



Combining Orthodontic and Implantologic Treatment in a Patient with Hypodontia

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Introduction

Hypodontia, the congenital absence of 1 – 6 permanent teeth in one patient, is a quite common finding, involving up to 11% of the population. Treatment options are either gap closure by orthodontic means or gap opening and replacement of the missing tooth by implantologic or prosthetic means. Whilst gap closure is used more often when only one tooth is missing in a quadrant, the absence of more than one tooth usually requires a combined therapy.

Patient and Findings

A 25-year old female patient presented with agenesis of the teeth 15, 25, 35, 12, 22. The orthodontic findings were asymmetric distal occlusion, non-occlusion of premolars, a deep bite and crowding of the lower frontal teeth.

Fig. 1: Hypodontia often results in a compromised smile



Fig. 2: Occlusal view before therapy was started



Treatment

Treatment was performed using both orthodontic and implantologic methods. In the mandible the gap for the missing tooth 35 was closed by orthodontic means. It was decided that no compensating extraction of the tooth 45 should be performed, thus accepting a midline shift to the left. In the maxilla, a palatal implant was used to secure anchorage during orthodontic alignment of the teeth. The gap for the

Fig. 3: Occlusal view during orthodontic therapy - the palatal implant secures the anchorage



agenetic tooth 12 was opened. As the tooth 23 had already taken the place of the agenetic tooth 22, the gap was opened at the position 23 instead of 22. Thus, excessive orthodontic movements of the tooth 23 could be avoided.

18 months after orthodontic treatment had commenced, two Xive® CellPlus®-implants (diameter 3.4mm) were inserted at the site of the gaps. After 24 months, simultaneously with the end of orthodontic treatment, porcelain-fused-to-metal crowns were cemented onto EstheticBase® abutments.

Fig. 4: Smile has improved after combined orthodontic and implantologic therapy



Fig. 5: Occlusal view after therapy - the crowns cemented on Xive implants at 12 and 23



Conclusion

Many aspects have to be taken into account when treating patients with hypodontia. The decision whether to perform gap closure or gap opening is based on factors such as presence of crowding or spacing, transversal and sagittal relation of maxilla and mandible, some cephalometric values, wishes of the patient and probably also the philosophy of the managing dentist.

Literature

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