IMMEDIATE PLACEMENT OF ENDOSSEOUS IMPLANTS IN EXTRACTION SITES – A CASE REPORT

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Due to the tremendous success of endosseous dental implants, these are being preferred over conventional fixed and removable prosthesis. This success has lead to the extraction and replacement of teeth with guarded prognosis. A 24 years old male patient, reported with pain in upper central incisor, which had undergone trauma four months earlier. Due to trauma, he lost his right lateral incisor & suffered from fracture of the central incisor. The prognosis of the fractured central incisor was poor because this was located in the middle of the root. Hence, the tooth was extracted and two implants were placed. The restoration was executed with two metal ceramic crowns which were splinted to each other. The prosthesis is successfully functioning for last 5 years.

KEY WORDS: Immediate placement, endosseous dental implant, delayed implant placement, bone fill.

Dental implants are customarily done only after complete bone healing following extraction of teeth. Recent studies have shown 50% bone loss in buccolingual direction within first 6 week of extraction. Hence, the immediate placement of implants become very important as it prevents the tissues from collapsing. Implants should be placed in sites which are not infected. Well confined pathology such as cyst and granulomas can be removed and implant can be placed if these are not secondarily infected. Presence of infection contraindicates the procedure and should be delayed by 6-8 weeks.[1,2,3]

Studies have shown that placement of endosseous implants in fresh extraction sites can result in integration as determined by histological evidence of bone closely adapted to implant's surface and lack of clinical mobility.[2,3,4,5,6,7]

CASE REPORT

A 24 years old male patient reported with complaint of pain in his upper front tooth since last one week which increases at night and gets relieved on taking pain killers. The patient got an accident by a motor bike 4 months back during which he lost his maxillary left lateral incisor and traumatized central incisor (Fig. 1 & 2).

Radiographic examination revealed that there was a fracture in the middle root portion of 21 and the coronal fragment was mobile. The lateral incisor was missing and there was a good amount of bone fill in the socket.

As the prognosis of the central incisor was guarded, the extraction of the tooth was planned and performed atraumatically, keeping the labial plate intact. The socket was flushed with normal saline and betadine. (Fig. 3).

3-4 mm of bone was available above root apex, which was used for stability of implant along with the walls of extraction socket. Two cp titanium, root form, indigenous transgingival implants were placed: one in 21 and another in 22 positions. The procedure was done under local infiltration anesthesia and labial side flap was not reflected to avoid the thin labial cortical plate from getting deprived of periosteal blood supply (Fig. 4). Interrupted sutures were placed and routine post-operative instructions were given.

Sutures were removed after 8 days and the implants were slightly recontoured for parallelism of abutments. An extra layer of die spacer was applied

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Fig. 1: Preoperative facial view.

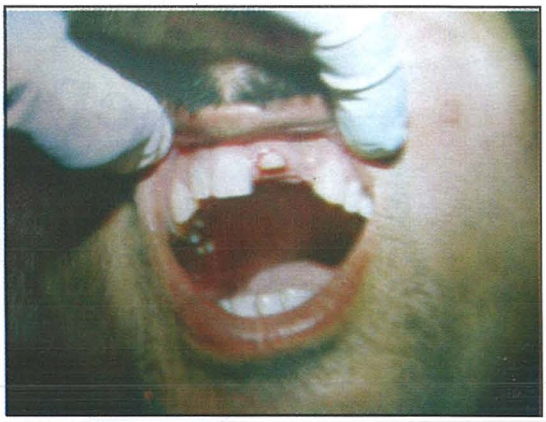


Fig. 2:Intraoral view showing missing left lateral incisor and fractured left central incisor.

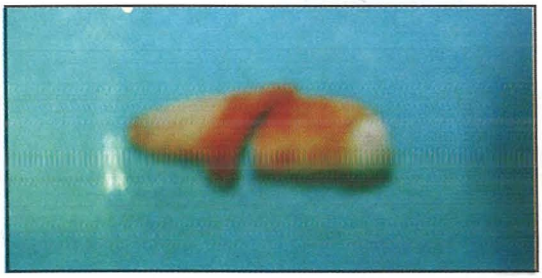


Fig. 3: Extracted tooth showing fracture in the middle of root.



