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Case Report

An Interesting Case of Upper Edentulous Jaw with Alveolar Bone Deficiency

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Abstract

Teeth will last for life, unless they are affected by oral diseases or professional interventions. Many retained teeth thus, may be an indicator of positive oral health behavior throughout the life course [1]. Tooth longevity is largely dependent on the health status of the periodontium, the pulp or peri-apical region and the extent of reconstructions. Multiple risks lead to a critical appraisal of the value of a tooth [2,5]. Oral implants are nowadays the best solution to replace missing teeth although, a good preoperative assessment, a right evaluation of the jaw bones quality and quantity, and the perfect time for implants placement, all are keys in the success of the procedure and long durability of the implants in the patient's mouth [3,4].

Keywords: *Upper Edentulous Jaw; Alveolar Bone; Chronic periodontal disease; Teeth; Maxillary sinus*

Introduction

A 61 years old patient came to our clinic complaining from severe periodontal disease and mobility of upper teeth, which were covered by a long span bridge of 11 units.

The bridge was done on five natural teeth. The teeth and the bridge were mobile and with a severe gum recession and inflammation. The panoramic x-ray showed peri-apical lesions and chronic periodontal diseases with bone resorption around all five teeth. These teeth were indicated for extraction.

Also the panoramic x-ray showed the drop of maxillary sinus and the indication for sinus lifting on teeth 15, 16 and 26, 27.

The patient had a bad oral hygiene, and after we controlled his oral hygiene we decided to remove the bridge and also the teeth and replace them by dental implants.

Case Presentation

Using local anesthesia infiltration, extraction of all upper teeth was performed with enucleations of all the soft tissue lesions either periapical or periodontal (Figure 2). The labial alveolar plate was totally reabsorbed. 3-sided flap was performed from #16 to #26, six implants were placed in areas as follow: #11, 12, 14 and on the other side #21, 22 and 24 (Figure 3). Later on, bone augmentation and ridge reconstruction were done by the use of cerabone particles mixed with autogenous bone that was taken from the upper arch, and all were covered by Jason membrane (Figure 4).

Figure 1: *A pre-operative panoramic x-ray.*

Figure 2: *Teeth extraction and flap elevation.*

Figure 3: *Placement of six implants.*

Figure 4: *Bone augmentation and ridge augmentation with placement of membrane.*

The patient refused to do a sinus lifting surgery, reason why we just decided to place a 10 units' bridge, which can be sit on six implants only.

After 2 weeks we started the procedure of construction of acrylic upper complete denture. The patient used the complete denture for 3 months till we got osteo-integration of our implants (Figure 5).

Figure 5: *Complete acrylic upper denture.*

Three months later, and under local anesthesia, the implants were uncovered by the use of laser device, their stability was checked and we placed the gingival formers for 14 days (Figure 6-8). After two weeks, an impression was taken using the open tray technique (Figure 9-12). 4 days later a trial metal bridge was checked in the patient mouth (Figure 13).

The bridges delivered to the patient 4 days later (ten units' bridges with 5 units on each side) (Figure 14, 15).

Figure 6: *Implants uncover with laser.*

Figure 7: *Placement of the gingival formers.*

Figure 8: *Gingival formers.*

Figure 9: *Impression.*

Figure 10: *Open tray technique.*

Figure 11: *Open tray technique.*

Figure 12: *Open tray technique.*

Figure 13: *Metal try-in.*

Figure 14: *Bridge in place.*

Figure 15: *Bridge in place.*

Conclusions

This case showed that good diagnosis with precise pre-operative planning was the key of success. In implant dentistry the harmony and cooperation between the surgeon, the prosthodontist and the dental technician is very important and mandatory in order to reach the point of perfection of our work.

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