

PC418

Immediate implant placement in the esthetic zone using a flapless approach: a case report with 12 months follow up

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Background: The maxillary central incisor single-tooth replacement is often the most difficult procedure in all of implant dentistry. It is fundamental to obtain hard and soft tissue stability in order to obtain long term biological and aesthetic success. The immediate implant placement in a fresh extraction socket with flapless technique allows a reduction in surgical/overall treatment time, maintenance of both soft and hard tissues, decreased postoperative complication, faster recovery and is more comfortable/pleasing for the patient.

Clinical Procedure: A 22 years old, systemically healthy and non-smoker woman was referred to our clinic with the complaint of tooth pain and discoloration. The maxillary left central incisor had pain on percussion, an unhealed periapical lesion and external root resorption associated with unsuccessful endodontic treatment. So, the extraction of tooth became necessary. After a minimally traumatic extraction of the tooth, granulation tissue was removed using a spoon curette. The socket walls were inspected for the presence of fenestration or dehiscence defects and no defect was determined. Then, site preparation was performed along the palatal socket wall. After final osteotomy was completed, the implant was immediately placed. The gap between the implant and the inner aspect of the buccal socket wall was filled with particulated bone graft and the socket was covered with a free gingival graft harvested from the palate. After a healing period of 2 weeks, the extracted tooth pontic was splinted to the adjacent teeth. Five months after the placement of implant, the permanent crown was cemented. Except of post operative pain, no other discomfort or complication were seen after treatment. Healing was uneventful.

Outcomes: The immediate implant placement with flapless technique in the maxillary anterior region preserves interdental papillae, improves the biological/aesthetic results and increases patient satisfaction.

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Immediate implant placement in the esthetic zone using a minimal flap design and Poncho technique with a collagen membrane – a case report

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Background: Single-tooth replacement in esthetic zone with a dental implant presents a challenge for clinicians. To achieve an ideal esthetic outcome the implant must be placed in an optimal position and the restorations should imitate the appearance of a natural tooth. The various parameters of the peri-implant soft tissue are critical determinants for the “natural” appearance of implant supported single tooth replacements in esthetic zone. Immediate placement with simultaneous bone augmentation and use of barrier membranes to correct peri-implant anatomical defects enable a clinician to shorten the overall treatment time and minimize surgical interventions.

Clinical Procedure: A 22-year-old female patient with high esthetic demands was referred for extraction of her left maxillary central incisor. The patient reported a history of trauma in the area 14 years ago. She had a high smile line, anterior open bite, high-scalloped and moderate gingival biotype. The tooth was discolored, coronal portion fractured and non-vital upon vitality testing. CBCT showed thin buccal cortical bone and internal tooth resorption. Minimally traumatic extraction was followed by immediate implant placement with a minimal flap design along with simultaneous bone grafting. A resorbable collagen membrane with Poncho technique was used with a healing abutment and tension free closure was ensured. The space was provisionalized with a Maryland bridge. Three months later examination demonstrated clinically healthy peri-implant soft tissues and an integrated implant. A provisional cement retained crown was given for 4 weeks before providing the definitive cemented full-ceramic crown.

Outcomes: Immediate implant placement followed by provisional restoration in the anterior maxilla yielded good clinical esthetic outcomes, as assessed by the Pink Esthetic Score/White Esthetic Score values for this patient.

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Immediate implant placement into fresh maxillary and mandibular molar extraction sockets, a clinical predictable procedure

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Background: In today's dental practice, patients are more demanding regarding our ability to provide predictable and instant solutions for tooth replacement, especially when replacing a tooth that is scheduled for extraction. Immediate implant placement at the time of tooth extraction is a predictable and widely accepted treatment option in various clinical situations. The aim of the present study was to assess the predictability of immediate placement of implants into maxillary and mandibular molars fresh extraction sockets, using a modified insertion technique in addition to regenerative procedures.

Clinical Procedure: The molars selected for this study had to present three separated roots, an inter-radicular septum clinically visible and at least 3 mm of available bone beyond the tooth's apex after extraction. Following the atraumatic extraction procedure, implants were immediately placed into the sockets at the inter-radicular septum. The implant platform was kept 1.5 mm apical to the buccal ridge. According to the principles of guided bone regeneration a xenograft was used to fill the peri-implant horizontal defects. A resorbable collagen membrane was used to stabilize the clot and xenograft, using a cross suture and 2 single ones (mesial and distal of the socket). After a healing period of 4 months, implants were rehabilitated with single crown fixed prostheses.

Outcomes: This study included 37 patients with a total of 37 molars scheduled for extraction and immediate implant placement, of which 15 were male and 22 female. The age range of the patients was 30–71 years old. Follow-up periods ranged from 4 months to 6 years. All implants were assessed with intraoral radiographs at the follow up appointments. The survival rate was 100%. The combination of atraumatic extraction of the first maxillary molar with root separation and the use of appropriate regenerative materials at the time of implant placement represents a predictable long-term treatment with favorable outcomes.