Online Exclusive

Managing Stomatitis in Patients Treated With Mammalian Target of Rapamycin Inhibitors

Amy Potter Pilotte, NP, Melissa Beth Hohos, RN, BSN, OCN®, Kathleen M.O. Polson, NP, Tarsha Marie Huftalen, RN, BSN, and Nathaniel Treister, DMD, DMSc

Mammalian target of rapamycin (mTOR) inhibitors are a class of targeted cancer therapeutic agents with clinical benefit for multiple tumor types. Oral ulcerations are a common side effect of mTOR inhibitors; however, the clinical findings resemble aphthous stomatitis rather than the mucositis seen with chemotherapy. Consequently, the appearance of aphthous-like oral ulcerations has been referred to as mTOR inhibitor-associated stomatitis (mIAS). The severity of mIAS can be minimized by following common preventive steps and initiating treatment at the first sign of mouth discomfort, thereby reducing the likelihood of treatment discontinuation. mIAS can be managed through prophylactic measures, such as patient education in oral hygiene and avoidance of triggers. Patients who develop mIAS may be treated topically using rinses or other local therapies, including corticosteroids. In severe cases, dose modifications may be required. Oncology nurses have an important role in the management of patients with cancer and are well positioned to offer strategies for minimizing the occurrence and impact of mIAS.

Mammalian target of rapamycin (mTOR) inhibitors, a drug class used for its immunosuppressive effects in the prevention of transplantation rejection, have emerged as key components of cancer therapy (Sankhala et al., 2009; Saunders, Metcalfe, & Nicholson, 2001). Although generally well tolerated by patients with cancer, mouth ulcers or mucositis or stomatitis are the most common dose-limiting toxicities (DLTs) of these agents (Fasolo & Sessa, 2008; Hidalgo et al., 2006; Mita, Britten, et al., 2008; Mita, Mita, et al., 2008; Raymond et al., 2004; Tabernero et al., 2008; Vignot, Faivre, Aguirre, & Raymond, 2005). Mucositis is a common side effect of cancer

At a Glance

- Stomatitis commonly occurs during treatment with mammalian target of rapamycin (mTOR) inhibitors; the ulcers resemble canker sores rather than chemotherapy-induced mucositis.
- Steps that may be taken to minimize mTOR inhibitor-associated stomatitis (mIAS) include good oral hygiene; avoiding spicy, acidic, hard, and hot foods and beverages; using mildly flavored toothpaste; and cleansing with baking soda rinses.
- Treatment of mIAS may include specific medications, palliative interventions, and dose modifications.

Amy Potter Pilotte, NP, is a nurse practitioner in the Center for Sarcoma and Bone Oncology at Dana-Farber Cancer Institute in Boston, MA; Melissa Beth Hohos, RN, BSN, OCN®, is a clinical nurse in the Hudner Oncology Program at St. Anne's Hospital in Fall River, MA; Kathleen M.O. Polson, NP, is a nurse practitioner in Sarcoma and Bone Oncology, and Tarsha Marie Huftalen, RN, BSN, is a clinical research nurse in the Early Drug Development Center, both at Dana-Farber Cancer Institute; and Nathaniel Treister, DMD, DMSc, is an associate surgeon in the Division of Oral Medicine and Dentistry at Brigham and Women's Hospital, and in the Department of Oral Medicine, Infection, and Immunity at Harvard School of Dental Medicine, both in Boston, MA. The authors thank Kakuri Omari, PhD, of Integrus Scientific, supported by Merck & Co., Inc., for medical writing support. The authors were fully responsible for all content and editorial decisions and received no financial support or other compensation related to the development of the article. 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 independent peer reviewers or editorial staff. Mention of specific products and opinions related to those products do not indicate or imply endorsement by the *Clinical Journal of Oncology Nursing* or the Oncology Nursing Society. (Submitted February 2011. Accepted for publication March 26, 2011.)

Digital Object Identifier: 10.1188/11.CJON.E83-E89