

Clinical Characteristics of Children and Adolescents Undergoing Hematopoietic Cell Transplantation Who Develop Oral Mucositis

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OBJECTIVES: To describe the clinical characteristics of children and adolescents undergoing hematopoietic cell transplantation (HCT) who develop oral mucositis.

SAMPLE & SETTING: 45 patients who underwent HCT from July 2015 to May 2016 at St. Jude Children's Research Hospital in Memphis, Tennessee.

METHODS & VARIABLES: Clinical factors were described as transplantation type, mucositis severity or grade, mucositis duration, days to engraftment, total parenteral nutrition (TPN) support, IV opioid pain management use during mucositis, positive blood or oral cultures, and length of hospitalization, then compared across mucositis grade.

RESULTS: 24 patients had grade 3 or greater mucositis onset from day -3 to day 9 of transplantation; of these, 23 required IV opioid medication to treat mucosal pain. Patients with mucositis grade 3 or greater were more likely to have undergone an allogeneic transplantation, receive TPN, have documented positive blood or oral cultures, and have longer hospitalizations than those with low-grade mucositis.

IMPLICATIONS FOR NURSING: Nurses are in a unique position to propose and administer interventions to prevent and alleviate symptoms of mucositis.

KEYWORDS children and adolescents; hematopoietic cell transplantation; oral mucositis

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Oral mucositis is an inflammation of the oral mucosa developing from a breakdown in the mucosal tissue; this breakdown leaves it open to ulceration and infection. Signs of mucositis include erythema, painful mucous membranes, taste alterations, mouth dryness, ulcerations, and bleeding. The pain associated with mucositis can lead to difficulty talking and swallowing, ultimately affecting oral intake. Many patients experiencing oral mucositis pain require opioids, and, in the event of poor intake or malnutrition, total parenteral nutrition (TPN) is required. Oral mucositis has been reported as the single most debilitating side effect in patients undergoing hematopoietic cell transplantation (HCT) (Bellm, Epstein, Rose-Ped, Martin, & Fuchs, 2000), causing life-threatening complications and, ultimately, leading to an increase in days of hospitalization and overall cost of treatment (Sonis et al., 2001).

Children and adolescents receiving myeloablative high-dose chemotherapy preparation for HCT are at risk for oral mucositis. Soto et al. (2015) reported that the incidence of oral mucositis in predominately adult patients undergoing HCT ranges from 76%–89%, but they stated that cross-study comparisons can be difficult because of individual differences, such as age, diagnoses, and treatment protocol. Bardellini et al. (2013) performed a retrospective study of 55 medical records of children aged 2 months to 12 years with primary immunodeficiencies who underwent HCT. Oral mucositis developed in 42 patients, with 7 patients developing grade 3 mucositis. The duration of the mucositis was less than 15 days in 21 cases, 15–36 days in 20 cases, and more than 36 days in one case. Bardellini et al. (2013) also found that an increase in