

3rd Euro Congress and Expo on

Dental & Oral Health

June 16-18, 2015 Alicante, Spain

Influence of dimensions on the primary stability and removal torque of short dental implants.

Alghamdi Ali D, Fays Aljihny and Anil sukumaran
King Fahad Hospital, Saudi Arabia

Background: Reduced vertical bone level in the implantation area is often considered one of the limiting factors before implant insertion. Inserting implants of reduced length might be useful in order to avoid vertical bone augmentation prior to implantation. The use of short implants in compromised sites are considered an alternative procedure to avoid extensive surgical procedures such as sinus lifting and grafting.

Methods: 40 short dental implants (4.8 and 6.2 mm diameter with 5 and 7 mm diameter). fixtures were installed on 20 bovine rib blocks. The primary stability of the implant was measured by the resonance frequency using an Osstel * device. The removal torque values (RTV) of the implants was assessed using a Digital torque gauge instrument.

Results: Both 4.8 and 6.2 mm wider implants showed marginal increase in resonance frequency and removal torque values with 5 and 7 mm implants. However when the comparison was done between the two implants with different diameter a significantly higher primary stability was observed with 6.2 mm diameter implants.

Conclusion: From the observations of the study it can be concluded that short implants were able to achieve desirable primary stability. The primary stability substantially improved with short implants with wider diameter.

Biography

Alghamdi Ali D is the Head of Oral and Maxillofacial surgery department, King Fahad Hospital , Baha, Kingdom of Saudi Arabia. He won Second prize of best research at "IRAM2014"King Saud University , Riyadh. He is the Organizing committee member of first Saudi maxillofacial surgery conference, Jeddah,KSA. Organizing committee member of Riyadh 25th international dental conference.

ali.malghamdi@yahoo.com

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