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External validity of clinical study results - the German Astra Bone Level Study

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Authors:

Prof. Dr. Dr. Bilal Al-Nawas, Nabil Benabadj, Prof. Dr. Dr. Wilfried Wagner,
Klinik für Mund-, Kiefer- und Gesichtschirurgie, Universität Mainz
Dr. Dr. Tilo Johannes Barth,
Praxis und Praxisklinik für Mund-, Kiefer- und Gesichtschirurgie, Mannheim
Dr. Wolfram Eisenblätter,
Praxis, Karlstadt
Dr. Heinrich Hindelang,
Praxis, Nürnberg
Dr. Siegfried Hoelzer,
Praxis, Königsbach-Stein
Dr. Om Jangra,
Praxis, Alfeld/Leine
Dr. Christopher Köttgen,
Praxis, Mainz
Dr. Franz-Werner Krieger,
Praxis, Idar-Oberstein
Dr. Florian Müllner,
Praxis, Rosenheim
Dr. Anders Nordlund,
Praxis, Würzburg
Dr. Dr. Maximilian Ohneis,
Praxis, Abensberg Hallertau
Dr. Michael Pampel,
Praxis, Coburg
Dr. Alfred Rau,
Praxis, Wiesbaden
Prof. Dr. Ernst-Jürgen Richter,
Poliklinik für Zahnärztliche Prothetik, Universität Würzburg
Prof. Dr. Dr. Torsten E. Reichert,
Klinik und Poliklinik für Mund-, Kiefer- und Gesichtschirurgie, Universität Regensburg
Prof. Dr. Dr. Dr. Robert Sader,
Klinik für Mund-, Kiefer- und Plastischen Gesichtschirurgie, Universität Frankfurt am Main
Dr. Martin Ullner,
Praxis, Hochheim am Main
Dr. Stefan Ullrich,
Praxis, Weiden

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European Association for Osseointegration 17th Annual Scientific Meeting
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Introduction

The aim of this study was to evaluate marginal bone resorption at two different implant shapes focussing on differences between high recruiting implant centers and low recruiting implant centers.



Fig. 1: Situation prä-OP



Fig. 2: Insertion of Astra Tech® standard implant



Fig. 3: Situation post-OP



Fig. 4: AstraTech®-Implant



Fig. 5: Post-OP

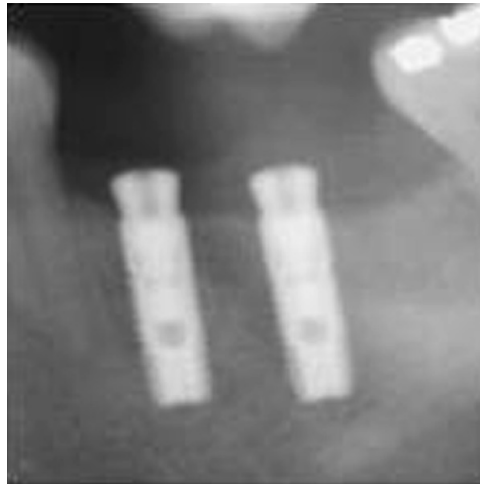


Fig. 6: After 24 months

Material and Methods

4 university clinics and 14 single practices took part. Inclusion criteria were two missing teeth in the lower jaw distal of the incisor. No augmentation procedures and a planned fixed restoration. In all patients one straight Astra implant (3.5 or 4.0 mm) and one conical Astra (4.5 or 5.0 mm) were inserted. 125 patients with 318 implants were included. Panoramic X-ray images were taken at 5, 12 and 24 months.

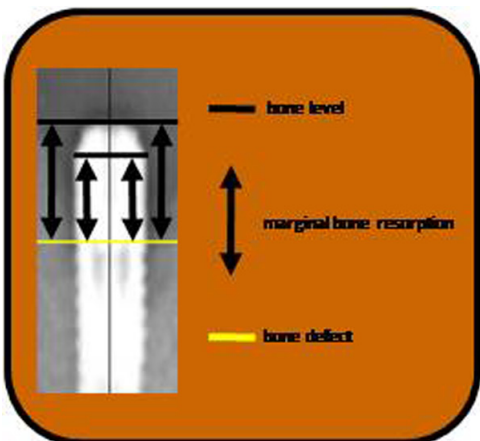


Fig. 7: Measuring specification

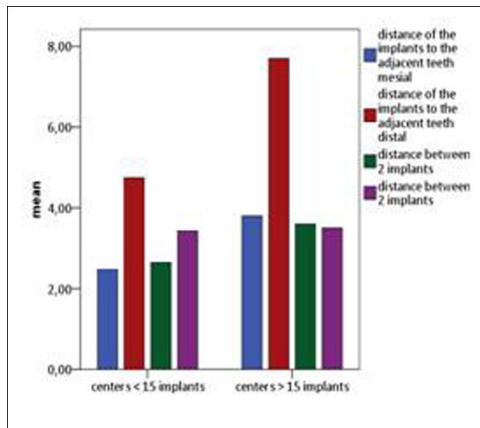


Fig. 8: Distance between implants and teeth

Results

- One implant was lost.
- The median implant length was 11 mm with a diameter of 4 mm.

