

Management of First Permanent Molar Ectopic Eruption with Halterman Appliance: A case report

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Abstract

Ectopic eruption of the first permanent molars is a local eruption disturbance. The frequency of ectopically erupted first permanent molars predominantly affects the maxilla. Interceptive treatment for irreversible ectopic eruptions should be initiated early to prevent space loss and the impaction of the second premolars. Herein, we report the case of an eight-year-old male with irreversible ectopic eruption of the bilateral maxillary first permanent molars treated with Halterman appliance. The maxillary first permanent molars were successfully distalized after three months of treatment. The Halterman appliance satisfies not only the clinical aspects of treatment but also promotes the patient's well-being.

Introduction

Ectopic eruption (EE) is a disturbance in which the first permanent molar becomes locked under the distal surface of the second primary molar. It is a multifactorial condition involving genetic and local factors. It can lead to premature loss of the second primary molar, loss of arch length, mesial tipping or rotation of the permanent molar, supra-eruption of the opposing molar, and malocclusion. Therefore, early interceptive treatment is recommended in irreversible cases to prevent more complex complications.

Case Report

An eight-year-old male presented to the pediatric dental clinic of Tufts University School of Dental Medicine with ectopic eruption of the maxillary first permanent molars, causing resorption of the distal root of maxillary primary second molars. Radiographs confirmed the diagnosis. The treatment plan included placing a Halterman appliance to distalize the maxillary first permanent molars. Follow-up visits ensured proper appliance adjustments. After three months, the position of the maxillary first permanent molars was corrected.

Future Treatment Plan

Patient is currently in phase I orthodontic treatment to correct anterior crossbite of tooth (#7, #26) and tooth(#10, #23).

Maintenance phase: Due to patient's low caries risk, recommended periodic exam, prophylaxis, and fluoride varnish application every 6 months.



Fig.1 Facial front picture



Fig.2 Facial profile

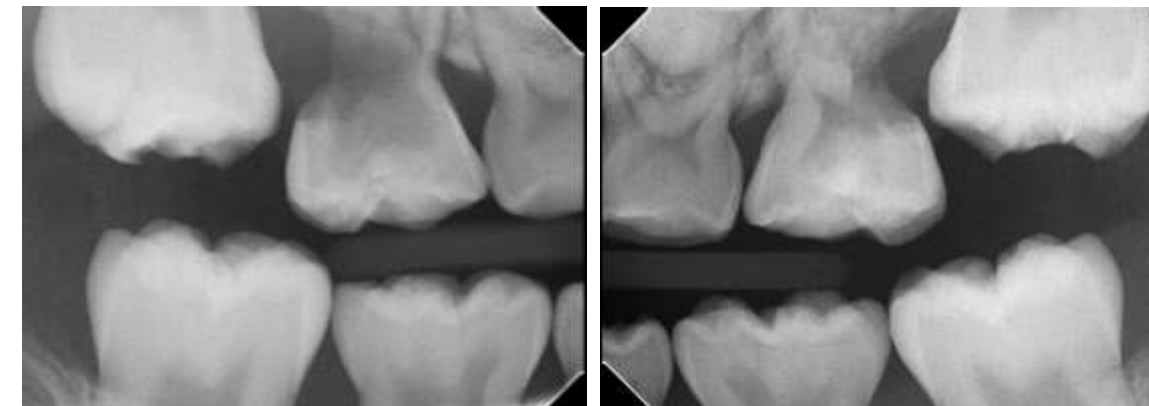


Fig.5 After three months, position of tooth #3,#14 is corrected and there is enough space for eruption.



Fig.3 Bitewing Panoramic radiograph



Fig.6 Three month follow up, and removal of the appliance



Fig.4 Occlusal maxillary, photographs



Fig.7 Three months follow up, and removal of the appliance



Conclusion

Early diagnosis and intervention for irreversible ectopic eruption of the first permanent molars are crucial to avoid more complicated malocclusions in the future. This case highlights the efficacy of the Halterman appliance in managing ectopic first permanent molar eruption. It underscores the importance of individualized treatment planning and regular follow-up to ensure optimal outcomes in pediatric orthodontics.

References

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