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CASE STUDY

PERIO-ORTHO INTERACTIONS: MANAGEMENT OF IMPACTED MAXILLARY CANINES

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ABSTRACT

The most commonly found impacted teeth are the maxillary canines. Their management, at times, proves to be frustrating for the orthodontist. The treatment planning and successful management of the impacted canines require a multi-disciplinary approach with the periodontist. The position of the tooth in the bone and other factors like the width of attached gingiva play a role in decision making for treatment of impacted canines. This article presents a case report of labially impacted maxillary canine and also aims to review the guidelines for management of the same.

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INTRODUCTION

After the third molars, the maxillary canines are the most commonly impacted permanent teeth (Bass, 1967). Management of impacted canines, though a routine practice, can sometimes be frustrating for orthodontists. The orthodontist, to uncover the impacted canine, might need to refer the case to a periodontist or oral surgeon. Among other difficulties, the use of an incorrect surgical procedure further increases the challenge for the orthodontist to erupt the tooth into the dental arch. The orthodontist should work in tandem with the consulting surgeon in choosing the correct surgical technique. The impacted canine position plays a major role in determining the surgical technique. Two-thirds of maxillary canine impactions are located palatally, and about one- thirds is located within the alveolar bone or labially (Johnston, 1969). This article reviews the surgical management of labially impacted maxillary canines, and presents a case report of the same.

Management of Labial Impaction

Williams *et al*. (1981) and Olive *et al*. (2002) suggested non-surgical management of labially impacted maxillary canines.

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According to Williams *et al*, to enhance the eruption and self-correction of the permanent impacted canine, the maxillary deciduous canines should be extracted at an early age of 8-9 years (Williams *et al*., 1981).Olive *et al* suggested the usage of routine orthodontic mechanics to open the space for canine crown, may allow for spontaneous eruption of an impacted canine (Olive *et al*., 2002). It is important to adopt a surgical technique to expose the impacted canine in cases when the above mentioned techniques do network. One of the following three techniques can be used for exposing labially impacted canines

- Excision of the gingival tissue
- Apically positioned flap (Vanarsdall and Corn, 1977)
- Closed eruption technique (Kokich and Mathews, 1993)

To determine the correct method for exposing the impacted canine, a well-defined criterion was given by Kokich *et al*. (Kokich, 2004):

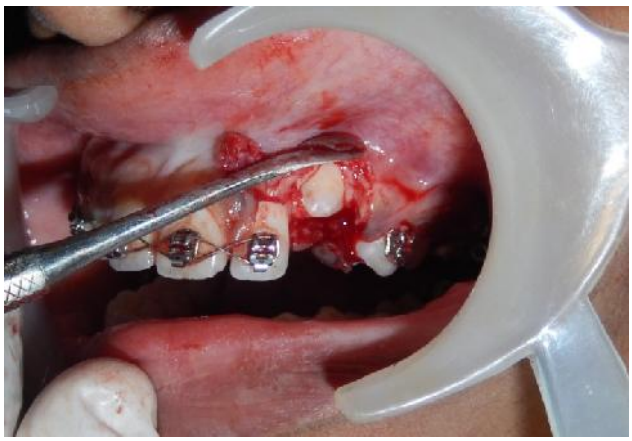
- Assessing the labio-lingual position of the canine should be the first criterion:

Any of the three techniques can be used in case of labial impaction. In combination with excisional or apically positioned flap, extensive bone might need to be removed from

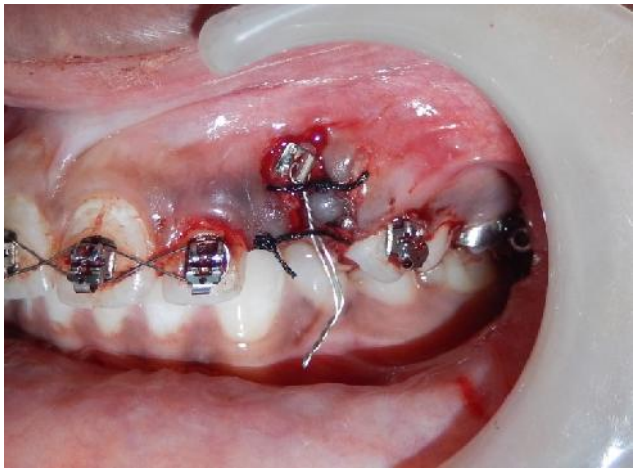
the labial surface of the tooth in case when the tooth is impacted in the center of the alveolus.

