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Management of palatally retained maxillary posterior deciduous tooth: A case report

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Abstract
In order to allow for the exfoliation of the deciduous dentition and the eruption of succeeding permanent teeth, the physiological process of root resorption of deciduous teeth occurs. When the permanent tooth starts actively erupting and the follicle approach the root surface, the roots of deciduous teeth resorb. Retained deciduous tooth fragments in case of periodontitis create problems to patients like pain, difficulty in chewing, hypersensitivity, bleeding tendency and food lodgment etc. In current case report a systemically healthy male patient of 54 years old without any history of smoking reported to outpatient department with chief complaint of pain and tenderness in upper back teeth region from past 1 month. On intraoral examination it was found a retained deciduous root stump was present on palatal aspect of right maxillary second molar area. The area adjacent to root stump was ulcerated, bleed on slight provocation. A complete removal of deciduous root stump was done under local anesthesia. After 15 days follow-up a complete healing of surgical site without any post-operative complication occurs. Patient did not report any discomfort, pain after 24-48 hours of surgical procedure.

Keywords: Deciduous tooth, dental plaque, periodontitis, pain

Introduction

For the dentofacial area to develop normally, primary teeth must exfoliate. It is not very usual for primary teeth to be kept after exfoliation. There are many factors such inadequate space, crowding of arches, and rotation of tooth buds that contribute to the delayed exfoliation of primary teeth. If radiographically there are the expected numbers of teeth present, a lack of eruptive force may be the cause of the unerupted tooth [1, 2]. Retained root fragments are when the roots of a deciduous (primary) tooth stay entrenched and do not resorb within the mandible or maxilla despite the eruption of the permanent replacement. The deciduous second molar is the tooth that is most frequently impacted. Shape, associated root canal, surrounding periodontal ligament space, and some lamina-dura evidence all point to a retained root. Additionally, retained roots have a history of causing pain and suffering [3]. Although there are many research on the permanent retained root in the literature, relatively little information was discovered on embedded primary molar roots in the jaws of patients. So, current case report demonstrates the management of retained deciduous tooth fragment.

Case report

A 54 year old systemically healthy male patient without any past history of smoking reported to outpatient department with chief complaint of pain and tenderness in upper back teeth region from past 1 month. Intra-oral examination revealed a retained deciduous tooth fragment found with respect to right maxillary second molar palatal aspect area (see figure 1A). A periodontal probing of 2mm and gingival recession of 4mm was measured on respective tooth mid-palatal aspect (see figure 1A). Complete removal of this causative factor for resolution of chief complaint was decided. After giving (2% lidocaine with 1:80,000 epinephrine, Coax Bioremedies Pvt. Ltd. Hisar, India) local anesthesia to palatal aspect of respective area a complete removal of deciduous root fragment using periosteal elevator and curette was completed without injuring to adjacent permanent tooth. A complete removal of granulation tissue, using Gracey curette (No.11/12, Hu-Friedy) from surgical site, a complete primary closure was done using prolene 4-0 sutures(3/8 reverse cutting needle, Johnson & Johnson Ltd. Aurangabad, India) (see figure 1B). Removed fragment of deciduous tooth shown in figure 1C. Post-operative instructions were given to patient along with prescription of antibiotic tablet amoxicillin 500mg thrice daily for 5 days and analgesic tablet Ibuprofen 400mg thrice a day for 3 days. A chlorhexidene mouthwash of 0.2% (ICPA Health Products Limited, Ankleshwar, India) twice daily was also recommended for 2 weeks. Patient was recalled after 2 weeks for re-evaluation of surgical site (see figure 1D). VAS score was used to find out any pain, discomfort at follow-up visits of patient.

Figure legends: Intra and post-operative pictures of patient

Fig 1A: Showing retained decidous tooth fragment with respect to palatal aspect of maxillary right second molar tooth;1B- after removal of decidous tooth sling suturing was done around respective site; 1C- removed part of retained decidous tooth ;1D- after 2 weeks follow-up

Results

A complete healing without any post-operative complication like was obtained in current case report. A VAS score=0 was given by patient after 24-48 hours of surgery. A complete epithelization was obtained at surgical site on follow-up visit after 2 weeks.

Discussion

According to literature, prevalence of retained deciduous teeth in partly dentate mouths was reported as 20%, 13%, and 11%. [4, 5] As long as a strong attachment apparatus is present in the coronal portion of the root fragment; retained deciduous roots are not problematic. However, if periodontal disease were to develop, the deepening sulcus and plaque front would eventually come in contact with the retained deciduous root tip. The persistence of root fragments might result in clinical issues such ankylosis, gingivitis, periodontitis, and deep caries. Additionally, it may make certain dental procedures more challenging, including orthodontics, denture manufacture, and dental implants [3, 6]. According to Nyyssönen *et al*., diseased residual roots may offer an additional health risk and should be removed or appropriately treated [7]. In current case report also retained deciduous root fragment was exposed due to periodontitis. As bone loss and attachment loss advanced in an apical direction, the retained section of deciduous tooth became exposed to the oral cavity, where it may be frequently injured by food particles or toothbrush bristles, causing the patient pain and soreness. For the patient to feel better, this contributing element had to be eliminated.

Conclusion

Future infection is possible with retained root fragments. In current case report a coronal third periodontal attachment loss of permanent tooth exposed the retained deciduous tooth fragments whose complete removal is mandatory for relief of patient's symptoms. A complete healing without any post-operative complication was obtained in present case report.

Conflict of interest

Author deny any conflict of interest

Acknowledgment

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Financial disclosure

Nil

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