

Treatment Procedure

At first, the prostheses with the marginal discrepancies were removed, and the #6, 7, and 8 teeth were extracted due to severe caries and periodontitis. Then, an immediate denture in the maxilla was set on a portion of the edentulous area (Fig.4).



Fig.4 Intraoral view with an immediate denture

However, the patient was dissatisfied with the dynamic stability and retention of the immediate denture. Therefore, the magnetic attachments that act as the retention elements were applied to the remaining radicular teeth (#3, 10, and 11 teeth). The magnetic attachments used in this case report were GIGAUSS D400[®] (#10 and #11 teeth) and GIGAUSS D1000[®] (#3 tooth) (GC, Japan). Keepers of the magnetic attachment were fixed with adhesive resin cement on the abutment teeth (Multilink[®] Automix, Ivoclar Vivadent, Liechtenstein) (Fig.5). As a result, the patient's complaints of functional dissatisfaction were resolved.



Fig.5 Seating of keepers on the abutment teeth

After the initial preparation (Periodontal treatment and extraction of the #14 tooth), the OVD was increased both by use of the treatment denture and by the built-up restoration using composite resin materials on the teeth, and the patient obtained an optimal occlusal relationship (Fig.6a,b).



a: Intraoral view with treatment denture

b: Composite resin restoration

Fig.6 Bite raising

As a definitive denture, a maxillary complete overlay denture was fabricated with a metal framework made of titanium alloy with magnetic attachments (Fig.7). Fig. 8 is an intraoral view of the definitive denture.



Fig.7 Maxillary overlay complete denture



Fig.8 Intraoral view with definitive denture

Conclusions

The results suggest that the magnetic attachment in the immediate denture could provide the patient with comfortable retention earlier. Therefore, continuous follow-up is necessary with occlusal adjustment and relining of the denture base to prevent any reduction of the OVD. In addition, periodontal management and force control of the remaining dentition should be evaluated during the maintenance program.