A significant remodelling of the bone crest, especially horizontally, always occurs after the extraction of a tooth.1 This makes it difficult to insert an implant, especially in the frontal areas where residual bone thickness is fundamental in order to obtain optimal aesthetic results.2 In order to reduce this contraction a socket preservation technique consisting of the insertion of a bone graft and of a non-resorbable membrane inside the socket, followed after 4 to 6 months, by the positioning of a delayed implant was usually proposed.3 However, such a technique does not always have predictable results and requires a biphasic approach, thus extending the time needed in which to perform the implant-prosthetic therapy.

**Background**

Aim

To present a minimally invasive socket preservation technique. Such a technique consists of the insertion of a graft and a non-resorbable membrane, which regenerates the previously resorbed buccal or palatal cortical bone, and simultaneously, the post-extraction implant results or the predictability of the implant.

**Methods and Materials**

From February 2012 to March 2014, 15 dental elements, which had to be extracted and rehabilitated with implant-prosthetic therapy, were treated in a private dental practice. After tooth extraction, and after accurate debridement of the socket, an implant (3i; Implant Innovation Inc, Palm Beach Gardens, FL, USA) was inserted and positioned with surgical guidance.

**Results**

All 15 implants were osseointegrated with a follow-up ranging from a minimum of 3 months to a maximum of 18 months from the final fitting of the prostheses. In all treated cases there was no dehiscence of the buccal or palatal portion of the implant at the moment of its exposure. There were no site infections either before or after the removal of the non-resorbable membrane, and no patient presented with oedema or post-surgery ecchymosis after implant surgery. Six months after placement, periapical radiographs revealed an average of 0.82 mm ± 0.16 mm resorption in the area surrounding the implant.

**Conclusions**

One of the limiting situations when using post-extraction implants, especially in areas presenting a high aesthetic value, is represented by the resorption of the buccal plate of bone, which is fundamental for soft tissue stability in the area surrounding the fixture and therefore, for long term aesthetic results. The reconstruction of such a bone wall almost always requires an additional regenerative surgery, usually invasive for the patient, and precedes the prosthetically guided insertion of an implant. The use of a non-resorbable membrane, which was intentionally left exposed inside the socket and removed after approximately one month, seems to work as a barrier in the separation of the soft tissues from the bone graft. In this way, a post-extraction implant can be inserted even in the absence of the buccal plate of bone, allowing an atraumatic socket preservation technique to be carried out at the same time, and thus reducing treatment time, without impairing the final results. Further histological studies are needed to validate these promising clinical results.

**References**


Presented at the 23rd Annual Scientific Meeting of the European Association for Osseointegration
25-27 September 2014, Rome, Italy

Poster 646

ATRAUMATIC SOCKET PRESERVATION WITH IMMEDIATE IMPLANT PLACEMENT: A NEW SURGICAL APPROACH USING AN INTENTIONALLY EXPOSED NON-RESORBABLE MEMBRANE


NEW YORK UNIVERSITY