Article

Stomatitis Associated With Use of mTOR Inhibitors: Implications for Patients With Invasive Breast Cancer

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Background: The mammalian target of rapamycin (mTOR) inhibitor everolimus is approved (in combination with exemestane) for the treatment of postmenopausal women with advanced hormone receptor–positive, human epidermal growth factor receptor 2–negative breast cancer resistant to endocrine therapy. Stomatitis is among the most frequently reported dose-limiting adverse events associated with everolimus use, often requiring treatment interruption or dose reduction.

Objectives: This article aims to educate nurses on the identification and management of stomatitis associated with mTOR inhibitors in hormone receptor–positive advanced breast cancer and to assist nurses with additional management techniques to improve patient outcomes.

Methods: An evaluation of the literature highlighting the incidence, identification, and management of stomatitis in cancer was performed with a particular focus on breast cancer. In addition, the experiences of the authors' cancer center on managing stomatitis are described.

Findings: A growing body of clinical evidence shows the benefits of adding steroid-based mouth rinses to the treatment plan. Clinical experience provides additional insight into stomatitis preventive and management strategies for patients with breast cancer receiving treatment with everolimus.

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The place for targeted agents in treating cancer, including breast cancer, continues to evolve. Ensuring the safe use of targeted therapies is a critical aspect of treatment plans. Everolimus, an oral mammalian target of rapamycin (mTOR) inhibitor, has shown efficacy in combination with tamoxifen (Bachelot et al., 2012) or exemestane (Baselga et al., 2012) in postmenopausal women with advanced breast cancer resistant to endocrine therapy. Everolimus has been approved by the U.S. Food and Drug Administration (FDA) for the treatment of postmenopausal women with advanced hormone receptor–positive (HR^+), human epidermal growth factor receptor 2–negative ($HER2^-$) breast cancer in combination with exemestane after ineffective treatment with letrozole or anastrozole (Novartis Pharmaceuticals Corporation, 2015). Healthcare professionals, patients, and caregivers should be aware of safety concerns associated with mTOR inhibitors. Vigilance, preventive measures, and management of potential everolimus-associated adverse events (AEs) are essential elements of care. Oncology nurses play a vital role in meeting this important need.

Stomatitis is among the most frequently observed dose-limiting toxicities associated with mTOR inhibitors, often requiring dose interruption or reduction (de Oliveira et al., 2011; Martins et al., 2013; Rugo et al., 2014). Stomatitis occurs in as many as 79% of patients across everolimus-approved indications (Bachelot et al., 2012; Baselga et al., 2009; Bissler et al., 2013; Franz et al., 2013; Krueger et al., 2010; Motzer et al., 2010, 2014; Pavel et al., 2011;