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Case Report – Restoration Of Mutilated Posterior Tooth

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Abstract-

Background- Goal of endodontic treatment is to completely eradicate microorganism and disinfect root canal. Due to improper chemomechanial preparation persistent infection remains which demand to be corrected and therefore re-RCT has to be performed with proper biochemomechanical preparation is done In this age of material science advancement, innovative systems and materials have been articulated for the restoration of carious teeth. These have assisted to overcome the shortcomings of the outdated methods. A clinical "case report" of re-establishing form and functionality these novel technique and materials are presented here. In the below case a re-RCT was performed where gutta percha removal of all the canal was done followed by placement of intracanal medicament followed by fibre post was used and composite was used to restore the form and function of the tooth . Case presentation- A patient reported with complaint of pain and broken tooth in upper left back region. RE-RCT was planned with tooth 26 followed by fibre post and core restoration. Retreatment files were used to remove old Gutta Percha from the canal. Calcium hydroxide intra canal medicament was used to heal the apical periodontitis. Later obturation was done followed by removal of gutta percha by peso reamer in palatal canal and to make canal wide enough for placement of fibre post and preparation of core with composite restoration was done. Conclusion-Mutilated with remaining one or two walls can be restored with the help of fibre post, Fibre post do not lead to fracture of entire tooth and thus is being used widely for restoration of mutilated teeth.

Key words- Apical seal, Fibre post, Retreatment files, Nano composite,

Introduction-

The recuperation of tooth/teeth with a H/O of trauma or widespread dental caries leads to a great challenge for the dentist. The existence of decreased circumferential dentin, juvenile root canals, decrease in moisture and coronal annihilation from caries deteriorate the tooth construction, making it liable to rupture under normal masticatory powers. Such teeth may necessitate an supplementary organization of strengthening to aid in retaining of the core, thereby reinstating the teeth to their unique aesthetics and purpose.[1]

Certain teeth are badly disfigured because of caries, trauma or even as a consequence of former big restoration. In circumstance of an obvious horizontal forfeiture of clinical crown, maximum of the teeth could be incapable to hold the final restoration without some supplementary provision. If only a ferrule of negligible width can be attained from remaining coronal tooth structure, a post and core build up following endodontic procedure could be of big aid for holding and can be a auxiliary for future rehabilitation.1,2 Hence Post and core method has been very standard and broadly used for such teeth and have been in drill for a extended time already.

As a consequence of intensifying burdens for tooth-colored posts, in this modern era, because metal post causes discoloration of the soft tissues adjacent to tooth root surface which will adversely affect aesthetic. (3), therefore on going use of metal posts are progressively substituted by several non-metallic posts. Amid them, epoxy resin post reinforced with carbon fibers, epoxy or methacrylate resin posts reinforced with quartz or glass fibers, zirconia posts, and polyethylene fiber-reinforced posts are prominent.4,5 The core buildup is another important step ,the proper material to withstand forces should be used .The nano filled composite has been the choice as it has high strength and does not require any polishing(10) This review is to assemble the common evidence on the fiber post system and assessing existing articles linked to the resin bases used in the production of such posts. Also the likelihood of every fresh material for the resin base will be opted into thought.

Case report

A female patient of age 36 years reported to the Department of Conservative Dentistry and Endodontics, in SPDC with a complain of pain in upper left back region of the jaw and dislodged restoration since 2 weeks . Pain was continuous and dull aching in nature. There was no aggravating factor and relieves on taking medication. It was not associated with any extra oral swelling, redness or pus discharge. There was history of root canal treatment with the same.

Fig 1

Fig 2

Fig 3

After radiographic examination short obturation was seen with distal root and PDL widening with 26 was seen(fig.1 and fig.2) therefore re-RCT was decided and restore the complex crown fracture with fiber post and core followed by Porcelain fused to metal crown. The gutta percha were removed with the help of retreatment files from all the canals(fig3). Followed by calcium hydroxide dressing was given for 2 weeks. After two weeks Obturation was done with 26(fig 4) .The working length of palatal canal was-18mm .Gutta percha was removed till-12mm(fig.5) .The canal were prepared till no. 3 peso reamer.

Fig 4

Fig 5

Proper fit of the fibre post was check with the help of RVG (fig.6) and followed by core buildup with the help of 3m z350 filtek nano composite(fig.7).

Fig 6

Fig 7

Discussion

During 1728, Pierre Fauchard labeled the use of "tenons," which were metallic posts fixed into the roots of teeth to hold bridge. In the middle-"1800s", post material was substituted by "Wood," and the "pivot crown," a wood post was fixed to an non-natural crown and to the canal of the root, was widespread amongst the dental clinician.(6)

Though, due to the numerous schedules and supplementary laboratory events were required with matters like the "high modulus of elasticity" of the "cast metal" (203.6 GPa) there was a necessity for substitute restorative system and materials (7)

Hence fibre post esthetic material came into play , which provides better esthetics and ease of application with reduced appointment . Hence fibre post was chosen as the material of choice for the restoration of the tooth.(8)

In the present case the tooth was previously root canal treated and was symptomatic .Re-RCT was planned .The tooth had 3 walls missing and therefore fibre post was planned.

The RE-RCT was performed using re-treatment files , followed by calcium hydroxide intracanal medicament was placed for two weeks . Biomechanical preparation was done using proptaper files till f3,followed by. Then 2 days later palatal canal was prepared with gutta percha was removed with the help of peso reamers and 6 mm of gp was left. Then fibre post was lutted to the canal followed by core buildup with the help of micro hybrid composite (9) patient was on a 1 month follow up and the tooth was asymptomatic .patient was then reffered to department of prosthodontics for crown placement.

Conclusion

Fibre post has a been a very useful easy to use alternative to restore the mutilated tooth. This reduces the fracture of the entire tooth thus making easy to re restore the teeth .with high esthetics and good strength it has revolutionized the dentistry thus making it the treatment of choice .

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