Case Picture 1. Preoperative View

Case Picture 2. Radiographic View



Case Picture 3. Flap Elevation



Case Picture 4. Flap sutured apically and orthodontic bracket placed

Case Picture 5. Immediate Post-operative view

Case Picture 6. Postoperative view after 10 months

Evaluating the vertical position of the tooth relative to the mucogingival junction is the second criterion. Any of the three techniques can be used in cases when the canine crown is positioned coronal to the mucogingival junction. Apically positioned flap or forced eruption technique can be used when the canine crown is positioned apical to the mucogingival junction. When the canine crown is positioned at a significantly lower level, apically positioned flap may not be inappropriate as it can result in instability of the crown and possible

reintrusion of the tooth (Vermette *et al*., 1995). For these cases, a closed eruption technique can be used (Becker *et al*., 2002).

- The evaluation of the amount of attached gingiva forms the third criterion.

When there is sufficient gingiva to provide at least 2 to 3 mm of attached gingiva over the canine crown after it had been erupted, any of the 3 techniques can be used. When there is insufficient attached gingiva in the area of the canine, an apically positioned flap technique is the only technique that can be used to predictably enhance the width of attached gingival

- Evaluation of the mesiodistal position of the canine crown forms the last criterion.

An apically positioned flap is advised over the root of the lateral incisor, when the crown is positioned mesially, as it will be difficult to move the tooth through the alveolus.

Case Report

An orthodontist referred a 23 year old female patient for the exposure of impacted maxillary canine 23. The missing 23 was found to be impacted labially with crown tip tilted towards the adjacent lateral 22 on radiographic examination. To give sufficient width to the attached gingiva, an apically positioned flap technique was chosen, keeping in mind the future position of the tooth. Ten months after the procedure, a post-operative review was done which revealed the impacted 23 had erupted to the normal position with fair amount of attached gingiva.

Conclusion

The dilemma and frustration of the orthodontist regarding the management of impacted maxillary canines can be handled by teaming up with the periodontal surgeon. Superior periodontal and esthetic results can be achieved and the overall treatment time for the patient can be reduced by following the criteria and choosing the correct technique.

REFERENCES

Bass, T. 1967. Observation on the misplaced upper canine tooth. *Dent Pract Dent Rec.* 18:25-33

Becker, A., Brin, I., Ben-Bassat, Y., Zilberman, Y. and Chaushu, S. 2002. Cloased-eruption surgical technique for impacted maxillary incisors: A postorthodontic periodontal evaluation. *Am J Orthod Dento facial Orthop.,* 122: 9-14.

Johnston, W.D. 1969. Treatment of palatally impacted canine teeth. *Am J Orthod,* 56:589-96

Kokich, V. and Mathews, D. 1993. Surgical-orthodontic management of impacted teeth. *Dent Clin North Am.* 37:181-204

Kokich, V.G. 2004. Surgical and Orthdontic management of impacted maxillary canines. *Am J Orthod Dentofacial Orthop,* 126:278-83

Olive, R.J. 2002. Orthodontic treatment of palatally impacted maxillary canines. *Aust Orthod J.* 18:64-70

Vanarsdall, R. and Corn, H. 1977. Soft tissue management of labially positioned unerupted teeth. *Am J Orthod.* 72:53-64

Vermette, M., Kokich, V. and Kennedy, D. 1995. Uncovering labially impacted teet: closed eruption and apically positioned flap techniques. *Angle Orthod.* 65:23-32

Williams, B. 1981. Diagnosis and prevention of maxillary cuspid impaction. *Angle Orthod.* 56:589-96

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