The Effects of Mucositis on Quality of Life in Patients With Head and Neck Cancer

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A search of the literature from 1993–2005 revealed four articles on quality-of-life issues for patients with head and neck cancer who develop mucositis. This article reviews four views on quality-of-life issues for patients who receive cancer treatments and develop mucositis. Small samples were utilized in each of the reviewed articles; however, because of the studies’ qualitative designs, researchers concluded that quality-of-life issues exist among patients with head and neck cancer who are undergoing radiation and chemotherapy. Nurses play a significant role in assisting patients to tolerate their treatments. Further research is necessary to develop effective nursing interventions to improve quality of life for patients who develop mucositis while undergoing chemotherapy and radiation therapy.

When cancer therapies lead to mucositis in patients, assessment and management of side effects are crucial (McGuire et al., 1998). Patients experiencing mucositis have an altered quality of life as a result of pain and an inability to chew and swallow (Larsson, Hedelin, & Athlin, 2003). The purpose of this article is to deepen the understanding of quality-of-life issues in patients with mucositis. Although some of the side effects are inevitable, nurses can employ several strategies to facilitate patient comfort.

Mucositis was defined by Sonis (1993) as inflammation of the mucous membranes. Oral mucosal cells, which replicate quickly, are affected early in chemotherapy or radiotherapy treatments. Moreover, as cell replication becomes inhibited by chemotherapy and radiation therapy, the oral mucosa becomes thin and inflamed, resulting in mucositis (Coleman, 1995). Therefore, mucositis can be understood as the inflammatory reaction and ulcerative lesions of the mouth and oropharynx that occur secondary to radiotherapy and certain chemotherapy agents (Shih, Miaskowski, Dodd, Stotts, & MacPhail, 2003). Tissue destruction and functional alterations in the oral cavity are inevitable outcomes of radiotherapy in patients with head and neck cancer (Shih et al.).

Some literature suggests that patients undergoing treatment for head and neck cancer experience decreased quality of life. Quality of life means different things to different patients. For the purpose of this article, the definition of quality of life is the overall status of a combination of factors: a person’s health, symptoms, and level of physical and social functioning. If an illness and its treatment have a negative impact on a person’s sense of well-being and ability to perform daily activities, then quality of life may be poor (CV Therapeutics, Inc., 2005).

Patients with head and neck cancer may have difficulty chewing, swallowing, eating, drinking, and talking because of pain and inflammation of the oral mucosa and esophagus (Cawley & Benson, 2005). If untreated, the debilitating symptoms cause alterations in nutrition, which, if severe enough, can lead to interruptions in treatment. Relief of symptoms is extremely important to patients. By continually assessing patient coping factors and symptoms as well as educating patients about preventing mucositis, nurses can forestall many significant complications (Dahlin, 2004).

At a Glance

✦ Patients undergoing radiotherapy for head and neck cancer experience debilitating symptoms such as mucositis, pain, inability to swallow, and difficulty talking; these factors alter patients’ quality of life to varying degrees.
✦ Teaching about possible side effects, providing emotional support, and being available are comforting to patients.
✦ Continuing support from nurses after therapy is completed is important to patients.

Background and Significance

According to the American Cancer Society (2005), an estimated 29,370 new cases of head and neck cancer were diagnosed in 2005, an increase from 28,260 cases in 2004. Seventy-five
percent of patients receiving radiation and chemotherapy will experience some form of side effects (Larsson et al., 2003; McGuire et al., 1998; Rose-Ped et al., 2002). Mucositis in particular causes severe toxicities in the oral cavity, such as pain, dysphagia, and oral lesions (Sonis, 2004). Isolation, fear, depression, and anxiety also can occur (Kwong, 2004).

Many patients with head and neck cancer experience altered nutritional status (Rose-Ped et al., 2002). Good nutritional status is important for patients undergoing treatment for cancer, and, if treatment must be withheld or discontinued because of excessive weight loss, the possibility of cure for patients can be diminished (Shih et al., 2003). In many cultures, eating is considered a social activity, and, if a patient is unable to participate at mealtime, quality of life can be decreased (Dahlin, 2004). If patients must depend on others for special meal preparations and frequent feedings during cancer treatment regimens, patients may withdraw and avoid mealtimes, further complicating nutritional status (Gaziano, 2002). According to Gaziano, poor nutritional status can become a financial burden for patients if they need special assistance or feeding because they are unable to maintain an appropriate caloric intake on their own.

