

Single Unit Restoration with Tissue Level Wide Platform Implant

Case Report- Dr. Roy Leshem
DDS, Tel-Aviv, Israel

The following case present restoring a missing single molar by means of dental implant with screw retained Zirconium crown.

Advantages of the presented case are achieved by using a 5mm wide tapered implant with 6.5 mm tissue level wide platform implant (Tapered Tite Fit WFR- WP, HI-TEC IMPLANTS).

This implant prevents several possible prosthetic failures that are common when replacing single molars: loosening and/or fracture of prosthetic screw, fracture of implant, food impaction and difficulty to maintain oral hygiene due to altered emergence profile of molars when constructed on standard platform implants.

The high rate of prosthetic failure when reconstructing missing mollars is due to the large mesiodistal and bucolingual aspect of a molar compared to size of implant:

Large occlusal surface of molars leads to large forces on the crown implant connection that can create material fatigue of components.

Standard platform implants, when used for reconstructing missing molars , create a difficulty to fabricate the crown with natural emergence profile for molars leading to difficulty to maintain proper oral hygiene.

Placing a very wide diameter implant can overcome these failures but it is not possible in most cases as the ridge is often resorbed following the loss of tooth and the bucolingual dimension does not enable placing a wide diameter implant.

The case report presents how these drawbacks can be overcome by using a 5 mm diameter implant with tissue level 6.5 mm platform.

The 6.5 tissue level platform enables creating an anatomic emergence profile without the need for a deep subgingival crown. Prosthetic screw and implant can bear the occlusal forces as the platform is wider, the crown is well seated on implant's shoulders and the length is smaller compared to when using a bone level implant.

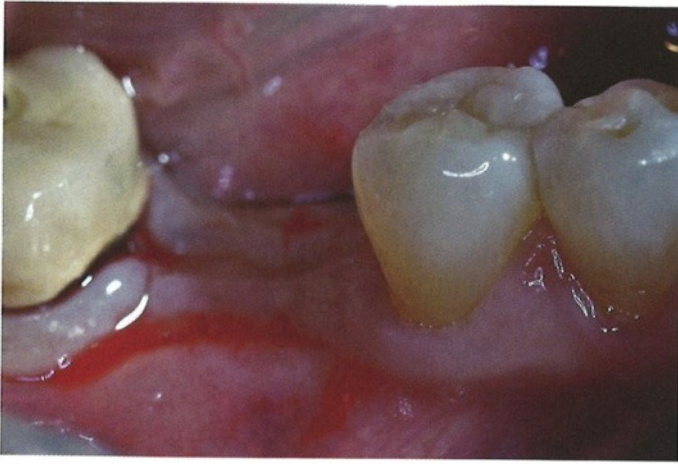


Fig 1: Extraction site 6 weeks after extraction.

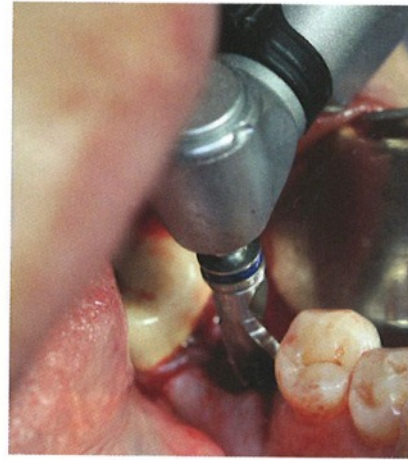


Fig 2: 4.2mm Final bur



Fig 3: TFR-W 5-13 implant.

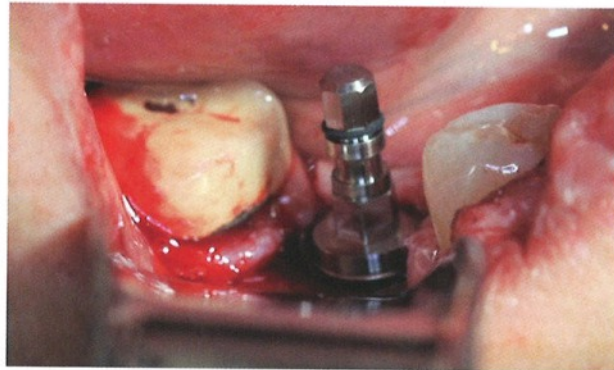


Fig 4: Inserted implant.

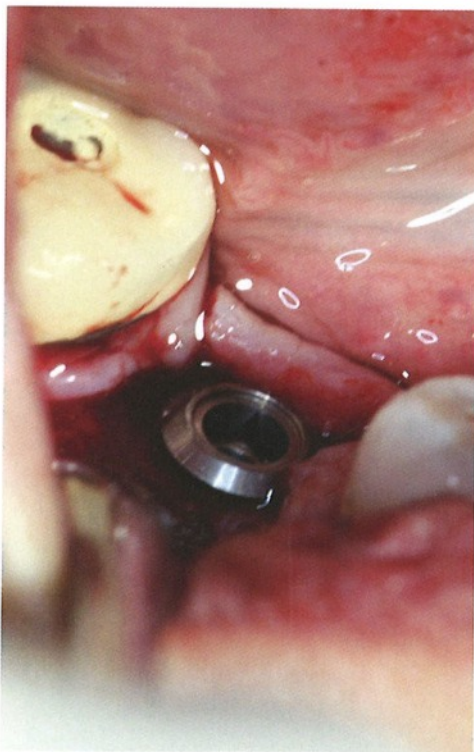


Fig 5: Implant mount removed.

