An Immediate Chair Side Treatment Option to Repair Fractured Post and Core: A Case Report

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Fracture of an endodontically treated tooth, restored with a crown and an underlying post occurs frequently. This augments to a complex clinical situation that requires immediate attention. In this technique the existing crown was used after removing the fractured cast post. Fibre post was placed and the intaglio surface of the crown was duplicated using core build up material with aluminium foil acting as a separating medium between the crown and the core build up material. By this technique the same crown was recemented. This resulted in an optimal retention of the existing crown, thereby maintaining the existing esthetics and occlusal relationship. This is a simple chair side and immediate treatment option which can be used as a long term treatment option or a temporary one.

Keywords: Post and Core, Chair Side Repair, Post Fracture, Core Build Up, Fibre Post.
INTRODUCTION
Fracture of an endodontically treated tooth already restored with a crown and an underlying post occurs frequently, which gives rise to emergency clinical situation, where in repair must be done at a relatively short amount of time.

Various techniques have been proposed to fabricate or repair and recement the restorations with post and core, like replication of an existing cast post and core with polyvinyl siloxane as a matrix to fabricate a resin pattern for a new cast post and core, making a post and core pattern with autopolymerizing acrylic resin or wax to retrofit an existing crown. Using the original die or its replica, a vinyl polysiloxane matrix, and autopolymerizing resin. This article describes a simple chair side procedure to repair and recement a single unit fractured tooth under an existing crown and post and core. This is a temporary treatment option, to maintain the esthetics and existing occlusal relationship of the patient.

CASE REPORT
A 28 year old female patient was referred to department of prosthodontics, Yenepoya University, with a chief complaint of fractured crown with an underlying post and core. The restoration was done 5 years back. The canal was restored with a cast post. The restoration was fractured at the gingival margin along with the cast post. (Figure 1).

Patient was offered various treatment options like extraction and implant with immediate loading, fabrication of new post and crown, but the patient wanted an immediate treatment as she was travelling the next day. So it was decided to use prefabricated post and the same crown. The patient was briefed about the treatment in detail and an informed consent was obtained.

Procedure
On examination the fracture was at the gingival level. The fracture extended 3-4 mm from the gingival margin on the distal aspect. The interdental papilla was adequate. The gingiva did not show any signs of inflammation. On the Palatal side there was a fragment of tooth which was removed.
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which prevented the core build up material from sticking to the internal surface of the existing crown and it also ensured adequate cement space for the final restoration (Figure 2).

The fractured post remaining in the post space was removed and the canal was cleaned and the post space was modified to fit the prefabricated post (radiopaque, glass fiber post-Reforpost) using manufacturer specified peso reamer (Figure 3). The length of the canal was increased and only 4 mm guttapurcha remained in the apical third of the canal. The post was a little wider in the coronal third and it was later decided to modify the canal with resin cement during cementation of the post.

The post was placed inside the post space and the height was adjusted after placing the crown, excess post was removed with diamond points (Figure 4). After the gingival retraction (Figure 5), the post was stabilised with wax. A dual core, Core build up composite material (Bis-Core Dual-Cured Core Build-up Material) was injected into the inataglio surface of the existing crown and the crown was placed over the post and light cured (Figure 6). The crown was then removed and the core build up material along with the foil was left behind over the fractured tooth.

It was cured again and the foil was removed. Then the post and the core were removed as a single piece and the excess core material was removed and the finishing was done with finishing diamonds. The fit of the post and core and the crown were verified. The occlusion was checked, and the post was cemented with dual core, self-adhesive resin cement (RelyxU200) (Figure 7). The crown was cemented with luting cement (GIC TYPE 1). Excess cement was removed (Figure 8). The patient revisited the clinic after few weeks, check-up revealed healthy gingival condition, no occlusal and periapical changes.

DISCUSSION

This simple chair side technique is time saving. Retention of the post was improved by using the resin cement and by increasing the
length. The use of fiber-reinforced posts has been suggested to allow reduction of stress concentration and decrease the incidence of root fractures\(^6\). These posts have higher esthetic properties and they require less dentin removal during treatment procedures, and can be bonded to dentin with adhesive luting resins\(^7\).

In addition to the above properties the Fiber-reinforced posts have dentin-like rigidity and the elastic modulus of fiber posts is similar to that of dentin\(^8\). By using Core build up material the replica of the intaglio surface of the crown was obtained which helped in using the same crown which was economical to the patient, which maintained the existing esthetics and occlusal relationships of the patient.

**CONCLUSION**

Several techniques have been discussed earlier, this article presents a simple technique which is efficient, economical, time saving and comfortable to the patient. Even though it is a temporary treatment it can be considered as a long term treatment option as this treatment has resulted in optimal retention and has retained the existing esthetics and occlusal relationship.

**CONFLICTS OF INTEREST**

None declared

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**REFERENCES**


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