



ISSN Print: 2394-7489
ISSN Online: 2394-7497
IJADS 2021; 7(4): 177-180
© 2021 IJADS
www.oraljournal.com
Received: 22-08-2021
Accepted: 24-09-2021

Dr. Anil K Tomer
Professor and Head, Department
of Conservative Dentistry and
Endodontics, Divya Jyoti
College of Dental Sciences and
Research, Modinagar, Uttar
Pradesh, India

Dr. Ayan Guin
Postgraduate students,
Department of Conservative
Dentistry and Endodontics,
Divya Jyoti College of Dental
Sciences and Research,
Modinagar, Uttar Pradesh, India

Dr. Shivangi Jain
Postgraduate students,
Department of Conservative
Dentistry and Endodontics,
Divya Jyoti College of Dental
Sciences and Research,
Modinagar, Uttar Pradesh, India

Dr. Geetika Sabharwal
Postgraduate students,
Department of Conservative
Dentistry and Endodontics,
Divya Jyoti College of Dental
Sciences and Research,
Modinagar, Uttar Pradesh, India

Dr. Nivedita Saini
Postgraduate students,
Department of Conservative
Dentistry and Endodontics,
Divya Jyoti College of Dental
Sciences and Research,
Modinagar, Uttar Pradesh, India

Corresponding Author:
Dr. Ayan Guin
Postgraduate students,
Department of Conservative
Dentistry and Endodontics,
Divya Jyoti College of Dental
Sciences and Research,
Modinagar, Uttar Pradesh, India

Non surgical retreatment of central incisor in endodontics: A case report

Dr. Anil K Tomer, Dr. Ayan Guin, Dr. Shivangi Jain, Dr. Geetika Sabharwal and Dr. Nivedita Saini

DOI: <https://doi.org/10.22271/oral.2021.v7.i4c.1370>

Abstract

Introduction: Preservation of tooth has continuously been of maximum problem to dental practitioners on the grounds that ages. Also on this growing technology sufferers are greater aware of to be had remedy plan and its outcome. Long time period fulfillment of endodontic remedy is predicated on thorough debridement of the foundation canal gadget accompanied with the aid of using 3 dimensional obturation. Endodontic disasters aren't exception and consequently want retreatment.

Case report: A 23 yr antique male affected person turned into noted the endodontist with a first-rate grievance of ache in higher the front teeth. Clinical exam found out a discoloured maxillary central incisor. The affected person directly supplied a records of root canal treatment attributed to the discoloured enamel which turned into accomplished one and a 1/2 of month in the past through a widespread practitioner. A prognosis primarily based totally on medical symptoms and symptoms i.e. lack of coronal seal with insufficient obturation turned into hooked up and affected person turned into satisfied for a nonsurgical endodontic retreatment.

Conclusion: At only a graduate degree the information concerning remedy like root canal treatment is minimum and basic. This case file is a easy endodontic retreatment case, finished via way of means of the conventional technique of eliminating the gutta-percha. Every dentist ought to have a complete information of the basis canal anatomy and its feasible versions earlier than taking off root canal treatment.

Keywords: non surgical retreatment, central incisor, endodontics

Introduction

Endodontics has been the flag-bearer of dentistry due to the fact that very lengthy time. There has been a super development with inside the area of endodontics with inside the latest past, which did now no longer gradual down the tempo yet. This protected higher analysis of periapical lesions and enhancing the diagnosis of the endodontically dealt with teeth. But then, there had been incidences of root canal failures, aleven though minimal, which did now no longer fade away [1].

Long time period achievement of endodontic remedy is based on thorough debridement of the basis canal device accompanied via way of means of 3 dimensional obturation [2]. The maximum generally used filling fabric is gutta percha, due to its homes of being biochemically inert, having the potential to 3 dimensionally seal the endodontic area, specifically whilst thermoplasticized, and the opportunity of without difficulty being eliminated from the endodontic area at some stage in retreatment with/with out the affiliation of a solvent. The use of a sealer in conjunction with gutta percha has been advocated to enhance the bond of gutta percha to dentin. A extensive type of sealers has been used and new merchandise stay marked [3].

