

## **Immediate Extraction & Placement of Dental Implant Followed By Immediate Temporary Restoration & Subsequent Permanent Tooth In Failed Root Canal Teeth With Internal Root Resorbtion.**

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### **Summary**

Patient presented with pus discharge and pain around discolored upper front teeth. History and examination revealed previous RCT on right side anterior upper region. On inspection and subsequent IOPA X-RAY previously incomplete root canal treatment done on right central incisor (21) tooth. On inspection internal root resorption was observed along with bone loss. extraction was done. While extraction apical 3 mm root piece broke down.it was taken out with the help of h file. Thorough curettage and debridement was done. Dental implant 4.2 by 16 mm was immediately placed following osteotomy. osteotomy was done palatally to the extraction socket. Jumping distance bone grafting was done. Patient's extracted tooth was cut and used as temporary crown via Maryland bridge. After three-month temporary bridge was removed. impression coping was placed and A silicone impression was taken. temporary crown maintained the soft tissue around implant. A full contour zirconia crown was planned and luted on the abutment.

### **CASE PRESENTATION**

#### **History -**

Patient had accident 8 years ago. Root canal treatment was done on tooth no. 21, no crown was given. Patient presented with pain and occasional pus discharge from the said tooth. The tooth was discolored.

### **INVESTIGATIONS**

An IOPA XRAY was done and later CLOTTING TIME, BLEEDING TIME, Total Leucocyte Count, Differential Leucocyte Count, HB was done.

**DIAGNOSIS**

Chronic Irreversible pulpitis with internal root resorption was observed.

**ADVISE**

Owing to poor prognosis and internal resorption, after discussion with patient it was decided to extract the tooth and replace it with dental implant.

**TREATMENT**

Patient presented with pus discharge and pain around discolored upper front teeth. History and examination revealed previous Root Canal Treatment on right side anterior upper region. On inspection and subsequent IOPA X-RAY previously incomplete root canal treatment done on right central incisor (21) tooth was observed. On inspection internal root resorption was observed along with bone loss. extraction was done. While extraction apical 3 mm root piece broke down. Instead of luxators or elevators an endodontic 30 number H File was used. It was screwed in and when tried to pull out it was also fractured. A 35 number H file was taken and screwed in and in gentle luxation it came out with the root piece Thorough curettage and debridement was done. Dental implant 4.2 by 16 mm was immediately placed following osteotomy. osteotomy was done slight palatally to the extraction socket. Jumping distance bone grafting was done. Synthetic Hydroxyapatite with beta tcp in ratio of 60:40 was used as bone graft. Patient's extracted tooth was cut and used as temporary crown via Maryland bridge. After three-month temporary bridge was removed. impression coping was placed and A silicone impression was taken. Temporary crown maintained the soft tissue around implant. A full contour zirconia crown was planned and luted on the abutment.

**OUTCOME AND FOLLOW-UP**

Patient was recalled at 3 months, 6 months and then every one year. Patient just had her 4 year follow up last month. Patient showed excellent bone levels and aesthetics with no loss in soft tissue or hard tissue.

**DISCUSSION**

After dental trauma many people leave the treatment incomplete as pain subsides. But root resorption, discoloration of tooth, loss of hard and soft tissue around the tooth can be observed. in this case as patient recalls, she was 12 yrs. old when she had the accident. When IOPA of said tooth was done, no obturation material was found. An iopa xray was taken with a 15 number K file in the canal to check the patency. But internal root resorption was found. During extraction, the partially resorbed apical 3<sup>rd</sup> of the root broke down. If it was attempted with aggressive approach, more bone

removal would had been there, which could have impaired immediate implant placement. Instead of luxators or elevators an endodontic 30 number H File was used. It was screwed in and when tried to pull out it was fractured. A 35 number H file was taken and screwed in and in gentle luxation it came out with the root piece (pic). Immediate implant placement is always advised in anterior aesthetic zone as there is always loss of anterior bone height after tooth extraction and delayed implant placement which can lead to soft tissue loss and inadequate difference in the aesthetic appearance of central incisor with its counterpart. To get a symmetrical soft tissue around central incisors is key to aesthetic restoration. Immediate implant placement ensures minimal bone loss. Jumping distance grafting also compensates for any loss in the bone volume. Immediate temporization ensures that the soft tissue at the time of final restoration mimics the opposite one.as seen in the final postop pic. The soft tissue around the 21 mimics the 11 tooth.

#### LEARNING POINTS/TAKE HOME MESSAGES

1. Never leave Root Canal Treatment incomplete. They may lead to future complications.
2. Immediate implant placement has favorable results for hard tissue around implants
3. Immediate implant placement has favorable results in soft tissue maintenance.
4. Attempt should be made in preserving bone structure as much as possible.
5. Temporization always improve soft tissue
6. Treatment planning should be aimed considering aesthetic requirements of the patient whenever possible.

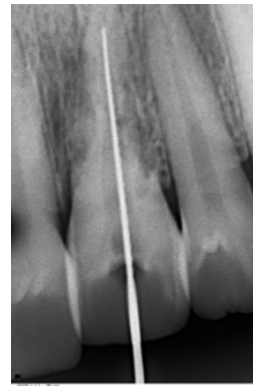
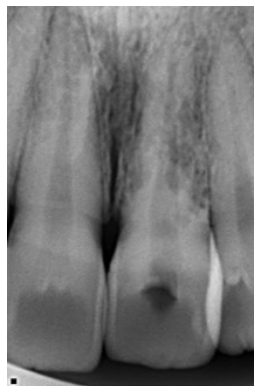


Fig-1 Pre-operative Picture and radiograph

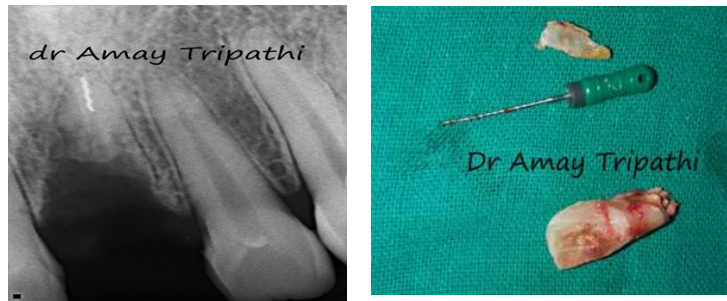


Fig 2- After extraction broken tip with broken file



Fig-3 Drilling for Implant and Implant in Place



Fig-4 After 3 months *soft tissue healing*



Fig- 5 Abutment in place torqued at 25 N



Fig-6 Access hole blocked &Final result

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