

THE USE OF IMTEC'S MDI MINI-IMPLANTS IN THE TREATMENT OF TOTALLY EDENTULOUS MANDIBLE

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SUMMARY:

It is a hard task to produce full mandibular dentures for highly atrophic alveolar ridges. The lack of alveolar bone and attached gingiva enormously reduces the functional suitability of the dentures. The implantologic treatment is an often ignored opportunity, because of the necessity of additional surgical intervention for ridge augmentation and the advanced age of the patients. Thus implants with diameter 1.8 – 2.2 mm with spherical attachments for removable over-implant denture retention are possible alternative for the patients.

Key words: MDI, attached gingiva, over-implant denture

PURPOSE:

In the study are presented clinical cases with mini-implants with spherical joints for retention of removable over-implant mandibular dentures.

METHODS AND MATERIALS:

Patients at average age of 72. MDI implants with diameter 2.1 mm, length 10.0 or 13.0 mm and spherical attachment, placed flapless in the mandible in the mentum region. (Fig. 1.) The implants are loaded immediately with full over-implant dentures. The dentures are made on IVOCAP technology in advance.



Fig. 1. MDI after the placement)

RESULTS:

There is no swelling or pain in the postoperative period. The patients feel comfortable, because of the immediate denture placement and the chance to eat right after the surgery. Three years later there is no clinical or X-ray evidence about bone resorption. The retention rings are changed every 12 months.

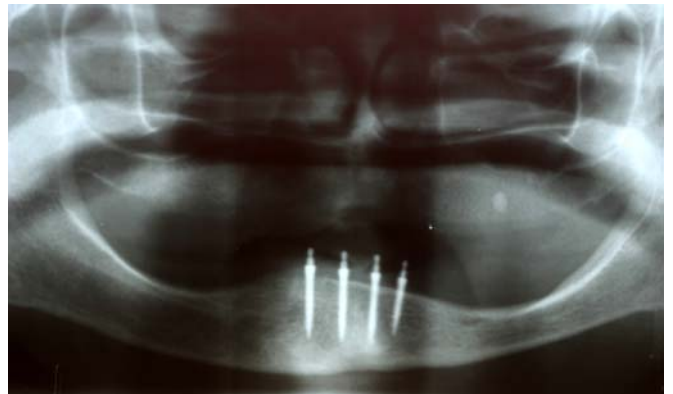


Fig. 2. OPG 2 years after the placement of the MDI

DISCUSSION:

This approach is particularly suitable for elderly patients or for ones with serious general disorders. It is a way to avoid highly invasive surgical interventions. The surgical and prosthetic protocol is easy to perform, even for general dental practitioners. It is important to pay attention to the necessity of high initial stability of the implant. On the other hand, the insufficient instrumentation of the osteotome opening could lead to implant's breaking (due to its small diameter).

Lingual piercing of the denture is possible at the matrices' fixation. It's not a big problem – the hole is filled with self-curing resin. (Fig. 3.) This however weakens the mechanical strength of the denture and it could break. It is also possible the self-curing resin to penetrate sublingually at the fixation. That's way the implants should be covered with foil while the resin curing.



Fig. 3. The matrices before fixation



Fig. 4. The aluminium foil protects the sulcus from resin's penetration.

Fig. 6.

OPG of the most difficult for treating with full prosthesis clinical case – totally edentulous mandible with advanced resorption and maxilla with natural dentition by 76 years old patient. MDI with spherical attachment could be a great possibility for retention of the dentures.



Fig. 5. The matrices, fixed in the denture

CONCLUSIONS:

The use of mini-implants with spherical joints for full mandibular dentures retention is a routine, time-proven method. It is recommended for elderly patients with marked atrophy of the alveolar ridge and variety of reasons (health, financial, psychological) for avoiding highly invasive surgical techniques.



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