Because no curative treatment is available, the goal of therapy for mucositis is to eliminate or reduce as many symptoms as possible. One of the most effective methods of symptom reduction is patient education. Instructing patients to continue with any therapies to treat the symptoms of mucositis to prevent treatment interruption will enable maximum relief.

### Literature Review

The purpose of the literature review was to better understand the quality-of-life limitations for patients who receive treatment for head and neck cancer and develop mucositis. Patients with head and neck cancer who develop mucositis experience symptoms that diminish quality of life. The literature search revealed evidence-based strategies for patient education and nursing care for patients with mucositis. To obtain current, relevant research literature, a computer search of the Ovid, Cumulative Index to Nursing and Allied Health Literature®, and Elsevier databases was performed. The inclusive key words used for the search included “head and neck cancers,” “mucositis,” and “quality of life.” Four studies matching the key words were reviewed.

Borbasi et al. (2002) studied six patients, four women and two men, undergoing stem cell transplantation and receiving high-dose chemotherapy in a metropolitan teaching hospital. Participants were 38–63 years of age. The researchers theorized based on a literature review that early intervention was crucial for preventing more severe mucositis complications for the patients. Therefore, each patient was placed on a standardized mouth-care protocol that included gentle cleaning and antifungal treatment to prevent oral candida.

Phenomenology was used as a method for Borbasi et al.’s (2002) research. Phenomenology explores the way people feel about an issue and provides an understanding of what the experience is like for patients. Researchers explored patients’ experiences of oral mucositis. Interviews were conducted with patients initially, on a weekly basis for four weeks, and at weeks eight and twelve or when symptoms subsided. Interviews were audiotaped and transcribed; however, as a result of unforeseen circumstances, such as severe pain and death in three instances, interview appointments were not always kept. In addition, each participant was asked to keep a diary, but few were able to complete the task. Inability to appear for interviews or keep diaries did not eliminate patients from the study because the researchers were able to accommodate patients and wait until they were able to appear.

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Patients who were interviewed described the symptoms of mucositis as razor blades in the mouth, a ring around the throat that prevented swallowing, and a lump stuck in the throat. One patient said, “Eating plays a big part in our lives, and you do not realize this until you can’t do it” (Borbasi et al., 2002, p. 1055). Responses to interview questions were similar in that mucositis played a crucial role in how patients proceeded with activities of daily life.

Patients described the importance of nursing care and support, whether in teaching, emotional support, or nurses simply being present. Although patients undergoing treatment for head and neck cancer in the Borbasi et al. (2002) study described altered quality of life, some of the effects can be minimized through appropriate nursing interventions.

Rose-Ped et al. (2002) sought to understand the lived experience of patients undergoing radiotherapy for head and neck cancer and the impact of the treatments on quality of life. A total of 33 patients 35–77 years of age were interviewed. The purpose of the study was to assist healthcare professionals with understanding the most important issues that patients experience during radiotherapy. Nurses and physicians referred patients who had undergone radiation therapy previously from January 1997 to October 1998 (Rose-Ped et al.). Patients were interviewed for approximately 45 minutes and asked questions about their treatment, such as which side effects were the most debilitating and what kinds of support they received during treatment. The researchers determined that few appropriate assessment tools existed to adequately evaluate the degree of mucositis in patients with cancer undergoing radiation therapy. The inability to adequately evaluate mucositis affected patients’ quality of life. According to patients’ interview data, their most “unbearable” symptoms included fatigue, pain, dry mouth, mucositis, and sore throat. The interviews indicated that mucositis and the accompanying pain and fatigue reduce quality of life. Participant comments focused on feeling unable to complete tasks of daily living, be with family and friends, and participate in other pleasurable aspects of daily life.
In Rose-Ped et al.’s (2002) study, patients indicated that mucositis as a side effect of radiation therapy diminished quality of life. Some of the participants reported feelings of sadness because they were unable to participate in social activities with friends as a result of difficulty eating and fatigue. Patients stated that they often were depressed because of feelings of isolation as well as the pain and discomfort that were constant in their lives. Rose-Ped et al. found that more aggressive treatment for oral mucositis and a better understanding of patients’ perceptions of side effects from treatment are important.

