

A case of implant placement with preoperative orthopedics & orthodontics for congenital defects of bilateral mandibular premolars

Case report
No potential COI to disclose

BACKGROUND



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In recent years, the rate of congenital defects of permanent teeth in children in Japan is 10.1%, the second premolars are the most common congenital defects, and the second is the lateral incisors.

MATERIALS & METHODS

A 37-years old woman visited our clinic with occlusal pain in the left molars of the upper jaw and migraine on the left side. Intraoral examination showed congenital defects of the first premolars on the right side of the lower jaw and the second premolars on the left side of the lower jaw, and occlusal pain due to deep bite and pain in the left temporomandibular joint.

The treatment plan was to first perform a Bimler elite cephalometric analysis, perform preoperative orthodontics, the dentition was aligned as much as possible using bracket, and the crown width diameter was measured using an intraoral scanner to making space for the provisional of the right lower mandibular first premolar and the left premolar of the lower the same size. After orthodontic treatment, planning for the implant placement. It was a post retention period, we planned to making a surgical guide on each side so that it would not be affected by the movement of the teeth, and to making and install a superstructure with implant placement on both sides and fixed screws.

Flapless customized drilling ($\Phi 3.8 \times 5\text{mm} \rightarrow \Phi 3.8 \times 7\text{mm} \rightarrow \Phi 2.0 \times 9\text{mm}$) was performed, and the implant fixture was irradiated with plasma just before placement, activated, and Camlog progressive $\Phi 3.8 \times 9\text{mm}$ on both sides was implant placement along the cortical bone. Both ISQ showed more than 70 and more than 40 N of placement torque.

Figure , Table and more information here



RESULTS

Six weeks after implant placement, an increase in ISQ was observed, an optical impression was made with an intraoral scanner of the final superstructure, and installed 8 weeks later. The progress is good.

CONCLUSIONS

Congenital defects are not predictable, unlike acquired defects due to diseases such as caries and periodontal disease. Since there are many treatments for young people with congenital defects, it is necessary to consider treatment methods that are as predictable as possible.

In recent years, the use of digital dentistry has made it possible to consider the quality of life of patients and provide highly predictable treatment. Camlog progressive has an aggressive shape suitable for repairs that require high initial stability with a single read thread, and the initial fixation is easy to acquire. Immediate loading ,provisionalization and early loading can be performed by customizing drilling to acquire a high initial fixation in consideration of bone quality, bone mass, cortical bone thickness, and the design, diameter, and length of the implant to be used.

Osseointegration can be acquired at an early stage. Minimally invasive surgery shortened the time of implant treatment . of digital and analog. We report a case of a combination of orthodontics and implant with high quality and predictability due to the fusion .