Introduction
The distraction osteogenesis (DO) is a minimal invasive, tissue conservative intervention technique for skeletal malformation and improvement of the subsequent implant site. The main principle of the DO is well known from orthopedic surgery, where it is used for bone elongation. McCarthy has transferred this technique to craniofacial surgery [Lit.]

Case
Male patient, 51 years, bilateral free space since 12 years, vertical atrophy of 5,5-12 mm
14.06.2007: bilateral segmental osteotomy of the lower jaw, insertion of 2 distractors (Medartis AG) region 37-35/44-48, distraction-period: 16 weeks
09.11.2007: distractor-explantation, simultaneously insertion of 5 CAMLOG® Screw-Line-Dental-Implants (caliber 3,8 and 4,3 mm, length 11 and 13 mm)
15.04.2008: exposing and insertion of the gingiva-shaper; 2 weeks after plastic impression, insertion of the prosthetic at 25.06.2008

Surgical procedure
After conservative osteotomy of the jaw, subsequent bone distraction in designated dimension follows using a specially engineered apparatuses intraorally operable. Healing of bone is initiated after a latency period (1 week) and leads to bone consolidation. The resulting bone area (1mm per day) can be used subsequently for implant setting. The case presented allows gain of bone limited to 15-20 mm for use of subsequent five dental implants (System CAMLOG®).

Discussion

Advantage of Distraction Osteogenesis
• Rapid bone buildup (12-16 weeks)
• Predictable effect (prosthetic situation)
• Earlier point of time for implantation
• Lower risk for resorption of the jaw
• Lower risk of dehiscence because soft tissue would be expanded simultaneous

Disadvantage of Distraction Osteogenesis
• Segment dimension is limited
• Frequently development of granulation-tissue around the distractor
• Complex practice, narcotic supply required

Conclusion
Distraction Osteogenesis is beneficial for dental-implant surgery, because of the rapid and predictable bone grafting/augmentation with subsequent use as improved implant site. Distraction Osteogenesis can be stated as an interesting and promising alternative to conventional bone grafting techniques in pre-implant surgery.

Literature