patients. There are three stages that should become the focus of the dentist in cancer patient, which are prior, during and after the cancer therapy.

The first stage is prior to cancer therapy. At this stage the condition of intra oral patients were evaluated to be prepared prior to cancer therapy. The required accuracy and appropriate decision making role in determining the focus of infection elimination action plan such as the handling of caries, periodontal treatment tooth extraction with poor prognosis. This action will eradicate possible infection sources that may disturb patient’s general health during cancer treatment. It must be ensured that the intra-oral condition is free from infection. The patient in this case showed the presence of dental infection and candida infection in oral mucosa. These are the infections focused to be eliminated by the dentist.

The second stage is during cancer therapy, when dentist may find patients with treatment complication that needs to be treated. During chemotherapy and radiotherapy, patients could experience various intra oral complications. Infections, oral ulcerations, dry mouth, and bleeding are the most common complication experienced by them. These complications may vary, depends on the type of therapy, bone marrow status and other toxicities, and on the acuteness and severity of the complications. During this stage, particularly in patients with advanced-stage malignancies, poorer oral hygiene is also common to find. These conditions should be informed to the patient and anticipated by the dentist. In this case, after the completion of dental treatment prior cancer therapy, the patient was encouraged to maintain the oral condition and should return if any oral complain exist. The dentist must educate the patient on the daily oral prophylaxis procedure and the side effect of therapy that might happen during the cancer treatment.

The third stage is after the cancer therapy. Some chronic effects of therapy can develop and relapse in patients. HANC patient who undergo head and neck radiotherapy might experience xerostomia due to radiation effect toward salivary glands. Should the damage continue to the gland parenchyma, these complications might last a lifetime. The condition could have an impact to the oral condition of the patient that eventually affect the patient’s quality of life. Dentist has a role in the maintenance of intra-oral condition after the completion of the cancer therapy. It is important for dental professionals to work in a team, together with other specialties.

Here is shown that dentists have a vital role, which should not be marginalized, in treating patients with cancer, particularly the HANC patient. The most important of dentist role begins before cancer treatment, but follow-ups should also be done during and after cancer treatment. These actions will eventually support the success of cancer therapy.

Conclusions

Dentists have a very important role in performing dental examination and treatments for patient who would undergo cancer treatments, as various oral conditions that can influence treatment successful might be seen. Ideally, dentists continue to be involved in all stages of cancer therapy, to ensure intra-oral condition of the patient is in good condition for intra oral health is associated with the patient's general health.

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References