

# Role of Gabapentin in Managing Mucositis Pain in Patients Undergoing Radiation Therapy to the Head and Neck

Carol Ann Milazzo-Kiedaisch, MSN, APRN, NP-C, Joanne Itano, RN, PhD, APRN, and Pinaki R. Dutta, MD, PhD



© Mark Kostich/Stock/Thinkstock

**Background:** Oral mucositis (OM) is a painful and debilitating side effect that affects 80%–100% of patients undergoing radiation therapy for head and neck cancer. This dose-limiting side effect may potentially lead to pain, dehydration, malnutrition, infection, and treatment breaks. Treatment breaks can lead to decreased disease control and suboptimal patient outcomes. No primary prevention exists for OM, and management is focused on pain control. Compelling evidence exists that OM pain has somatic and neuropathic components.

**Objectives:** This article reviews the existing literature on the use of gabapentin (Neurontin®) as a co-analgesic in treating the neuropathic pain in OM.

**Methods:** A literature search was performed using CINAHL® and PubMed with the search terms *gabapentin* and *oral mucositis*. The selected articles were briefly screened for relevance, and three were included in this review.

**Findings:** No systematic reviews exist on the role of gabapentin for neuropathic pain in radiation-induced OM. Two retrospective studies concluded that gabapentin reduced escalation of opioid doses and unplanned treatment breaks. One retrospective study demonstrated favorable swallowing outcomes. Pain and OM are nursing-sensitive outcomes that can be significantly affected by evidence-based nursing interventions.

Carol Ann Milazzo-Kiedaisch, MSN, APRN, NP-C, is a nurse practitioner at Memorial Sloan Kettering Cancer Center in New York, NY; Joanne Itano, RN, PhD, APRN, is the associate vice president for Academic Affairs and an associate professor in the School of Nursing and Dental Hygiene at the University of Hawaii in Manoa; and Pinaki R. Dutta, MD, PhD, is an assistant attending physician at Memorial Sloan Kettering Cancer Center. The authors take full responsibility for the content of the article. The authors were participants in the *Clinical Journal of Oncology Nursing (CJON)* Writing Mentorship Program. The content of this article has been reviewed by independent peer reviewers to ensure that it is balanced, objective, and free from commercial bias. No financial relationships relevant to the content of this article have been disclosed by the authors, independent peer reviewers, or editorial staff. Mention of specific products and opinions related to those products do not indicate or imply endorsement by *CJON* or the Oncology Nursing Society. Milazzo-Kiedaisch can be reached at milazzoc@mskcc.org, with copy to editor at CJONEditor@ons.org. (Submitted December 2015. Revision submitted February 2016. Accepted for publication March 10, 2016.)

**Key words:** neuropathic pain; head and neck cancer; radiation therapy; radiation-induced oral mucositis; gabapentin; pain

Digital Object Identifier: 10.1188/16.CJON.623-628

Cancers of the head and neck involve several site-specific anatomic areas. These areas include the oral cavity, pharynx (including the nasopharynx, oropharynx, and hypopharynx), larynx, nasal cavity, paranasal sinuses, and salivary glands (National Cancer Institute, 2015) (see Figure 1). Primary management of head and neck cancer may include surgery, radiation therapy (RT), chemotherapy, or a combination. Treatment plans are based on several factors, including the stage of the cancer at diagnosis, location of the tumor, general health status, and presence of comorbidities. RT alone or in combination with chemotherapy or targeted therapies has become accepted standard care for locally advanced head and neck cancer (Pignon, le Maître, & Bourhis, 2007;

Takes et al., 2012). Chemotherapy and targeted therapies, like cetuximab (Erbix®), act as radiosensitizers to cancerous cells and achieve increased cell kill and ideally improve local tumor control (Lambertz et al., 2010; Takes et al., 2012). Patients with locally advanced head and neck cancer treated with chemotherapy and RT have been found to have an absolute survival benefit of 7% at five years when compared to patients who received RT alone (Takes et al., 2012). However, concurrent treatment with chemotherapy and RT increases the incidence and severity of oral mucositis (OM) as much as 100% (Eilers, Harris, Henry, & Johnson, 2014). OM in patients with head and neck cancer undergoing RT with or without chemotherapy has been reported by patients as the most distressing symptom in the treatment course (Eilers &