Endodontic screw ups aren't exception and for this reason want retreatment [4]. These screw ups arise because of the elements which include get right of entry to associated, neglected canals, get right of entry to hollow space perforations, mistaken cleaning, instrumentation associated, ledge formation, separated instruments, overseas gadgets and obturation associated because of coronal leakage [5].

In the modern-day picture, what knocks on the door of the endodontists are instances of failed endodontic control because of diverse motives and its' retreatment.

The achievement of a nonsurgical root canal retreatment is ruled through the elimination of preceding obturating fabric and /or necrotic tissue. A perceptive practitioner ought to planned a nonsurgical retreatment best if the succeeding issues are met; the sufferers choice to preserve the tooth, periodontally healthful enamel which could bear an endodontic retreatment.

The following case document offers with a comparable state of affairs in which the tooth requiring retreatment is periodontally sound however the cause for failure of root canal treatment turned into hooked up as over obturated canal with remaining lateral space and lack of coronal seal.

Case report

A 23 years old vintage male affected person become noted the endodontist with a main criticism of ache in top the front teeth. He pronounced a fall three years in the past. Clinical exam discovered a discoloured central incisor (Fig1). The affected person right away supplied a records of root canal treatment attributed to the discoloured enamel which become finished one and a 1/2 of month in the past through a general practitioner.



Fig 1: Discoloured central incisor

Preoperative radiograph in relation to #11 found out over obturation of the canal with lateral space and lack of coronal seal. (Fig 2). A diagnosis primarily based totally on clinical signs and symptoms i.e. lack of coronal seal with insufficient obturation became hooked up and affected person became satisfied for a nonsurgical endodontic retreatment after explaining the protocol.



Fig 2: Preoperative radiograph

Retreatment procedure

After management of the local anaesthesia the usage of 2% lidocaine with 1:80000 epinephrine (Indoco remedies, India), the tooth #11 become accessed. Access become regained (wrt 11) with EndoAccess bur No.2 (Dentsply) in a crown-down style to increase the orifices. A GP solvent (Xylene) become used to melt the gutta-percha previous to utilization of hand files.

A No.15 K file (Dentsply, Maileffer, USA) became used to skip the gutta-percha with inside the canal. Followed through Neoendo retreatment rotary file syste became use. Neoendo retreatment files consists of three instruments N1 (size 30, 0.09 taper) for coronal one third which is 16 mm in length and has a blue ring, N2 (size 25, 0.08 taper) for middle one third which is 18 mm in length has a red ring and N3 (size 20, 0.07 taper) for apical one third which is 25 mm length and has a yellow ring. (Fig 3)

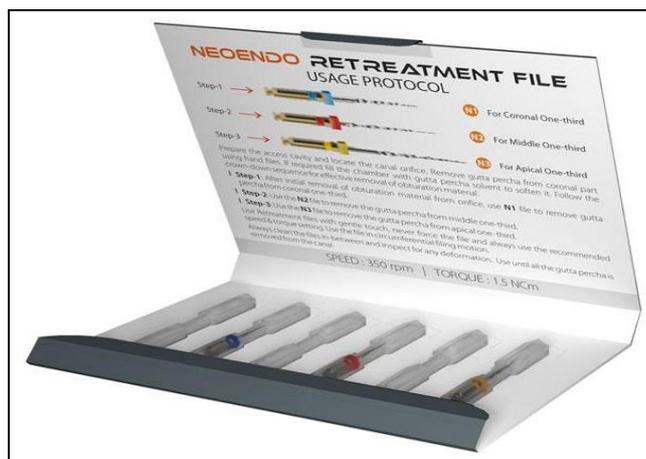


Fig 3: Neoendo retreatment file system

Neoendo retreatment file system was used step by step and the existing obturating material and was retrieved effectively. (Fig4)



Fig 4: Gutta percha retrieved successfully

Working period became decided with an Electronic Apex Locator (PropexPixi, Dentsply) and installed at 23mm. Crown down approach of Biomechanical preparation became finished and supplemented with exchange 3% sodium hypochlorite, hydrogen peroxide and saline irrigation. Biomechanical preparation became carried out through

Protaper gold rotary documents upto F4. Canal was obturated with single cone after drying effectively and finally canal orifice sealed with Composite restoration (Tetric N-Ceram Bulk Fill, Ivoclar Vivadent). (Fig 5)