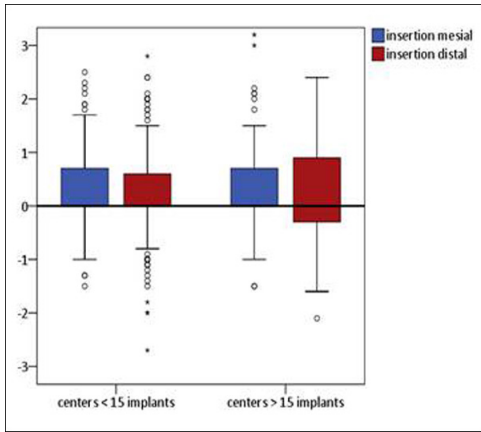


Fig. 9: Depth of the insertion

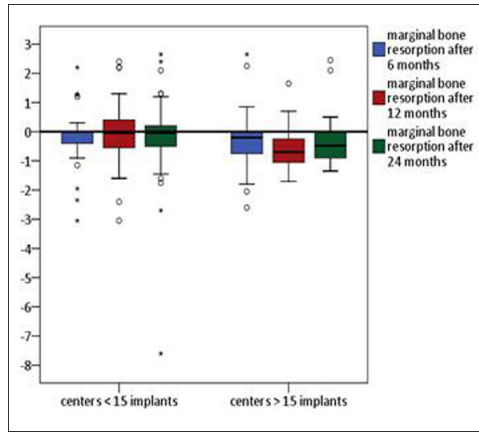


Fig. 10: Marginal bone resorption in high and low recruiting centers

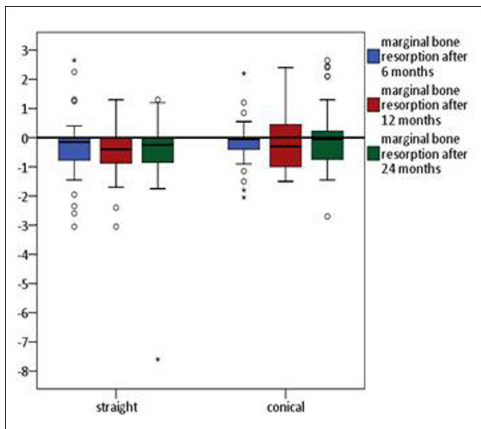


Fig. 11: Marginal bone resorption concerning the implant form

Conclusions

Conical or straight implant shape did not lead to different bone resorption. There was also no difference between high and low recruiting centers. Thus the result show a high external validity.

This Poster was submitted by Prof. Dr. Dr. Bilal Al-Nawas

Correspondence address:

Prof. Dr. Dr. Bilal Al-Nawas
 Klinikum der Johannes Gutenberg-Universität Mainz
 Klinik für Mund-, Kiefer- und Gesichtschirurgie
 Augustusplatz 2
 55131 Mainz



External validity of clinical study results - the German Astra Bone Level Study

A member of
PEERS
GERMANY

B. Al-Nawas, N. Benabadi, T. Barth, W. Eisenblätter, H. Hindelang, S. Hoelzer, O. Jangra, C. Köttgen, F.-W. Krieger, F. Müllner, A. Nordlung, M. Ohneis, M. Pampel, A. Rau, T. E. Reichert, E.-J. Richter, R. Sader, M. Ullner, S. Ullrich, W. Wagner

Aim of the study

The study objective was to record the survival rates of inserted implants, as well as the marginal bone resorption of enossal implants.

Material and Methods

At 4 university clinics and 14 single practices 310 implants from AstraTech were inserted. The inclusion criterion was "a minimum of two adjacent missing teeth in the lower jaw in a partially edentulous patient". Patients with bone augmentation in the implant area were excluded. Panoramic x-rays after insertion as well as after 6, 12 and 24 months were used for determining the marginal bone resorption.



Figure 1: Situation pre-OP



Figure 2: Insertion of Astra standard implant



Figure 3: Situation post-OP



Figure 4: AstraTech®-implant

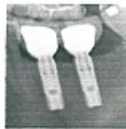


Figure 5: Post-OP

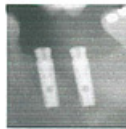


Figure 6: After 24 months

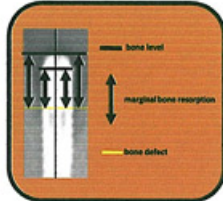


Figure 8: Measuring specification

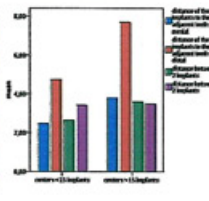


Figure 9: Distance between implants and teeth

Results

- The median implant length was 11 mm with a diameter of 4 mm.
- The intra-surgical depth of the insertion was mm.
- The distance of the implants to the adjacent teeth was 3.6 mm mesial and 4.0 mm distal.
- With only one lost implant in the clinics and no losses in the practices, the loss of implants was marginal.

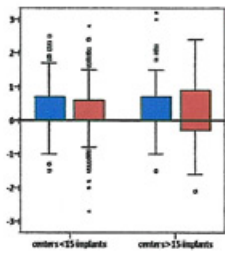


Figure 10: Depth of the insertion

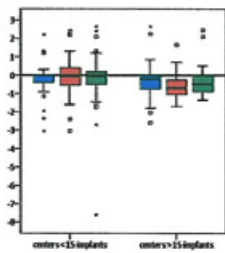


Figure 11: Marginal bone resorption

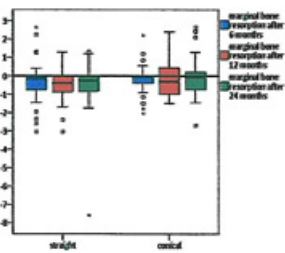


Figure 12: Marginal bone resorption concerning the implant form

Conclusion

The high survival rate of conical or straight Astra implants is confirmed by this study. Implant shape did not lead to different bone resorption. There was also no difference between high and low recruiting centers.