

Bite reconstruction in aesthetic zone using TTPHIL technique

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Abstract

Immediate placement and loading of implant has been popularized in recent time. Immediate implant placement in esthetic zone reduces the loss of soft and hard tissues after the extraction. TTPHIL-ALL TILT™ concept provides immediate loading and also screw retained prosthesis. This case report describes immediate placement and loading of implants by the application of TTPHIL-ALL TILT™ concept in esthetic zone after extraction of teeth.

Keywords: Immediate implant placement, immediate loading, esthetics.

Introduction

The loading of implant immediately or few hours of implant placement consider as immediate loading. Misch and coworkers considered immediate loading when immediate occlusal loading within two weeks after implant placement. According to Wang et al, “implant supported restoration is placed into occlusal loading within at least 48 hours after implant placement considered as immediate functional loading. Immediate implant placement and loading of dental implant reduces over all treatment time, reduce the loss of hard and soft tissue, and increase the patient compliance.^{1,2}

In TTPHIL-ALL TILT™ concept, Tall (16mm-20mm), tilted (TT) implants (with angulations of 30°-70°) are used. Tall implants provide more surface area for osseointegration and are also engaged to the cortical bone (bi cortical anchorage). The implants are placed in pinhole (PH) manner i.e flapless. All implants are immediately loaded (IL) within 48 hours with CAD/CAM (Computer-aided design and computer-aided manufacturing) prosthesis.³⁻⁵

Case Report

A 38-year-old patient came with complains of loosening teeth and diagnosed as chronic severe localized periodontitis in 11 and 21 (Fig. 1a, 1b). Patient expressed permanent solution to this problem and also desires the treatment time should be minimum. Treatment options were reviewed and obtained informed consent regarding TTPHIL technique. An atraumatic extraction of 11 and 21 was performed under local anaesthesia with the help of luxators and periostomes (Fig. 2). Extraction socket was debrided with help of curette and irrigated with saline. Bioline I spiral Implants were placed by TTPHIL concept. Osteotomy preparation was started with initial pilot drill (1.2mm) up to 6 mm based on radiographs. Once desired placement and angulation was achieved, prepare the osteotomy till the desired length with pilot drill and also nick the cortical bone with pilot drill. Sequential drills were used to complete the osteotomy

preparation. Implants were placed in higher insertion torque to engage the cortical bone (Fig. 3, 4). All the implants were placed in pinhole i.e flapless. Because of the cortical anchorage and higher primary stability, Implants were loaded within 48 hours with definite prosthesis which was made up of metal ceramic CAD-CAM Prosthesis (Fig. 5). Follow-up was done after 3-, 6-, and 12-month intervals. Very good aesthetic result and stable bone levels were achieved by the preservation of gingival papillae. (Fig. 6, 7)



Fig. 1a: Pre-operative image



Fig. 1b: Pre-operative IOPA



Fig. 2: Atraumatic extraction was done with periostomes



Fig. 3: Bioline Implants placement irt 11, 21 by TTPHIL technique



Fig. 4: Definite CAD-CAM prosthesis



Fig. 5: Immediate post-operative OPG after implant placement



Fig. 6: Maintains of soft tissue papilla after one year of implants placement



Fig. 7: OPG after 1 year of immediate loading implants placement

Discussion

In TTPHIL-ALL TILT™ concept, Implants are engaged the inner and outer diameter of the implant with bone and also engaged to bicortical bone for high primary stability. Implants are placed in higher insertion torque (45N/cm). Due to high primary stability, it is possible to load the implants immediately and also the procedure is flapless. Cortical bone shows more resistant to resorption when compares to cancellous bone and also bears higher loading force. The polished 3 mm neck collar prevents bacterial contamination and Periimplantitis.⁶ Definite prosthesis is delivered within 48 hours after implant placement with help of CAD-CAM makes this technique unique among immediate loading implant protocols.

Conclusion

Immediate placement and loading of implant reduces the treatment time, number of visits of the patient and also reduces the loss of soft and hard tissue after extraction of teeth. TTPHIL technique with CAD-CAM prosthesis provides not only immediate loading but also provide good esthetics to the patient which increases the patient compliance.

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