Wide platform tapered tite fit 5 mm thread can be placed in most width conditions in molar region.

Fabricating a direct screw retained zirconium crown provides ultimate esthetics, hygiene and flexibility.

The 65 years old female patient had her lower right first molar extracted and 2 months later the extraction site was prepared for placing an implant (Fig.1).

Dill sequence was completed with 4.2mm Final bur (Fig.2).

In order to achieve the required result a wide platform tapered tite fit 5 mm implant (Hi-Tec Implants) was selected (Fig.3).

Implant was inserted to 1mm above bone level (Fig.4-5).

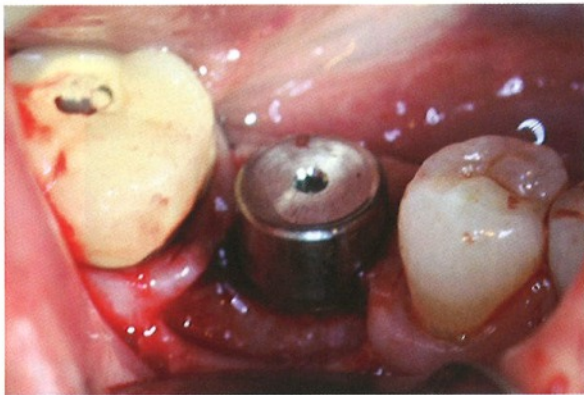


Fig 6: Implant with healing cap.



Fig.7: Sutures around healing cap.



Fig.8: Six weeks later after removing Healing cap.

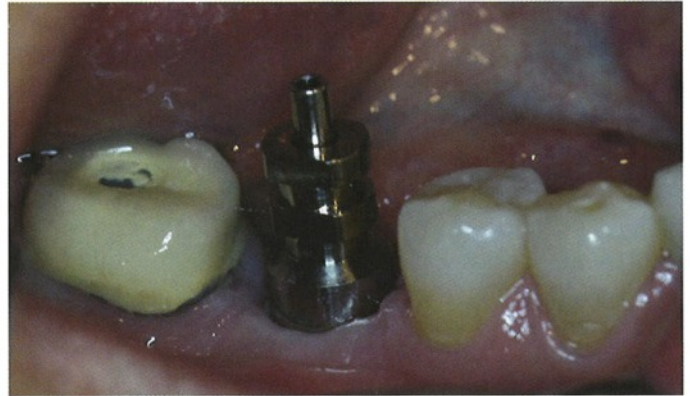


Fig 9. Open tray impression transfer.



Fig.10: Taking Open Tray impression.



Fig.11: Opening impression transfer screw.



Fig.12: Open Tray impression transfer inside impression.



Fig.13: Implant analog connected.



Fig.14: Implant analog in model.



Fig.15: Abutment for screw retained crown in model.

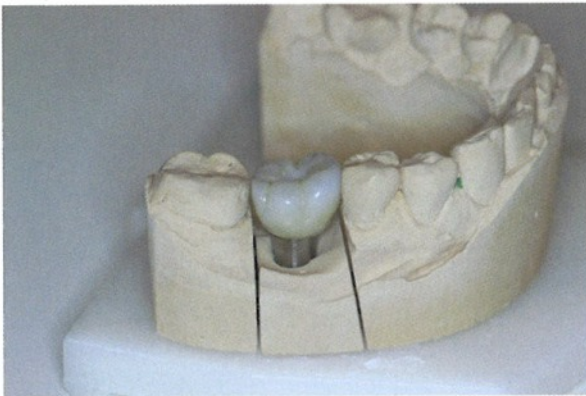


Fig.16-17: Screw retained Zirconium crown in model.



Fig. 17



Fig.18: Screw retained Zirconium crown on the implant.



Fig.19: Screw hole closed with composite.

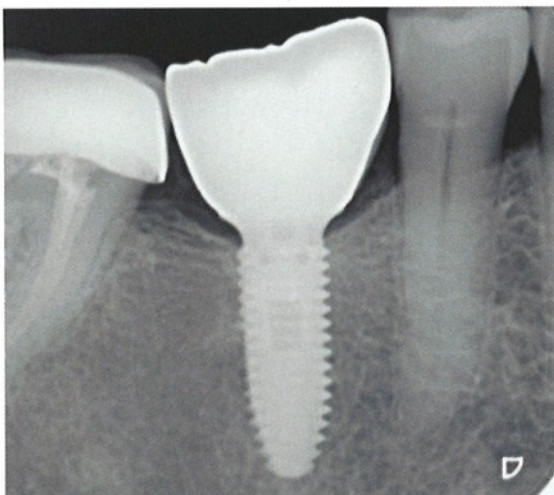


Fig.20: X-Ray after 2 years.

Healing cap was placed on implant and gingiva was sutured around it (Fig.6-7).

6 weeks later healing cap was removed and open tray impression was taken (Fig.8-11).

Implant analog was connected to impression transfer (Fig.11-13).

Screw retained direct Zirconium crown was fabricated and placed (Fig.16-19).

2 year follow up presented no loosening of screw and x-ray presented that bone level was preserved (Fig.20). ■