

# Prevention of Stomatitis

## Using dexamethasone-based mouthwash to inhibit everolimus-related stomatitis

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**BACKGROUND:** A common class-specific toxicity of mammalian target of rapamycin (mTOR) inhibitors is stomatitis. Some patients experience a severe form of mTOR inhibitor-associated stomatitis (mIAS) that can have a negative effect on nutritional status, compromise quality of life, and potentially lead to nonadherence, reducing the efficacy of cancer therapy.

**OBJECTIVES:** This article aims to address an unmet need for education about mIAS among oncology nurses and patients and to share findings about everolimus-related stomatitis from the SWISH trial.

**METHODS:** The authors reviewed the literature on mIAS and selected a case series of experiences to illustrate successes and clinical challenges that an oncology nurse might encounter when caring for patients with advanced breast cancer who may develop everolimus-related stomatitis.

**FINDINGS:** Recommendations are provided for oncology nurses to educate patients on prevention, early detection, monitoring, and management strategies to mitigate the incidence and severity of everolimus-related stomatitis.

### KEYWORDS

breast cancer; everolimus; stomatitis; prevention; mouthwash; corticosteroid

### DIGITAL OBJECT IDENTIFIER

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**MAMMALIAN TARGET OF RAPAMYCIN (mTOR) INHIBITORS** are approved for cancer treatment, including for advanced breast cancer. Class-specific adverse events (AEs) associated with mTOR inhibitors include rash, noninfectious pneumonitis, hyperglycemia, hyperlipidemia, and fatigue (Aapro et al., 2014; Rugo et al., 2014). One of the most common class-specific AEs of mTOR inhibitors is stomatitis, also referred to as mTOR inhibitor-associated stomatitis (mIAS). Among patients taking everolimus (an mTOR inhibitor) who experience mIAS, the majority report mild to moderate mIAS, with a median onset of 10 days after initiating everolimus therapy (Rugo et al., 2014; Yardley, 2014). However, a subset of patients experience severe pain and prolonged duration of mIAS that can interfere with speaking, compromise nutrition and quality of life, and potentially lead to treatment nonadherence, reducing the efficacy of cancer therapy (Boers-Doets et al., 2013; Divers & O'Shaughnessy, 2015; Meiller, Varlotta, & Weikel, 2015; Pilotte, Hohos, Polson, Huftalen, & Treister, 2011). mIAS is one of the most commonly reported AEs of everolimus in patients with advanced breast cancer. In the phase 3 BOLERO-2 trial, which evaluated the efficacy and safety of everolimus in patients with hormone receptor-positive (HR+), human epidermal growth factor receptor-negative (HER2-) advanced breast cancer, the incidence of all-grade mIAS was 67%, grade 2 or greater was 33%, and grade 3 was 8%, with a median follow-up of 18 months (Rugo et al., 2014). In a meta-analysis of phase 3 trials of solid tumors, including breast cancer, 89% of first mIAS events occurred within eight weeks of initiating everolimus therapy (Rugo, 2016). No guidelines exist to identify patients at higher risk of developing mIAS. In addition, a need for education about mIAS to better manage its effects on patients remains (Pilotte et al., 2011; Staves & Ramchandran, 2017).

Oncology nurses can play a vital role in educating patients to monitor and promptly report the signs and symptoms of mIAS, discussing preventive and therapeutic strategies to reduce the incidence, severity, and duration of mIAS, and ultimately improving clinical benefits to patients (Boers-Doets et al., 2013; Chia et al., 2015; Divers & O'Shaughnessy, 2015; Peterson, 2013; Pilotte et al., 2011). Raising awareness of mIAS enables nurses to play an expanded role in educating and empowering patients to mitigate this manageable AE on several fronts.