Oral implant rehabilitation in a young patient in the aesthetic Zone: 5-year case report follow up.

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Abstract

Edentulism is usually associated with the aging patient. But, total or partial tooth loss also affects young patients, mainly as a result of trauma, decay, anodontia, or congenital and acquired jaw defects involving the alveolar processes. There has been hesitation to perform implant therapy for growing children. Little is known about the outcome of the osseointegration procedure in young patients, and until now, only a limited number of case presentations have been reported.

Background and Aim

The success of treatment of partial or totally edentulous patients with oral implants has been the basis for extending the use of implants in young patients with primary or acquired dental absence. This is a clinical case report of a rehabilitation with osseointegrated implant in an adolescent female still undergoing bone growth. Such a procedure is found to be controversial in the Literature, due to reports of bone development complications.

The main problem is installing implants in teenagers is that maxilla and mandible still in bone development. When the treatment is done before the end of the patient's growth spurt, studies show that these implants don't follow the continuous and spontaneous eruption pattern of natural dentition and may cause defects in alveolar process.

Methods and Materials

A 14-year-old female patient underwent surgery for installation of osseointegrated implant in the region of element 11 after having fractured the cervical portion of the root. The fracture had a 6-year history of endodontic treatment and internal root resorption, all closely followed by the endodontics clinic. Extraction was performed with minimal trauma to preserve region's alveolus and soft tissues. Immediately, alveolus was drilled and an implant (Drive CM® 4.3x16.0mm - Neodent) was installed positioned 2mm below the alveolar bone crest with primary stability of 30Ncm. Bone grafting regeneration with Bio-Oss® (Geistlich) and Bio-Gide® (Geistlich) was performed on the buccal region. The fractured tooth was used to make a temporary crown that was cemented onto the abutment in the same session. After one year of implant installation, a definitive metal ceramic crown was made. A 5 year follow-up was performed with clinical exam e periapical xray.

Figs. 1, 2 and 3 - radiological aspects

Results

The case has been followed for 5 years, with photographic documentation every 6 months, to monitor the rehabilitation outcome during the development of maxilla. Results so far show a minor misalignment between the prosthetic implant crown and neighboring teeth, still with no complaints of aesthetic nature by the patient. The maintenance and health of soft and hard tissues around the implant has been achieved.

Figures 5, 5 and 6 - years follow up

Conclusions

Oral rehabilitation of growing child is considered a challenge. However, dental care is extremely important to provide them a better quality of life, ensuring better aesthetic, functional and psychological conditions. All of these requirements were achieved in this case report, providing comfort and safety to the adolescent. And, until nowadays, no defects in the alveolar process have been observed due to the installation of the osseointegrated implant during the patient's growth phase. Only a small difference between the incisal edge of the crown compared to its homologue can be observed by photography, being imperceptible for the patient.

References

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