Available online at http://www.journalcra.com

International Journal of Current Research
Vol. 7, Issue, 12, pp.23757-23760, December, 2015

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

ISSN: 0975-833X

CASE REPORT

REIMPLANTATION – MY PRESENCE JUSTIFIED???

***Dr. Manoj, M., Dr. Renu Garg, Dr. Aadivalavan Arumugam and Dr. Kennedy Babu, S. P. K.**

Department of Periodontics, MGPGI, Pondicherry, India

ARTICLE INFO

Article History:
Received 25th September, 2015
Received in revised form
20th October, 2015
Accepted 17th November, 2015
Published online 21st December, 2015

Key words:

Palatogingival groove,
Intentional reimplantation,
Syndesmocoronoradicular groove,
Endo-Perio lesion.

ABSTRACT

The Palatogingival groove is a developmental, anatomic aberration of variable extent and depth, that often leads to a combined Endodontic-Periodontic lesion. Management of such developmental anomalies stand a clinical challenge to the operator. This article aims to brief a case of type-III Palatogingival groove which was otherwise indicated for extraction, was treated successfully with Intentional reimplantation. With proper understanding of Clinical procedures and strict adherence of Surgical Protocol, Intentional reimplantation can serve as a predictable & cost effective method in the management of Class-III Palatogingival groove.

***Citation*:** Dr. Manoj, M., Dr. Renu Garg, Dr. Aadivalavan Arumugam and Dr. Kennedy Babu, S. P. K. 2015. "Reimplantation – My presence justified ???", *International Journal of Current Research*, 7, (12), 23757-23760.

INTRODUCTION

Palatogingival groove is a developmental anatomic aberration of varying depth and extent affecting both the external and internal structures of the tooth. Its synonyms terms includes Distolingual groove, Radicular lingual groove, Radicular groove, Syndesmocoronoradicular groove. The original term was coined by Lee *et al*. (Le *et al*., 1968) Its incidence ranges from 1.01 to 8.5 % with peak incidence in Chinese population accounting for about 18%. (Attam and Palatogingival groove, 2010) Bilateral presence is rare accounting for about 0.75%. The etiopathogenesis is the infolding of the enamel organ and the Hertwigs epithelial root sheath before calcification. (Gound and Maze, 1998)

Case report

A 49 year old male patient reported to the department of Periodontics with the chief complaint of progressive spacing in the upper front tooth with episodes of associated bleeding for the past 3 months. Patient was apparently normal 3 months back following which he noticed progressive spacing between the maxillary right central and lateral incisor (12) (Fig.1). It was associated with episodes of dull aching pain and bleeding from the local site. Patient had no history of any associated systemic diseases and was not under any medication.

****Corresponding author: Dr. Manoj, M.***
Department of Periodontics, MGPGI, Pondicherry, India.

On intraoral examination, maxillary lateral incisor was extruded, proclined with spacing and between the maxillary right central incisor and canine. Probing depth of about 10 mm was present on palatal aspect in relation to 12 (Fig.2) with presence of palatogingival groove. Clinical attachment loss of about 5 mm with grade II mobility of 12 was noted. Thermal vitality testing in 12 revealed no response indicating non vital pulp tissue. Intraoral peri apical radiograph revealed presence of bone loss with about 20% of remaining bone (Fig.8) and a radiolucent line parallel to pulp reaching the apical foramen indicating the extent of groove reaching the apical foramen. A clinical diagnosis of Endo-Perio lesion in 12 secondary to presence of type III palatogingival groove was given. After explaining the treatment options and obtaining informed consent, the treatment plan was formulated for initial pulp therapy and non-surgical periodontal therapy followed by reimplantation of 12 and splinting.

Initial endodontic management was performed (Fig.9) along with root planning for conditioning the periodontal tissue prior to surgical reimplantation. On the day of surgical reimplantation, after achieving adequate local anesthesia, the flap was elevated exposing the palatigingival groove (Fig.3) and atraumatic extraction was done using forceps (Fig.4). Debridement of the extracted tooth was done using ultrasonic scaler and then the groove was restored with Glass Ionomer cement (Fig.5).

Following the sealing of the groove the tooth was reimpalnted in proper alignment with the arch (Fig.6) and stablised using Fibre reinforced composite splint (Fig.7). Then the flap was repositioned and sutured using 3.0 braided black silk and post operative radiograph was taken (Fig.10). Recountouring of the incisal edges was done to achieve better esthetics. Patient was prescribed with Amoxicillin 500mg thrice a day and Paracetamol 500 mg thrice a day for 3 days. Patient was advised to maintain adequate oral hygiene using Chlorhexidine 0.12% as an adjunct, twice a day. Healing was insignificant and satisfactory with reduction in probing depth.

