

Dental Management of Oral Self-Mutilation

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Background

Self-injurious behavior in the pediatric population is most commonly related to Lesch-Nyhan, Cornelia de Lange and Gilles de la Tourette Syndromes, cognitive impairment, congenital malformations, or infectious diseases (ex: encephalitis). Management of self-injurious behavior is multidisciplinary and can include psychological, pharmacologic, surgical and oral appliance interventions. This case will review several treatment options for the dental management of oral and perioral self-mutilation in the pediatric patient.

Case Report

This case study focuses on a 4-year-old male with a history of grade 1 ganglioglioma with a complex hospital course including partial tumor resection via craniotomy. The patient subsequently developed posterior fossa syndrome (PFS), characterized in part by behavioral episodes of lip biting and severe bruxism.

Posterior Fossa Syndrome

PFS is a postoperative complication that occurs in 25% of pediatric patients following the surgical resection of posterior fossa tumors. While the pathogenesis is poorly understood, damage to the inferior cerebellar vermis and cerebellar outflow is the suspected cause of characteristic symptoms, including mutism, ataxia/hypotonia, emotional lability and behavioral changes. Symptoms and timeline are variable, typically arising 1-2 days after surgery and lasting weeks to months.

In this case, agitation and behavioral changes secondary to posterior fossa syndrome contributed to significant oral and perioral self-mutilation.

Medical Interventions

Several treatment strategies were attempted by the medical team to address the agitation, bruxism and subsequent self-mutilation. Use of an oral motor therapy toy to redirect lip biting and grinding proved unsuccessful, as the patient chewed through the rubber toy in less than 24 hours and the toy became a choking hazard. Pharmacological intervention was also attempted, including the use of lorazepam, clonidine, baclofen and morphine, with minimal success. The Children's Wisconsin Dental Team was subsequently consulted.

Resources

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Pre Dental Surgery



1 Week Post Dental Surgery



7.5 Weeks Post Dental Surgery



Dental Consult & Treatment Considerations

Clinical Findings

- Primary maxillary incisor enamel-dentin fractures secondary to parafunctional grinding and caries
- Severe self-mutilation of mandibular lip

Treatment Options Presented to Family

Dental Extractions

- Inhibits soft tissue damage by teeth
- Inhibits bruxism in anterior region

Restorative

- Full-coverage restorations to address decay and attenuate effects of self-mutilation

Lip Bumper Oral Appliance

- Anteriorly displaces mandibular lip to inhibit lip biting

Treatment Rendered

Full mouth dental rehabilitation was completed in the OR under general anesthesia. After consultation with the family, the decision was made to extract the maxillary and mandibular primary incisors and place stainless steel crowns on the remaining primary dentition.

A mandibular alginate impression was made to have the option of future fabrication of a fixed mandibular lip bumper appliance, had the above treatment proven to be inadequate.

Follow-up

The rendered treatment was successful and the patient's oral and perioral lesions fully resolved following dental rehabilitation.

6 months following tumor debulking surgery, the patient continues to experience symptoms of PFS. While the oral and perioral self-injurious behaviors have resolved, the patient continues to experience regression of balance, gross motor skills and fine motor skills. He struggles with episodes of breath holding, thought to be a combination of behavior and autonomic dysfunction related to brainstem pathology. He has, however, shown improvement in language development. The timeline for PFS recovery is variable, and this patient continues to fall within the anticipated timeline for recovery.

He has been discharged from Children's Wisconsin and has frequent follow-up visits with a multidisciplinary team of medical providers. He is on a 6 month recall with his with established community dental provider.

Conclusion

The causes and treatment interventions for the management of oral and perioral self-mutilation can be complex and are often best managed by a multidisciplinary approach.