Fig 5: Post obturation radiograph

Finally the discoloured crown of 11 was replaced by zirconia crown. (Fig 6)

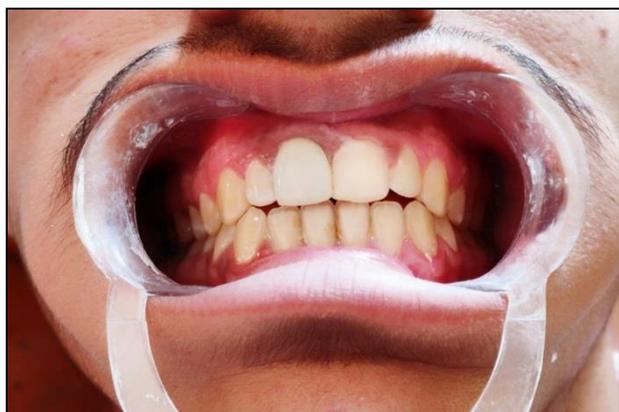


Fig 6: Zirconia crown placed over #11

Discussions

Endodontic remedy necessitates gifted know-how and information, in addition to a methodical information of the basis canal anatomy concerning pulp and its variants [6, 7]. Unsatisfactory information of the basis canal makes endodontics similarly hard with the aid of using now no longer forming the right get right of entry to that lets in immediately line method to the canals.

Centered on methodical clinical and/or radiographic evaluation of an man or woman case endodontic retreatment have to be accomplished. An indication of endodontic retreatment will be apical periodontitis in a formerly endodontically handled tooth. However, this will be showed with a radiograph which might screen insufficient density of the obturation or unhealed periapical pathology or a neglected canal/s. Other not unusualplace motives for retreatment being technical deficiencies like irrelevant filling material, root filling brief of apex, lack of coronal material, insufficient obturation [8].

In this case, the retreatment was performed on the basis of a poor filling and loss of the coronary seal. Various studies have demonstrated the importance of the coronary seal in the success of endodontic treatment [9, 10]. Adequate filling with adequate coronary sealing has been shown to produce better

results than those with inadequate filling and / or inadequate coronary sealing [11].

Studies have demonstrated that general practitioners and college students have been the purpose for over 1/2 of of the failed instances in endodontics [12]. Insufficient know-how of endodontics at a graduate college stage however over enthusiasm to exercise endodontics with out superior education has brought about excessive frequencies of failure.

Root canal treatment is rendered vain while remedy falls quick of suitable standards. The first-class of obturation may be very important for higher final results of the procedure. Scanty density of obturating material can also additionally cause failure of root canal remedy because of microleakage alongside the foundation filling [12, 13], Khabbaz [14] emphasised at the want for the enhancement with inside the technical first-class of obturation whilst Ericksen and Bjertness [15] said apical periodontitis become more in root canal dealt with tooth with meagre densities. However, the maximum often encountered inaccuracy after obturation is the life of voids alongside the foundation canal filling.

The objectives of endodontic retreatment procedures are to cleanse the root canal space of any previous material present, to compensate for the pathological or iatrogenic deficits at the origin. In addition, endodontic retreatment measures control and correct mechanical catastrophes, previously neglected canals or subcrestal root fractures. Contrast techniques allow clinicians to reshape patented canals and clean and fill three-dimensional root canal systems [16, 17]. When the guiding principles of case selection are evaluated and state-of-the-art facilities are used with advanced knowledge of endodontics, the prospect of completing a non-surgical endodontic retreatment is tripled.

Conclusion

Root canal treatment is a system that's executed via way of means of each dentist regularly. In growing nations the want for distinctiveness primarily based totally exercise has but now no longer mounted itself. At only a graduate degree the know-how concerning remedy like root canal treatment is minimum and basic. The superior particular approaches of endodontic remedy modalities are typically attributed to a submit graduate curriculum.

This case observe is a easy endodontic retreatment case, at the start carried out with the aid of using a widespread practitioner, accomplished with the aid of using the conventional approach of putting off the gutta-percha and its next alternative with the aid of using an endodontist.

But it should also be remembered that not every endodontically failing tooth is submissive to the nonsurgical endodontic retreatment procedure. In such cases, an interdisciplinary treatment modality muat be ensured to better respond to the condition.