Fig. 4: Implants inserted and interrupted sutures placed.



Fig. 5: Intra oral view with final prosthesis cemented.

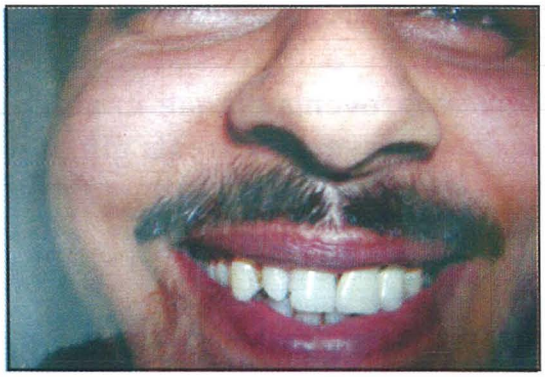
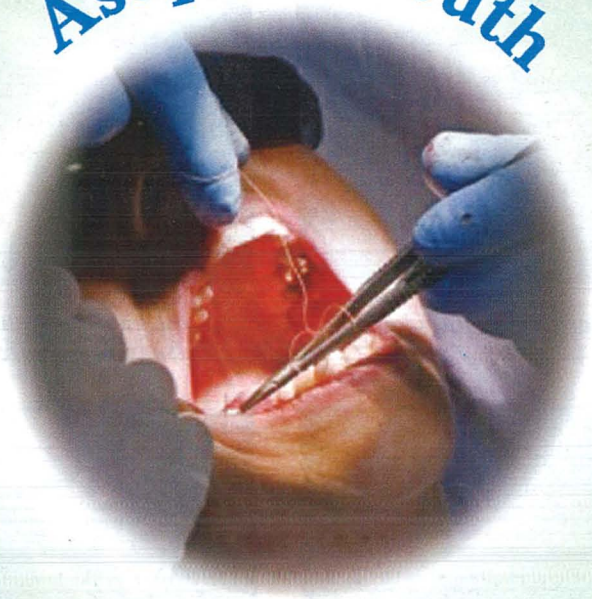


Fig. 6: Facial view with final prosthesis cemented.

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to ensure the passive fit of prosthesis. The prosthesis was cemented in place after 3 months. The prosthesis was relieved in centric occlusion so as to avoid the occlusal contact and reduce the force impact. (Fig. 5 & 6) Patient was recalled after 1, 3 and 6 months in first year and the implants are working successfully after 5 years.

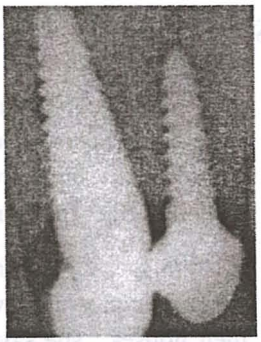


Fig. 7: Radiograph showing two endosseous dental implants with metal ceramic restorations.

DISCUSSION

Immediate placement of implants can be successfully used in cases of traumatic tooth loss without significant bone loss and sites without cellulitis or purulent exudate; this is supported by various histological studies showing bone formation against implant surface.[1,8,9]

Tooth loss due to caries or periodontitis, without purulent exudate, adequate soft tissue health and quantity to achieve primary closure and bone available above socket for adequate initial stability are other situations where this modality can be used successfully. Still the case selection should be very strict and wherever doubt exists, we should not hesitate to perform delayed implant placement.[2,3,5]

Most common sites for immediate implant placement are the incisors and canines. The bone defects due to trauma, endo-perio lesions or inadvertent cortical plate fracture during tooth extraction may need repair. Small defects can be augmented by alloplastic graft (*e.g.* HA).[5] Large defects need autogenous graft alone or combined with allogenous grafts. Implants can be placed along with grafts, only if their mechanical stability is obtained by engaging the patient's basal bone.

CONCLUSION

It appears magical to replace a troublesome tooth with the help of an immediate implant to both the dentist and patient but it should be performed cautiously in selected cases because greed can lead to frustrating failures. Immediate implantation is an addition to various modalities available to solve the missing tooth problem and not the replacement of delayed implant placement which will continue to be used for main stream cases.

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