

## Role of Extraction Socket Length Variations on Immediate Implant Success

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**Purpose:** This study aimed to evaluate both clinically and radiographically the role of extraction socket length variations on immediate implant success in maxillary anterior teeth.

**Patients and Methods:** This study comprised 16 patients complaining in one of the maxillary anterior teeth and not respond to conservative treatment (non-restorable tooth), the patients divided into two equal groups according to the extraction socket length; Group (I): Extraction socket length > 10 mm and Group (II): Extraction socket length < 10 mm.

Teeth were extracted a traumatically after raising a gingival flap and replaced immediately by immediate implant placement and after implant fixture placement, there were a gap between the implant fixture and alveolar bony socket walls which necessitated placement of cerasorb bone graft particles that is composed of  $\beta$ -tricalcium phosphate then the gingival flap was closed primarily with interrupted sutures. After 3-4 months allowed for healing and osseointegration, the implant fixture was exposed and the implant abutment was prepared to accommodate the final cemented crown. Then the patients were evaluated clinically and radiographically at 6 and 9 months after implant insertion. Clinically for mobility test, probing pocket depth measurements and gingival index. Radiographically through standardized periapical radiographs which were digitally analyzed using subtraction technique for calculating and comparison areas of bone gain detected in pixels.

**Results:** The patients divided into two groups, the sixteen patients comprised of nine males and seven females, their ages in-between 21 to 48 years with a mean of 32 years.

As regard mobility test, the 16 implants were successfully osseointegrated and no mobility were detected at either 6 or 9 months after implant insertion.

The mean of the probing pocket depth for group I and II was minimally increased after implant loading and no statically significant difference when compared together.

The mean for the gingival index of group I and II was decreased after implant loading and no statically significant difference when compared together.

As regard, radiographic evaluation the mean of areas of bone gain at 6 and 9 months after implant insertion were increased in both groups, and no statically significant difference when compared together, which indicated that there were successful osseointegration.

**Conclusion:** The immediate implant placement into fresh extraction socket has proven to be a safe and predictable procedure. As this shorten the treatment time due to reduction the number of the surgical procedures, maintains soft tissue height with preservation of the surrounding bone tissues for better guiding of implant placement and allows rapid rehabilitation by implant placement at the time of extraction.

**Keywords:** Immediate implant, socket length, vertical defect depth, cerasorb bone graft, implant success, survival rate, and osseointegration.

### Biography:

Ahmed Mohamed Sharbash graduated from Faculty of Dentistry, Tanta University in 2000, and he got a diploma in prosthodontics in 2004 from the same university. He got a master degree in oral and maxillofacial surgery in 2014 from the same university. Presently working as a dental specialist at Kotor General Hospital along in his private dental clinic.