Every dentist should have a thorough understanding of root canal anatomy and its possible variations before beginning root canal treatment in order to minimize the failure rate and the need for subsequent endodontic retreatment. The inculcation of advanced technologies and materials that would further reduce inaccuracies in processing.

References

1. Raj PKT, Mudrakola DP, Baby D, Govindankutty RK, Davis D, Sasikumar TP, *et al.* Evaluation of Effectiveness of Two Different Endodontic Retreatment Systems in Removal of Gutta-percha: An *in vitro* Study. J Contemp Dent Pract 2018;19(6):726-31.

2. Joseph M, Ahlawat J, Malhotra A, Murali-Rao H, Sharma A, Talwar S. *In vitro* evaluation of efficacy of different rotary instrument systems for gutta percha removal during root canal retreatment. *J Clin Exp Dent* 2016;8(4):e355-60.
3. Sadat Shojae N, Vakilinezhad E, Shokouhi MM. *In Vitro* Comparison of Efficacy of Neolix and ProTaper Universal Retreatment Rotary Systems in Removal of Gutta-Percha Combined with Two Different Sealers. *J Dent (Shiraz)* 2019;20(4):285-91.
4. Antony Jasmine, Kudva Aravind, Shetty Harish, Kini Shraavan, Gowri Sree. Comparative Efficacy of Three Different Retreatment Rotary Instrument Systems for Removal of Gutta-Percha from Root Canals: A Comparative *in Vitro* Study. *IJPHRD* 2019;10:272-77.
5. Purba R, Sonarkar SS, Podar R, Singh S, Babel S, Kulkarni G. Comparative evaluation of retreatment techniques by using different file systems from oval-shaped canals. *J Conserv Dent* 2020;23:91-6.
6. Pirani C, Pelliccioni GA, Marchionni S, Montebugnoli L, Piana G, Prati C. Effectiveness of three different retreatment techniques in canals filled with compacted gutta-percha or thermafil: a scanning electron microscope study. *J Endod* 2009;35(10):1433-40.
7. Savitha A, Rekha AS, Ataide I, Hegde J. Retreatment and surgical repair of the apical third perforation and osseous defect using mineral trioxide aggregate. *Saudi Endod J* 2013;3(1):34-38.
8. Pitt ford TR, Rhodes JS. Root canal retreatment: I, Case assessment and treatment planning. *Dent Update* 2004;31:34-39.
9. Safawi KE, Dowden WE, Langeland K. Influence of delayed coronal permanent restoration on endodontic prognosis. *Endod Dent Traumatol* 1987;3:187-91.
10. Lynch CD, Burke FM, Ni Riordain R, Hannigan A. The influence of coronal restoration type on the survival of endodontically treated teeth. *Eur J ProsthodontRestor Dent* 2004;12:171-6.
11. Gillen BM, Looney SW, Gu L, Loushine BA, Weller RN, Loushine RJ, *et al.* Impact of the quality of coronal restoration versus the quality of root canal fillings on success of root canal treatment: A systematic review and meta-analysis. *JOE* 2011;37(7):895-902.
12. Torabinejad M, Corr R, Handysides R, Shabahang S. Outcomes of nonsurgical retreatment and endodontic surgery: a systemic review. *JOE* 2009;35(7):930-937.
13. Kirkevang LL, Horsted-Bindslev P, Orstavik D, Wenzel A. A comparison of the quality of the root canal treatment in two Danish subpopulations examined 1974-75 and 1997-98. *IntEndod J.* 2001;34(8):607-12.
14. Khabbaz MG, Protogerou E, Douka E. Radiographic quality of root fillings performed by undergraduate students. *IntEndod J* 2010;43:499-508(12).
15. Ericksen HM, Bjertness E. Prevalence of apical periodontitis and results of endodontic treatment in middle-aged adults in Norway. *Dent Traumatol* 1991;7:1-4(13).
16. Ruddle CJ. Ch. 8, Cleaning and shaping root canal systems. In Cohen S, Burns RC, editors: *Pathways of the Pulp*, 8th ed., Mosby, St. Louis, 2002, 231-291.
17. Ruddle CJ. Ch. 9, Three-dimensional obturation: the rationale and application of warm guttapercha with vertical condensation, *Pathways of the Pulp*, 6th ed., Mosby Co., St. Louis, 1994, 243-247.