#### Randomized controlled clinical trial of immediately loaded mandibular 2-implant overdenture retained by magnetic attachments: preliminary report.

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**Objective**

A mandibular 2-implant overdenture (2-IOD) as first choice standard of care for edentulous patients. However, few and inconclusive data are available on immediate loading of a two-implant retaining a mandibular overdenture with a breezeway type of connection. The null hypothesis of this randomized controlled trial was that there was no difference between immediate loading and conventional implant overdentures with magnetic attachments in terms of the implant survival rate and patient reported outcome using CAD/CAM template guided flapless surgery.

**Methods**

**Patient Selection**

Treatment protocol of this study was approved by the Institutional Review Board of Tokyo Medical and Dental University. Nineteen patients who had edentulous mandible at Dental Hospital Tokyo Medical and Dental University enrolled in this study. The exclusion criteria were as follows: In sufficient bone volume in the interforaminal area of the mandible, severe systemic diseases, radiotherapy and chemotherapy, osteoporosis.

**Prosthetic Procedure**

Prosthesis 1.

- Immediate group: Two magnetic attachments (Magfit, Aichi Steel Corporation, Aichi, Japan) were positioned into the mandibular complete denture at the surgery day in immediate group and 3 months after surgery in conventional group. The patients were instructed not to remove the denture for 0-1 week after operation. At this period the operator cleaned the implants and the denture every other day.

- Conventional group: Two implants, threaded titanium oxide-surface implants (Speedy Groovy, Nobel Biocare)(n = 38 implants), were inserted between lateral incisor and canine positions. The two magnetic attachments (Magfit, Aichi Steel Corporation, Aichi, Japan) were positioned.

**Results and Discussions**

**Outcomes**

1. Cumulative implant survival rate
   - The survival of each implant was evaluated clinically and radiographically. Surgical and prosthetic complications were recorded.
   - Patient reported outcome: CHFP-EDENT was used for patient reported outcome.

**Statistical Analysis**

Kaplan-Meyer analysis was used for evaluation implant survival rates. The differences from baseline were assessed by t-tests in each month. Significant level was set at p<0.05. All statistical analyses were performed on a personal computer with SPSS ver18.

**Conclusions**

In this 6-month preliminary study, the immediate loading of mandibular 2-implant overdentures with magnetic attachments resulted in favorable implant survival rate and oral health related quality of life compared to conventional loading.

**Reference**


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**Authors**

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**Fig.1**: Design of the randomized controlled trial.

**Fig.2**: The difference form baseline in summary score of CHFP-EDENT

**Table 1**: Implant variables

**Table 2**: Character of the participants.