Larsson et al. (2003) used a phenomenologic approach to better understand the impact of mucositis on quality of life during treatment for cancer because the approach would allow for a “rich description” of what patients experienced during radiation treatment. The study was conducted in Sweden on patients receiving radiation to one of two body sites. Eight patients were questioned in an open dialogue format in an attempt to understand the meaning of mucositis for each (Larsson et al.). The interviews were recorded and transcribed. Questions focused on how radiation affected the daily lives of participants and how they coped with debilitating side effects. The side effects that were most troublesome for patients were pain, dry mouth, and eating problems, which ultimately caused nutritional deficits (Larsson et al.). Patients described the effects of the treatment on quality of life. As radiation doses increased, difficulty eating became the worst side effect patients reported. Nurses should be aware of the difficulty in eating that patients experience after radiotherapy and assist patients with choosing appropriate foods and managing pain to make chewing and swallowing easier.

Wells (1998) studied side effects that are not detectable on physical assessment, such as pain, dysphasia, and a sense of isolation that some patients experience during radiotherapy. The qualitative study interviewed 12 patients in Scotland who had completed treatment for head and neck cancer.

Patients were asked to keep a journal of their experiences during radiation therapy. Interviews were conducted one month after radiation therapy in an attempt to find the “hidden experience” of the patient, meaning information obtained from patient interviews regarding coping methods of patients with mucositis (Wells, 1998). Some of the questions elicited emotional and physical perceptions of patients during and after treatment. Commonalities in participant journals included bothersome symptoms such as pain, fatigue, dry mouth, difficulty swallowing, skin reactions, and insomnia (Wells).

Results of the Wells (1998) study demonstrated that mucositis has an overwhelming impact on patients’ quality of life during and after radiation therapy. Patients noted that they experienced increased fatigue and pain and greater difficulty eating after therapy, which were attributed to a lack of continuing support from nurses, physicians, and therapy staff.

**Discussion**

Clearly, effects of radiation therapy in patients with head and neck cancer alter quality of life. Oral mucositis and pain in the mouth and throat were the most common complaints expressed by patients and had the greatest effect on quality of life. Pain and difficulty eating and swallowing were detrimental physically and emotionally to patients undergoing treatment for head and neck cancer. Whether the treatment included chemotherapy, radiation therapy, surgery, or a combination, the side effects of treatment were debilitating to patients.

Although patients were interviewed at different times during their treatment, results were similar: Quality of life is affected by mucositis in several ways. Pain, inability to eat and swallow, weight loss, and fatigue commonly were described (Rose-Ped et al., 2002). Borbasi et al. (2002) found the psychological effects of mucositis to be “overwhelming” to patients because they interpreted the inability to eat as an impediment to recovery. On the other hand, Wells (1998) found that patients accepted the pain and suffering resulting from side effects of treatment as part of the cure process. Patients assumed that side effects and reduced quality of life were a necessary part of the healing process.

Nurses were described by patients as being very influential. From patient education to emotional support, nurses had a positive and encouraging effect on patients. Patients who were prepared for potential side effects were enabled to better tolerate treatment (Borbasi et al., 2002). Nursing assessment, management, and teaching played an important role in how patients perceived side effects. Patient education and understanding of potential side effects and how to treat them seem to create a more positive patient perspective regardless of the stage of mucositis (Rose-Ped et al., 2002). By establishing continuity for patients during and after treatment, nurses were able to help decrease anxiety and provide much-needed support (Larsson et al., 2003).

**Implications for Nursing**

Little research was available regarding patients’ perceptions of the effects of mucositis on quality of life after treatment for head and neck cancer. What is known from the available research is that treatments should be individualized for patients to minimize the effects of mucositis. Frequent assessment, including review of patient perceptions and feelings, is effective in eliciting concerns. Identifying the coping mechanisms used by patients with mucositis is important because it assists nurses in understanding what patients are feeling, how patients are adapting to the discomfort of mucositis, and which nursing interventions are most effective for each individual.

Nurses’ presence and provision of interventions for patients with mucositis played an integral role in their recovery and promoted improved outcomes. More research is needed to determine how patients react to the side effects of mucositis following radiation therapy and how nursing management of the side effects influences patients’ perceptions of quality of life. Findings of these studies should influence the support nurses give to patients following cancer treatments to minimize side effects from therapies and improve quality of life. Effective management of mucositis has been identified as a major determinant of successful recovery from head and neck cancer and its treatment (Sonis, 2004). Nurses have an important role to play in providing patients with needed support and education during this stressful time.

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References