Fig. 1. Pre-operative view

Fig. 2. Probing depth of 10 mm in palatal aspect of 12

Fig. 3. Flap elevation exposing the Palatogingival groove

Fig. 4. Debridement done using ultrasonic scaler

Fig. 5. Sealing of the groove using GlassIonomer cement

Fig. 6. Reimplanted and Flap sutured

Fig. 7. Splinting done using Fibre reinforced composite splint

Fig. 8. Pre-operative radiograph

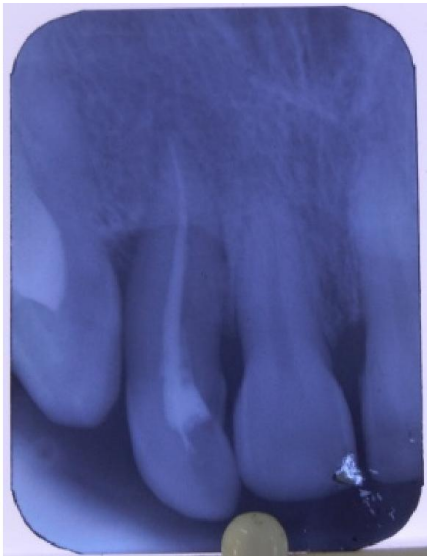

Fig. 9. Post endodontic treated radiograph

Fig. 10. Post operative radiograph

DISCUSSION

Palatogingival groove is a developmental anatomic aberration of varying depth and extent affecting both pulpal and periodontal tissues. The grooves can be of milder forms at the cement enamel junction resembling Dens Invaginatus to severe forms where it can be deep V shaped groove reaching the apical foramen. Goon *et al* classified Palatogingival groove into Type 1 in which the groove is short (not beyond the coronal third of the root), Type 2 in which the groove is long (beyond the coronal third of the root) but shallow, corresponding to a normal or simple root canal, Type 3 in which groove is long (beyond the coronal third of the root) and deep, corresponding to a complex root canal system.

(Goon *et al*., 1991) Mere presence does not indicate pathology. These grooves can act as a niche for bacterial plaque accumulation leading to release of bacterial toxins causing periodontal breakdown. (Bacić, 1990) Clinically this results in Pocket formation resulting in bone loss and loss of clinical attachment levels. Further lesion progresses apically along the groove to reach the pulp through accessory canal or apical foramen causing Endo-Perio lesion.

The treatment of Palatogingival grooves includes Saucerization, Sealing of the groove or even Extraction in advanced lesions. Intentional reimplantation can serve as an alternative treatment for advanced lesions which are otherwise indicated for extraction. Intentional replantation is an accepted procedure, in which a tooth is extracted and treated outside the oral cavity and then inserted into its socket to correct an obvious radiographic or clinical endodontic failure. Literature reports the success rate to range from 52% to 95% with concern about replacement root resorption of the involved tooth.

(Messkoub, 1991) Sealing of the groove is essential to eliminate the pathways of communication between the pulp and the periodontium. (Gao *et al*., 1989) Glass ionomer cement being less technique sensitive, chemically bonded providing excellent seal and favorable environment for fibroblast attachment was chosen to seal palatogingival groove before replantation. (Yan *et al*., 2000) The reimplanted tooth was stablised using Fibre reinforced composite splint to aid in intial periodontal healing. At 6 months post operative follow up, it showed healing of periradicular lesion without signs of inflammatory or replacement resorption.

Conclusion

Deep radicular grooves can predispose to pulp necrosis and the establishment of combined endodontic-periodontal lesions. Most of the time it goes undiagnosed but if looked out carefully and treated in a proper way, it may solve out both periodontal and endodontic problems. Evaluation of clinical signs and appropriate diagnostic tests are of paramount importance in order to prevent incorrect diagnosis and treatment. Thus, intentional replantation, following complete sealing, can be an easy and predictable option for management of palatogingival groove with a successful treatment outcome.

REFERENCES

Attam, K., Palatogingival groove, 2010. Endodontic‐periodontal management: Case report. *J Endod*., 36:1717‐20.

Bacić, M. 1990. The association between palatal grooves in upper incisors and periodontal complications. *J. Periodontol.*, 61:197‐9. 12.

Gao, Z., Shi, J., Wang, Y. and Gu, F.Y. 1989. Scanning electron microscopic investigation of maxillary lateral incisors with a radicular lingual groove. *Oral. Surg. Oral Med Oral. Pathol.,* 68:462‐6.

Goon, W.W., Carpenter, W.M., Brace, N.M. and Ahlfeld, R.J. 1991. Complex facial radicular groove in a maxillary lateral incisors. *J. Endo.,* 17:244‐8.

Gound, T.G. and Maze, G.I. 1998. Treatment options for the radicular lingual groove: A review and discussion. *Pract Periodontics Aesthet Dent*.,10:369-75.

Le, K.W., Lee, E.C. and Poon, K.Y. 1968. Palato‐gingival grooves in maxillary incisors. A possible predisposing factor to localised periodontal disease. *Br. Dent. J.,* 124:14‐8.

Messkoub, M. 1991. Intentional replantation: A successful alternative for hopeless teeth. *Oral Surg Oral Med Oral Pathol.,* 71:743‐7

Yan, F., Xiao, Y., Li, H., Haase, H. and Bartold, P.M. 2000. A comparison of the effects of two kinds of glass‐ionomer cement on human gingival fibroblast attachment, proliferation and morphology in vitro. *J. Int. Acad Periodontol.,* 2:14‐8.

****