Retrospective follow-up of CAD/CAM Abutments

A.-R. Ketabi[1], H.-Chr. Lauer[2]

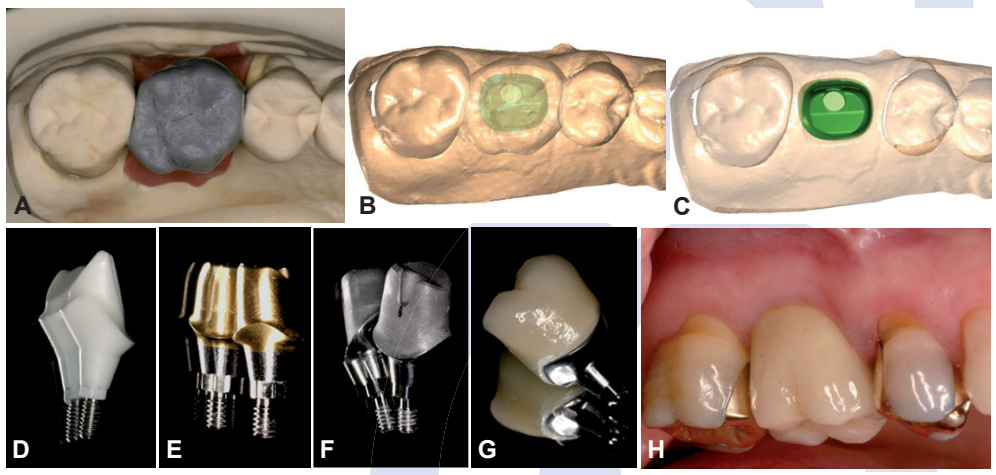
[1] Private Practice, Stuttgart, Germany
[2] Dept. of Prosthodontics, J.W. Goethe University, Frankfurt, Germany

Poster 102

Objectives:

Stock abutments are a common therapeutic method in implant prosthodontics. The geometric form is round like the implant. Teeth have a natural geometry which is individual for every patient. Apart from the purely functional side of the implant restorations, aesthetic aspects are very important for the patient. The design of the emergence profile plays an important role. Prefabricated abutments have a rotationally symmetrical basic shape and do not correspond to the passage area of the shape of natural teeth.
Atlantis® Abutments (Astra Tech GmbH, Elz) are individual abutments, CAD-designed and CAM- fabricated (Fig 1). The VAD® (Virtual-Abutment-Design) reduces the nature tooth geometry to an individual abutment. This leads to an emergence profile which supports the gingiva like the lost tooth. It is possible to produce the abutments in zirconia, titanium and in titanium-gold hue.

Fugure 1

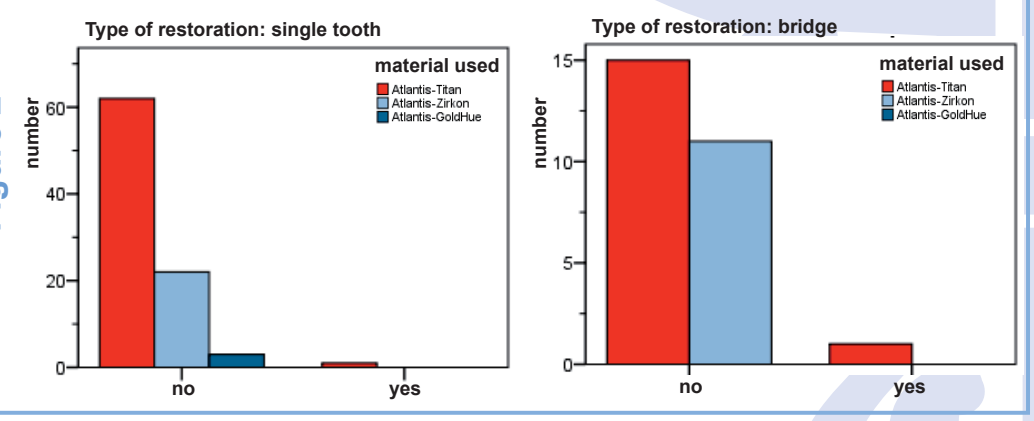


A: Wax-up **B:** virtual model after scan **C:** CAD-Abutment **D-F:** Atlantisabutments Zirconia /GoldHue/Titanium
G: titanium Atlantis abutment + crown **H:** Clinical state after placement abutment and crown 16.

