Original Article

Chemotherapy-Associated Oral Sequelae in Patients With Cancers Outside the Head and Neck Region

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Abstract

Context. Chemotherapy induces a wide array of acute and late oral adverse effects that makes symptom alleviation and information important parts of patient care.

Objectives. To assess the prevalence and intensity of acute oral problems in outpatients receiving chemotherapy for cancers outside the head and neck region and to investigate if information about possible oral adverse effects was received by the patients.

Methods. In this cross-sectional study, outpatients aged 18 years or older were invited to participate and included if they fulfilled the inclusion criteria. All patients completed the Edmonton Symptom Assessment System, participated in a semistructured interview, and underwent an oral examination by a dentist.

Results. Of 226 eligible patients, 155 (69%) participated. Mean age was 57 years, and 34% were males. The most prevalent diagnoses were breast (45%) and gastrointestinal cancers (37%). Xerostomia was reported by 59%, taste changes by 62%, oral discomfort by 41%, and 27% had problems eating. Fatigue (3.4) and xerostomia (3.1) received the highest intensity scores on the Edmonton Symptom Assessment System. Oral candidiasis confirmed by positive cultures was seen in 10%. Twenty-seven percent confirmed that they had received information on oral adverse effects of cancer treatment.

Conclusion. Oral sequelae were frequently reported, and health care providers should be attentive to the presence and severity of these problems. Less than one-third of the patients remembered having received information about oral sequelae associated with chemotherapy. A continuous focus on how to diagnose, manage, and inform about oral cancer-related complications is advisable. J Pain Symptom Manage 2014;48:1060–1069. © *2014 American Academy of Hospice and Palliative Medicine. Published by Elsevier Inc. All rights reserved.*

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Neoplasms, drug therapy, oral health, health literacy, xerostomia, mucositis

Introduction

Modern antineoplastic therapy for cancers outside the head and neck area includes a wide spectrum of classic, novel, and targeted chemotherapeutic medications, all of which can be highly bioactive. These drugs have a broad spectrum of biological effects,[1] such as a suppressing effect of the bone marrow, the epithelium of the oral cavity, and the salivary glands.[1,2] In addition, antineoplastic therapy and medications used for symptom relief in cancer patients are known to have adverse effects that may severely impact oral health and well-being.[1–3] Many of these medications have no declaration of oral adverse effects in available registers.[3,4] A higher prevalence of caries has been reported in a study that compared patients who had received chemotherapy with patients who had been treated with radiotherapy or chemoradiotherapy.[5] However, this discrepancy was attributed to the differences between oral management regimens before radiotherapy and chemotherapy.[5]

Most studies focus on single oral complications of antineoplastic therapy such as salivary gland hypofunction (objectively measured reduction of salivary flow and/or altered saliva composition),[2,6] xerostomia (subjective feeling of dry mouth),[2,3,6,7] caries,[5] infections,[1,5,8–11] mucositis,[1,12] altered sense of taste and smell,[13] or bisphosphonate-related osteonecrosis of the jaws.[14] There have been reports that such problems often are inadequately addressed in clinical oncology settings.[10,15] These problems may lead to nutritional problems,[9,10] impaired social function, and reduced quality of life[1,10] and require close cooperation between medical and dental specialists regarding prevention, diagnosis, and management.

Oral complications related to the disease and/or the treatment of solid organ cancers outside the head and neck area are not well documented.[10] This may be a result of oral sequelae being underreported by patients and/or medical personnel.[4,10] Head and neck cancer patients often receive a standardized oral health regimen in Norway, but such regimens are seldom routine for patients treated for other cancer diagnoses. Furthermore, personnel with special training in oral or dental care are not routinely included in the hospital oncology teams in Norway.

The Edmonton Symptom Assessment System (ESAS) is designed for quantitative assessment of symptom intensity with minimal patient burden and is among the most frequently used symptom assessment tools in cancer research, clinical care, and palliative care.[16,17] The ESAS form used in this study was a modified Norwegian version frequently used in cancer hospitals in Norway at the time of the study to screen for cancer symptoms.[18] It differs from the original by including two additional items, one regarding pain during movement and one regarding xerostomia, but no open item.[18] A cutoff value of greater than 3 has been suggested to indicate symptoms calling for closer follow-up and perhaps tailored interventions.[19,20]

The primary aim of this study was to assess self-reported and clinically manifest oral health problems during antineoplastic treatment in patients treated for solid organ cancers outside the head and neck region by means of the ESAS, a semistructured interview, and an oral examination performed by a dentist. Our secondary aim was to assess whether information regarding oral complications before or during treatment was received by the patients.

Methods

Study Design

This cross-sectional descriptive study was conducted at the Cancer Center, Oslo University Hospital, Ullevål, Norway, from February 2005 to April 2007. Eligible patients were approached by one of three attending dentists in the outpatient unit and invited to participate on one of the days they were scheduled to receive a chemotherapy cycle as part of their overall chemotherapeutic treatment. Three main elements were included in the study design: 1) patients completed the modified Norwegian version of the ESAS, 2) a