Introduction

Tooth replacement by an implant is derived from an evolution in the concept of osseo-integration regarding concepts and technology. The method of osseo-integration is well documented as implant supported prosthesis has improved function, osseous preservation and esthetics, the single tooth implant replacement is more better for the patient than fixed partial denture that include preparation of the teeth. To wait several months before placement of the implants after tooth extraction to allow alveolar bone healing along with 3-6 months of load-free period to ensure Osseo-integration of the implants, it lead to obvious drawback of this treatment modality due to long treatment period. Accordingly, the gold standard of dental implant treatment aimed to decreasing the period of treatment and the surgical steps reduction so that no need to wait for complete healing of extraction site before implant insertion. To date, the opinion expressed widely in the scientific literature has been that subcrestal implant placement leads to increased crestal bone resorption. However, clinical studies addressing the implant-placement depth in relation to crestal bone have been rare. Data on subcrestal versus crestal placement have mostly come from animal studies, so that the aim of this study was to compare the esthetically differences between crestal and subcrestal immediate dental implant.

Materials and Methods

Sixteen patients with hopeless maxillary anterior and premolar teeth were selected from out patients’ Clinic, Oral and Maxillofacial Surgery Department, Faculty of Dentistry, Mansoura University. Dental implants were used by inserting in fresh extraction sockets followed by delayed loading after six months.

Inclusion criteria:
1. Non restorable maxillary anterior and premolar teeth that indicated for extraction.
2. Good oral hygiene.
3. Intact bony socket walls with at least 2mm thickness of labial and/or buccal cortical wall.
4. Patient age is more than 18 years.

Exclusion criteria:
1. Medically compromised patients
2. Patients aged <19 years.
3. Heavysmokers or previous heavysmokers.
4. Acute inflammation or infection that may affect immediate implantation.
5. Pathological conditions that lead to severe buccal bone resorption.
6. Trauma with detached or fractured bone plates.

Diagnostic aids:
Cone beam CT was used to evaluate the amount of bone, presence of any infection and the ideal measurement of the used implants.

Patients and methods:
Sixteen screwshaped, two pieces, commercially available titanium implants were used in this study. The selected 16 patients were randomly divided into two equal groups: Group A: It consists of 8 patients whose received immediate implant with subcrestal placement by 1.5mm. Group B: It consists of 8 patients whose received immediate implant with the quick crestal placement.
A traumatic extraction was made for the tooth to be replaced with maximum effort to maintain intact periodontal tissues of the adjacent teeth. A full thickness mucoperiosteal flap was reflected buccally to expose the alveolar ridge of implant site. The preparation of the recipient site was performed following the instructions of implant manufacturer under abundant saline solution irrigation. Then implants were placed through the bone which is relatively wide in the diameters with good initial stability with no grafting materials in the gapping space around the implants. The surgical site was irrigated with sterile saline solution and the mucoperiosteal flap was repositioned to its original site and sutured using 4-0 black silk.

An immediate periapical radiograph was taken to verify the final position of the implant. Postoperative antibiotic and analgesic were prescribed. Patients were instructed for maintaining good oral hygiene with only cold fluids and soft diet were recommended for the first 3 days. The sutures will be removed 6-7 days later.

**Prosthetic phase:**
All patients were recalled after 6 months for starting the prosthetic phase which include implant exposure using simple crestal incision, followed by removing the cover screw and insertion of the suitable healing abutments, leaving the patients with healing abutments for 3 weeks for gingival forming. After 3 weeks all steps of indirect impression technique were followed using impression posts, implant analogues and addition silicone rubber base impression material. Metal try in was done followed by cementing the final porcelain fused to metal crowns.

**Clinical evaluation:**
All patients were seen at regular time intervals for evaluation at 3, 6 and 12 months after implant placement with using pink esthetic score for evaluation of esthetics.

**Ethetics**

<table>
<thead>
<tr>
<th>Ehetics</th>
<th>Group A</th>
<th>Group B</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Months</td>
<td>Mean</td>
<td>±SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Ethetics</td>
<td>11.00</td>
<td>1.41</td>
<td>4.00</td>
</tr>
<tr>
<td>12 Months</td>
<td>10.75</td>
<td>1.16</td>
<td>3.50</td>
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SD: standard deviation  
P:Probability*:significance<0.05

**Test used:** Student’s t-test

The success rate was 100% of the both groups after 12 months follow-up in both groups.

**Discussion:**
At 6 months the mean and standard deviation were 11.00 (±1.41) at group A, 4.00 (1.31) at group B, at 12 months 10.75 (±1.16) at group A and 3.50 (±1.07) at group B. The P value was < 0.001 which was statically significant. All esthetics variables according to the pink esthetic score were higher in group A (subcrestal group) which in terms made this group much better regarding our results, it was similar to Richard et al. (8)

**Radiographic evaluation:**
Standard periapical radiographs were used to evaluate the implants at different follow up visits.

**Results**

From the previous mentioned results, it may be clear that immediate dental implant that placed in subcrestal position is better than equicrestal positioned one

**Conclusion:**

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References


6. Hermann JS, Buser D, Schenk RK, Cochran DL. Crestal bone changes around titanium implants. A histometric evaluation of unloaded non-submerged and