Methods:

In this retrospective study, from July 2008 to November 2012 a total of 225 Atlantis abutments (titanium, zirconia, gold hue) were incorporated in 109 patients and followed up using a standardised findings arc. Clinical and radiographic parameters were evaluated one year after inclusion and compared to the baseline conditions. After the first year, clinical examinations were made once a year and radiographic every two years.

Figure 2



Correspondence Author:

Dr. med. dent. Ali-Reza Ketabi, Praxis Dr. Ali-Reza Ketabi, Epplestr. 29/a, D-70597 Stuttgart (Degerloch), E-Mail: alirezaketabi@yahoo.de.

Results:

70 patients with a total of 124 abutments were followed in the observation period. The mean observation time was 21 months (SD ± 9.7). During the observation period, there were only 2 ceramic fractures with exposure of the framework (Fig. 2). All abutments were in situ; only one abutment loosening (during the second year) occurred, which could be fastened again (Fig. 3).

The radiograph showed stable peri-implant bone conditions in comparison to the initial situation (Fig. 4).
The design of the abutments allowed for optimal adaptation of the peri-implant soft tissue.

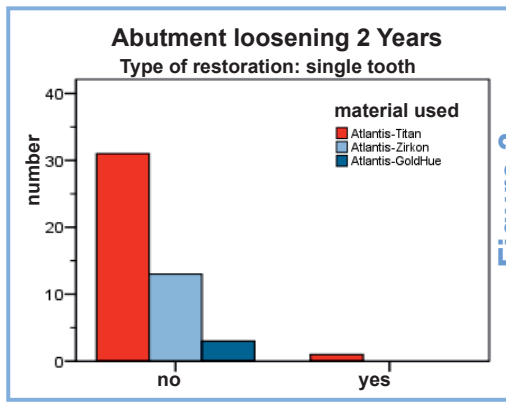


Figure 3

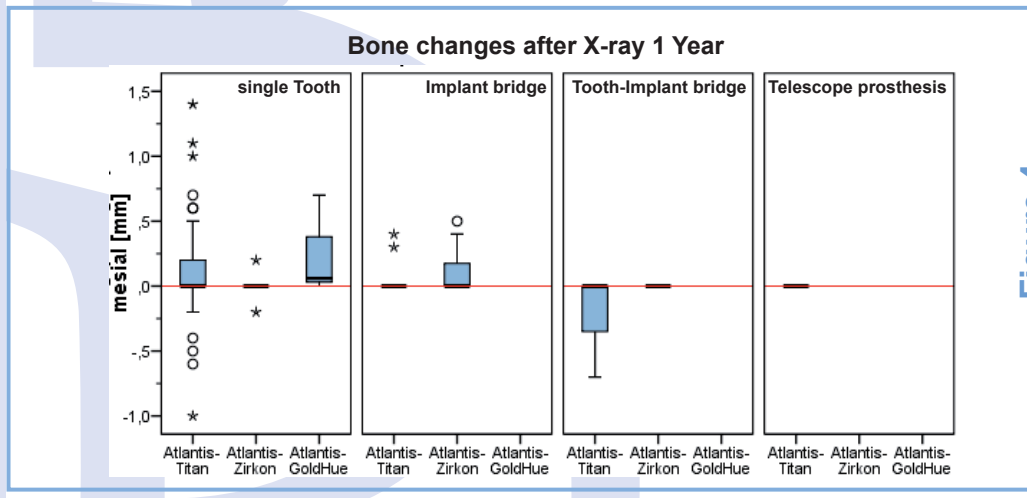


Figure 4

Conclusion:

The manufacture of individual abutments using prefabricated pieces is often difficult and costly. With the Atlantis method, abutments are designed starting from the ideal shape of the individual crown. This saves time and therefore costs.
The data presented reveal that Atlantis is a viable method to treat patients. Furthermore, functionally and natural aesthetic results can be achieved. The application of this method can be recommended.

Literature:

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