Hemisection: A Conservative Management of Periodontally Involved Molar Tooth in a Young Patient

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Abstract

Hemisection is sectioning of multi-rooted teeth with its crown portion, with the loss of periodontal attachment and is performed to retain the original tooth structure and attain the fixed prosthodontic prosthesis. We describe hemisection of a mandibular molar tooth followed by adequate restoration in a young patient.

Keywords: Hemisection, Mandibular Molar, Prosthodontic Periodontal

Introduction

Advances in dentistry have provided an opportunity to maintain a functional dentition for lifetime.¹ Loss of the posterior teeth is eventful and undesirable often leading to teeth drifting, loss of masticatory function and loss of arch length, which requires prevention and maintenance measures.² The oral cavity has the potential to harbor at least 600 different bacterial species, and in any given patient, more than 150 species may be present.³,⁴ These bacteria are responsible for various dental health issues such as dental caries and periodontal problems. Management of periodontally involved molars with extensive decay is challenging and is limited to dental extraction and replacement with implants.⁵ Nevertheless, treatment strategy to retain such teeth involves periodontal, prosthodontic and endodontic assessment for appropriate selection to allow for stronger survival.¹ Hemisection is a conservative way of preserving tooth. The term “hemi section” or “root amputation” are synonyms for “root sectioning” or “bisection” and is a treatment modality, which allows the preservation of tooth structure, alveolar bone and cost savings over other treatment options.

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Case Report

Name: Chameshwar Sahu
Age/Sex: 20/M
OPD NO: 76429
Date: 6/1/2014

Discussion

The hemisection is a useful alternative treatment to extraction to save the multi-rooted teeth by endodontic approach, which includes the root canal treatment of the remaining roots and restoring them with suitable restorative material to splinting it with the adjacent tooth to decrease the risk of displacement, followed by a fixed prosthodontic prosthesis to maintain the occlusal balance. The literature on distal root resection is limited as compared to mesial root in mandibular molars because of its anatomical structure. Nevertheless, hemisection is a viable option to be considered before the extraction of molars, especially in the presence of conditions such as severe vertical bone loss (one root of a multi-rooted tooth), furcation destruction, unfavorable proximity of roots of adjacent teeth, preventing adequate hygiene in maintenance of proximal areas and severe root exposure due to dehiscence. Endodontic/restorative conditions which require hemisection are prosthetic failure of piers or abutments within a splint, endodontic failures, vertical fracture of one root, and non-restorable portion of a multi-rooted tooth.

Buhler observed 32% failure rate in hemisection cases attributed to endodontic pathology and root fracture while other authors (0–9%) have shown a greater success in hemisection cases in the long-term studies. In the present case, good prognosis was observed with proper occlusion, absence of mobility and healthy periodontal...
condition up to 6 months of follow-up. Concurring with previous reports, hemisection is a valid treatment option for the molar teeth in young children, which otherwise have to be extracted due to extensive caries. Thus, conservative management of extensive carious molar tooth in young patients can not only preserve the tooth but also reduce the financial burden, psychological trauma and occlusal dysfunction.

Conclusion

Hemisection is an alternative, effective, and conservative treatment modality over conventional procedure or extraction of periodontally and endodontic affected teeth.

Conflict of Interest: None

References