

# A case of lower removable partial denture with intracoronal and extracoronal dental magnetic attachments

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## Introduction

Dental magnetic attachment is very useful for the retention of removable partial denture. At this time, we report a clinical case of lower removable partial denture with intracoronal and extracoronal dental magnetic attachments.

## Clinical history

The patient was a 67-year-old female. She had visited our clinic 15 years ago for treating her TMD problem. One of the presenters (S.M.) treated of her problem. After finish the TMD problem, she was provided a removable partial denture.

Last year, she was provided a non-metal clasp lower partial denture for the edentulous region of No.34, 35, 36, 46, and 47 from a certain dental clinic. But she couldn't wear it for the gingival inflammation by the clasps of the denture cut into her gingiva.

She visited our clinic to be fabricated another esthetic removal partial denture on April 17, 2014 (Fig.1,2).



Fig.1 A removable partial denture fabricated in 15years ago



Fig.2 Intraoral findings (May 15<sup>th</sup>, 2014.)

## Treatment procedure

As No.45 and No.37 of direct abutment teeth were non-vital, No.37 were designed as magno-telescopic crown (Fig.3, 4). As No.33 of direct abutment tooth was vital, this tooth was designed as a resin-facing crown with an extracoronal dental magnetic attachment (Fig.5). Dental magnetic attachment (GIGAUS C600®; GC Corporation, Tokyo, Japan) were used as retainer in all three abutments. After fixed an inner crown of No.37 and a root cap of No.45 with adhesive

resin cement, a removable partial denture was fabricated by conventional method (Fig.6 7).

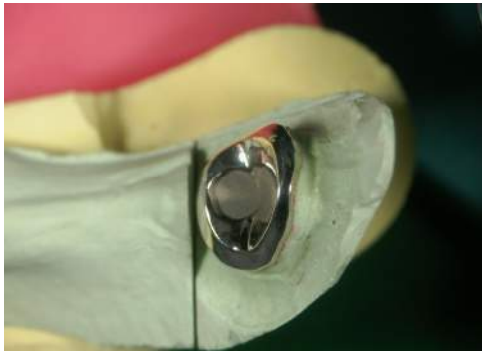


Fig.3 A magno-telescopic inner crown and a full metal outer crown on No.37.

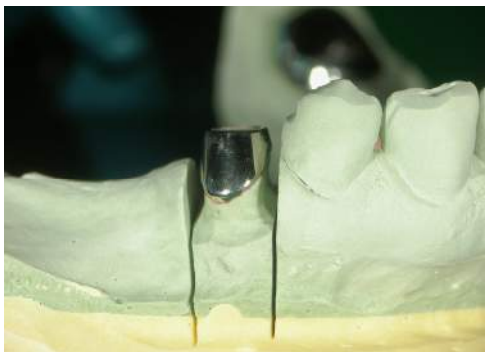


Fig.4 A magno-telescopic inner crown and a resin-facing outer crown on No.45

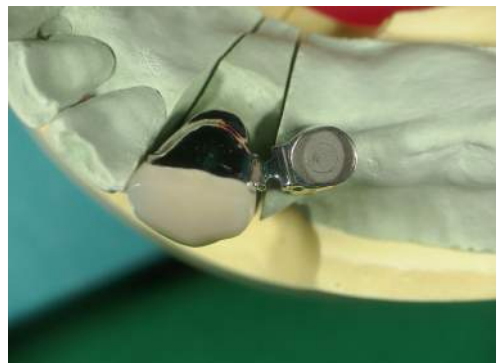


Fig.5 A resin-facing crown with an extracoronal dental magnetic attachment on No.33



Fig.6 Finished crowns



Fig.7 Wax denture

When try-in these crowns and a wax-denture, she complained against the outer crown of No.45. She refused to see metal color of occlusal surface.

So we decided that the inner crown of No.45 was used as the root cap of an overdenture (Fig.8).



Fig.8 Finished denture (Aug.12<sup>th</sup>, 2014.)

### Evaluation

We took the several evaluation of the oral QOL (Table 1).

Table 1 Pre and post evaluation

Items	Pre	Post
Occlusal force (N)	221.5	268.3
Masticatory ability (glucose: mg/dL)	147	180
Score of Mastication foods	39.7	39.6
POMS (mental function) (TMD)	55	29
OHIP14	30	26
GOHAI	29	36

### Conclusion

Because the finished denture was good esthetically, and putting on and taking off and the cleaning were easy, went to the satisfaction to a patient.

From the post evaluation, it was able to confirm improvement of the oral QOL concerned.

### Acknowledgement

We will express our special thanks to Katsuhiko Nagatomi who contributed to fabricate prosthesis of this case.

### Conflict of interest

The presenters declare no conflict of interest for this study.