CORONORADICULAR RECONSTRUCTION AND RESTORATION WITH MAN MADE DENTIN

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Endodontically treated anterior teeth having flared, oversized root canals with thin walls require coronoradicular reconstruction for a successful treatment outcome. A relatively new and innovative technique of coronoradicular reconstruction utilizing the reinforcing restorative material glass ionomer cement is presented. This new and innovative technique will provide clinician a foresight while dealing with cases of coronoradicular rehabilitation and reconstruction. The adhesive nature of GIC, improved strength & biocompatibility have provided clinician with this unique option while dealing with these complicated cases in a simplified and uncomplicated manner. The technique with GIC is based on a scientific premise and is an addition to the present techniques but not a substitute. This technique is a beginning and require more of clinical research to become regular and recognized procedure.

Keywords: **coronoradicular, reconstruction, GIC**

Endodontically treated anterior teeth having flared, oversized root canals with thin walls require coronoradicular reconstruction for a successful treatment outcome.The advancements in the field of adhesive dentistry have made possible the restoration and reinforcement of such mutilated anterior teeth(1,2).

Coronoradicular Reconstruction of endodontically treated teeth is defined as internal root splinting with adhesive restoratives to reinforce and reconstruct mutilated non-vital teeth(3).



Fig.1 Pre-operative photograph showing dental caries which has spread in the root canal space. The complete removal of this caries will result in a flared root canal difficult to restore and reinforce.

This is relatively a new concept utilizing the available reinforcing adhesives such as dental composites, glass ionomer cements, giomers, ormocers etc(4,5). Out of all the materials described above, GIC has got chemical adhesion, superior biocompatibility and good strength as well in modified forms. Some authors call it as Man made Dentin and synthetic dentin as well.

This article presents a technique for coronoradicular reinforcement using a combination of GIC(Fuji IX) and metal post that are retentive, supportive, cos-

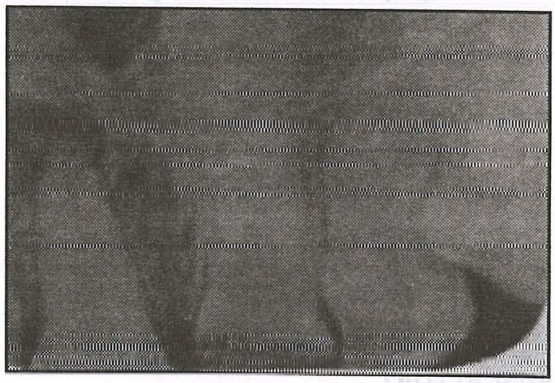


Fig.2 Pre operative Radiograph of same tooth showing a flared root canal space.

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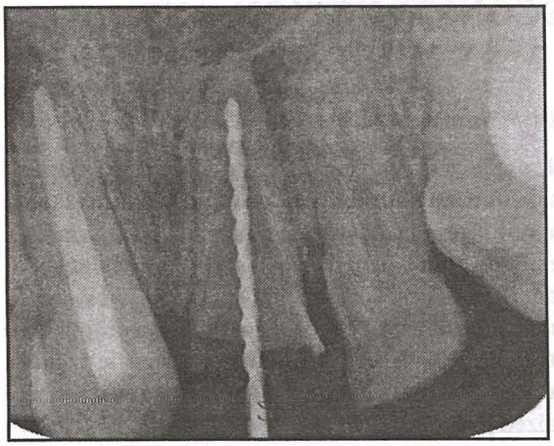


Fig.3 Working Length Radiograph after complete caries removal.

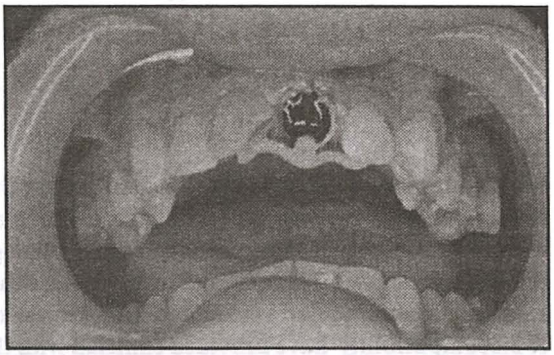


Fig.4 Biomechanical preparation of root canal was done followed by sectional obturation. Conditioning of Root Canal space was done with 37% ortho phosphoric acid(Voco) for 10 secs. Temporary composite splint in place to stablize post in the canal.



Fig 5. GIC (fuji IX) was luted in canal space in a sllghtly thicker consistency with lentulospirals,metal post inserted and stablized against the composite splint. Simultaneously a thick mix of gic was used to form a core before the setting of gic in canal so that same matrix in maintained.

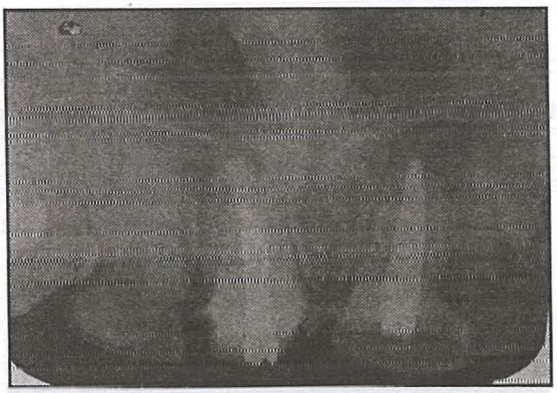


Fig 6. GIC Reinforced root canal with post and core build up in place.

metic and able to impart reinforcement to a structurally compromised tooth. The use of bondable materials allows the practitioner to unify the structure and morphology of root systems to provide creative solutions to challenges heretofore unmet(5).

CASE REPORT

A twenty year male patient was referred for the opinion and management of the maxillary central incisors. The patient complained of fractured and discolored anterior teeth which were restricting him from smiling and attending social activities. He gave a history of trauma to anterior teeth three years back. His medical history was not contributory. Clinical examination revealed a fractured left maxillary central incisor with only 1.5mm of tooth structure present supragingivally and fractured right maxillary central

incisor. The remaining visible tooth structure was discoloured in both the central incisors. The root canal was visible in cervical one third of root and caries was also present in the canal of maxillary left central incisor. Radiographic examination revealed abnormal flare of the canal space. Root canal treatment in both the incisors followed by reinforcement of root canal space with GIC (FUJI IX) and metal post placement in left maxillary central incisor was planned. Metal crowns with ceramic facings followed by this treatment were also planned as a part of restorative protocol.

The technique is photographically depicted along with descriptive captions.

SUMMARY

This new and innovative technique provides clinician a foresight while dealing with cases of coronoradicular rehabilitation and reconstruction. The adhesive nature of GIC, improved strength & biocompatibility have provided clinician with this new technique while dealing with these complicated cases in a simplified and uncomplicated manner. The technique based on GIC is based on a scientific premise and are an addition to the present techniques but not a substitute. This technique is a beginning and require more of clinical research to become regular and recognized procedure. The combination of endodontics and sophisticated developments in adhesive dentistry are considered a boon in the attainment of predictable clinical success.

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CORRIGENDUM

Inadvertently the names of the authors of article -

IATROGENIC EFFECTS OF REMOVABLE ORTHODONTIC APPLIANCES

were printed wrongly as

Kaushik Mayur,* Yeltiwar R.K., Brig Khattak B.P.*****

on page 125 of December 2008, issue of this Journal.

The same may please be read as

IATROGENIC EFFECTS OF REMOVABLE ORTHODONTIC APPLIANCES

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