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Letter to Editor

Immediate Load Small Diameter Implant: Could Represent a Simplified Fixed Solution in Lateral Incisor Agenesis?

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Maxillary lateral incisors are often congenitally missing, replacement of these teeth raises several important treatment planning concerns [1,2].

Upper lateral incisors agenesis affects approximately 2% of population. Bilateral cases are more common than unilateral, and women have a slightly higher prevalence than men [3,4].

There are several restorative options for the replacement of congenitally missing lateral incisors, including resin-bonded bridge, cantilevered bridge, and conventional full-coverage bridge. Each of these restorative options has a high degree of success if used in the correct situation. However the most common treatment alternative is the single-tooth implant. The main advantage of this type of restoration is conservation of tooth structure. It leaves the adjacent teeth intact [5].

Although the esthetic outcomes of implant-borne crowns replacing missing maxillary lateral incisors are far more appealing than they were 10 years ago, esthetic perceptions and preferences for this treatment modality can vary between dental professionals [5]. An effective aesthetic alternative to the traditional implants technique could be the use of a Small Diameter Implant (SDI) to support a long-term crown. This technique does not involve any preparation to the adjacent teeth, is minimally invasive and is fairly inexpensive. The reduced diameter of SDIs promote the positive peri-implant bone remodeling and also could stimulate the reshaping of the soft tissues offering aesthetic advantages [6].

Clinical case example

The patient is a young woman, 20 yrs. old, with agenesis of upper left incisor, she were already treated with orthodontic approach and temporary prosthetic restoration with Maryland bridge.

The X-rays and CBCT show enough vertical bone, but insufficient mesio-distal bone, according to the standard implant protocol. Therefore the SDI (SDI: 2.9 mm, length14 mm - EXACONE Leone Firenze, Italy) looked the best choice. The surgical approach has provided a minimally invasive flap therefore a pilot bur (2,2 mm) until in reaching a depth of about 16 mm, for positioning the implant 2 mm under the bone ridge. The final drill, diameter 2,8 mm, provides 6.5 mm depth; a manual ratchet was used to complete the screwing of the implant, and secure it 2 mm under the contour of the vestibular surface. the good primary stability allowed the immediate rehabilitation of the implant through the PEEK temporary abutment 15° tilted (Leone, Firenze, Italy). The prosthetic restoration was a resin crown curing the gingival contour and the contact points, and creating a groove that would simulate the cement-enamel junction where the free gingival portion would be placed. The temporary crown was previously extra-orally cemented to the temporary abutment. The revaluation after 2 months showed a good improvement of soft tissue and positive bone remodeling with satisfying aesthetic result. The proposed clinical

case highlights the advantages of the Small Diameter Implants (SDIs); the procedure is minimally invasive, allows to treat reduced interdental areas favoring a good soft tissue remodeling. the reduced diameter also favors bone remodeling in reduced times.

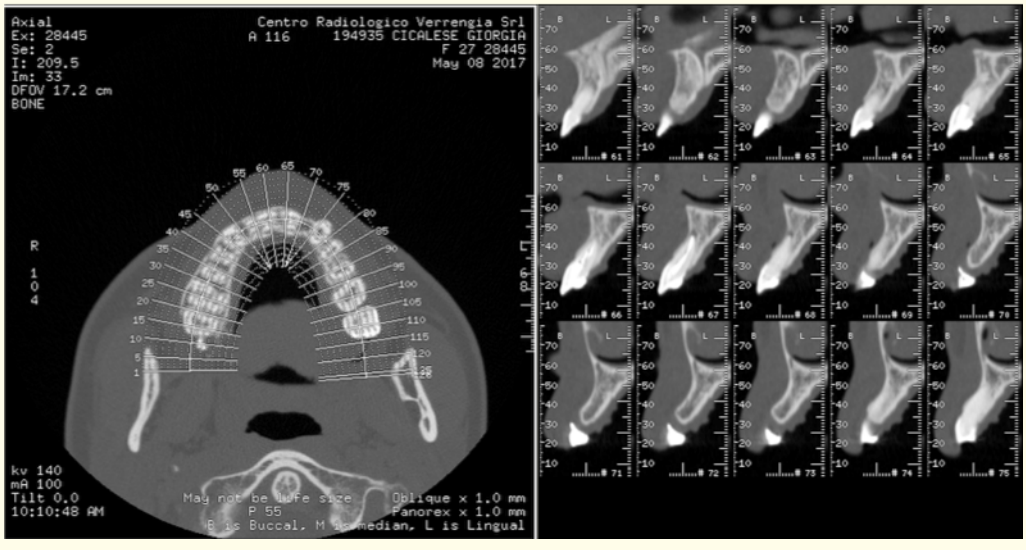

Figure 1: *CBCT for planning.*

Figure 2: *Initial situation after Maryland bridge removing.*

Figure 3: *Surgical procedure-drilling.*

Figure 4: *SDI insertion*

Figure 5: *Temporary crown cemented to the peek abutment.*

Figure 6: *Immediate after surgery.*

Figure 7: *Revaluation 2 months.*

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