

Dental Treatment of a Child with Chronic Graft vs Host Disease

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Introduction

Hematopoietic stem cell transplantation (HSCT) is a key therapeutic option for a range of hematologic, genetic, oncologic, and immunologic disorders. HSCT is associated with substantial risks, including toxicity from conditioning regimens, marked neutropenia, significant immunosuppression, and the occurrence of graft-versus-host disease (GVHD). Despite the use of preventive strategies, chronic GVHD remains a prevalent complication following allogeneic HSCT, leading to notable morbidity and mortality.

Purpose

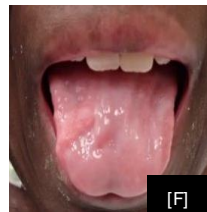
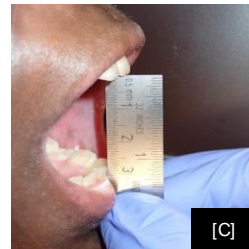
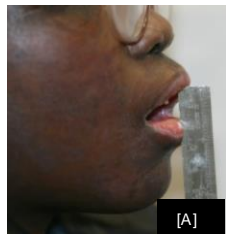
This case report focuses on the management of an 11-year-old female pediatric dental patient with sickle cell disease, treated with HSCT who presented with signs and symptoms related to chronic GVHD (cGVHD). This report will demonstrate the important role the oral health team can play in early diagnosis, and early therapeutic management with an interdisciplinary approach to improve quality of life.

Case Description

- Patient of record, who was seen for dental clearance ahead of HSCT, presents 4 months after transplant
- Presents with 1 week of painful muscle tightness, pain on tongue movement, general oral pain, and gum pain on the upper right buccal mucosa. Reports difficulty opening her mouth and eating foods due to "hard skin" around the corners of her mouth [B] and extreme taste sensitivity
- **Extraoral Exam:** Bleeding, dried, chapped upper and lower lips. Trismus (15mm mouth opening, [A,B]), lichen changes on upper and lower lips, heavy scaling and peeling of the lips, sclerotic disease, muscle tightening. Pigmentation of arms, hands and legs [H]
- **Intraoral Exam:** Mucosal Pallor [G], Salivary hypofunction, Atrophic glossitis [F], limited movement of tongue
- Diagnosis of GvH made with collaboration of medical team
- Dental Recommendations:
 - *Orastretch appliance*[®] [E] and exercises prescribed
 - Chlorhexidine (alcohol-free) and dexamethasone rinses used for mucositis
 - Seen every 6-8 weeks for 6 months for follow-up.

Images

Figures: [A] Limited mouth opening-profile; [B] Limited mouth opening with sclerotic lips; [C] Improved mouth opening; [D] improvement of skin in face; [E] *Orastretch appliance*[®]; [F] Tongue; [G] Intra oral showing caries and changes to mucosa and gingiva; [H] Hypo/Hyperpigmentation of hands and limbs.



Clinical Relevance

- Patients can be difficult to treat due to fluctuating symptoms which may impact OHI compliance and restorative procedures
- Sclerosis of the soft tissues can cause permanent limited mouth opening which can be of major concern. This can be treated with the *Orastretch appliance* and exercises.
- Patient Progress:
 - Recent jaw opening measurements improved to 45mm [C]
 - Patient is now able to tolerate normal diet
 - Mucositis symptoms resolving
 - Lichenoid changes still present
 - Skin mottling still present

Discussion

- A multi-disciplinary approach is recommended for dental treatment and includes hematology, transplant team, and other specialties
- Xerostomia and difficulty with home care due to limited opening leads to high caries risk.
- Mucositis and soft tissue changes is a concern and should be followed closely due to potential for malignant changes.
- The signs of oral mucosal inflammation and infection may be diminished during neutropenic periods. Thus, the clinical appearance of infections may differ significantly from the expected.
- Magic mouth rinse is short term relief with possible side effects and toxicity in children, especially with long term use.
- Oral cryotherapy is found to be effective for treatment of mucositis. However, more research needed for children.
- Palifermin (keratinocyte growth factor-1), a drug used for mucositis in chemotherapy and radiation patients, is also a treatment option but expense and lack of availability limits its use.
- Treat symptoms through multiple channels.

References

