

## Introduction:

Beta Thalassemia is a common hereditary hematologic disorder of which ineffective erythropoiesis is the primary concern. Patients with Beta Thalassemia Major are dependent on lifelong blood transfusions which compensate for anemia and increase survival. Bone marrow transplant (BMT) is the only curative treatment for Beta Thalassemia. Immunosuppressive conditioning used to prevent rejection of BMT can lead to a range of acute and long-term side effects that can negatively impact oral health. Common complications include oral mucositis, opportunistic infections, and graft-versus-host disease (GVHD), often with altered clinical presentations due to significant neutropenia. Effective prevention and management of these complications require a coordinated multidisciplinary approach.

## Case Report:

A 9-year-old male with Beta Thalassemia Major underwent curative bone marrow transplant with a matched sibling donor at Children's Wisconsin due to iron overload from chronic transfusions. Pre-transplant dental evaluation showed good dentition but poor oral hygiene with subgingival calculus; dental prophylaxis with scaling was completed. Pre-transplant management also include peri-transplant systemic prophylaxis (antiviral, antifungal, antibacterial). One month post-transplant, he developed rapidly worsening oral pain, bleeding, and non-healing lesions. Initially resembling mucositis, lesions progressed within 24 hours to widespread erythematous and erosive involvement of gingiva, lips, and palate, with fever of unknown origin and poor pain control despite opioids and adjunct supportive therapy. Differential diagnosis included mucositis, GVHD, herpes simplex virus (HSV) infection, fungal infection, and acute necrotizing ulcerative gingivitis (ANUG). Workup showed negative fungal culture, positive HSV-1 from lip lesions, positive cytomegalovirus (CMV) history, and low risk for GVHD confirmed with cytokine testing.

### Initial Presentation 08/06/2025



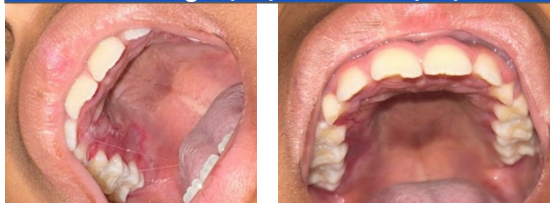
### Progress Photos from 08/07/2025



### 08/08/2025



### Initial Healing 08/11/2025 and 08/14/2025



## Objectives:

- To report the clinical progression of immunosuppressive therapy complicated by oral mucositis, CMV, and HSV
- To highlight the importance of multi-disciplinary collaboration in management of complex oral lesions

## Management:

A multidisciplinary discussion was held among the dental team, infectious disease specialists, and hematology. The following medication regimen was recommended:

- Piperacillin/tazobactam (Zosyn) 100mg/kg every 8 hours (for concern of ANUG)
- Foscarnet therapy (for concern of HSV and CMV)
- Nystatin oral rinse (prophylactic)
- Chlorhexidine mouthrinse daily
- Saline rinse daily

## Conclusions:

Following initiation of the broad-spectrum regimen, the patient showed rapid clinical improvement, including resolution of fever, improved pain control, and gradual return to oral intake within the first week. With continued de-escalation of supportive therapies, complete healing of oral lesions was achieved by twenty days after the initial dental consultation. The rapid progression and atypical presentation emphasize the diagnostic complexity in immunocompromised post-transplant patients. Successful resolution was achieved through close multispecialty coordination, which enabled timely identification and targeted management of the underlying etiologies.

## References:

American Academy of Pediatric Dentistry. Dental management of pediatric patients receiving immunosuppressive therapy and/ or head and neck radiation. The Reference Manual of Pediatric Dentistry. Chicago, IL: American Academy of Pediatric Dentistry; 2025:571-9.

Ali S, Mumtaz S, Shakir HA, Khan M, Tahir HM, Mumtaz S, Mughal TA, Hassan A, Kazmi SAR, Sadia, Irfan M, Khan MA. Current status of beta-thalassemia and its treatment strategies. Mol Genet Genomic Med. 2021 Dec;9(12)