

Fast & Fixed as an alternative treatment in cases of periodontitis profunda

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Introduction

In the last few years, the Fast & Fixed therapy concept has proven itself an effective alternative treatment to conventional tooth implantation methods. This is especially true for patients who suffer from the severe effects of periodontitis profunda, i.e., the loss of all teeth, as shown in the case of a 44-year-old patient which is described below.

The Fast & Fixed method has emerged as an efficient treatment concept, especially when immediate implants are inserted at an angle. With that method, implantation is possible even in cases of bone loss. It

saves time and expenses, while at the same time offering the patient safety of treatment. The survival rate of those implants is between 93.7 per cent and 99.6 per cent.^{1,2}

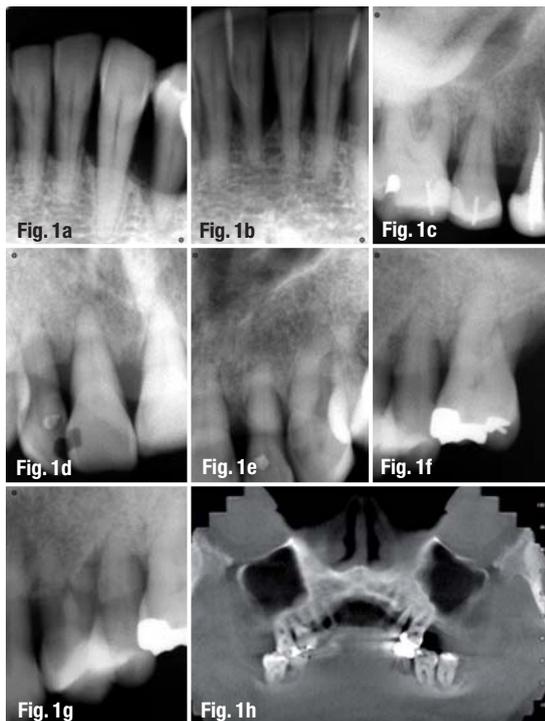
Studies that have examined the long-term survival of implants set at an angle and loaded immediately are especially interesting in this context. By looking at a time frame of ten years, it was proven that patients with reduced bone material can certainly profit from immediate implantations, in which the implants are set angularly. A loss rate of 2.9 per cent and, therefore, a success rate of 97.1 per cent were observed.³

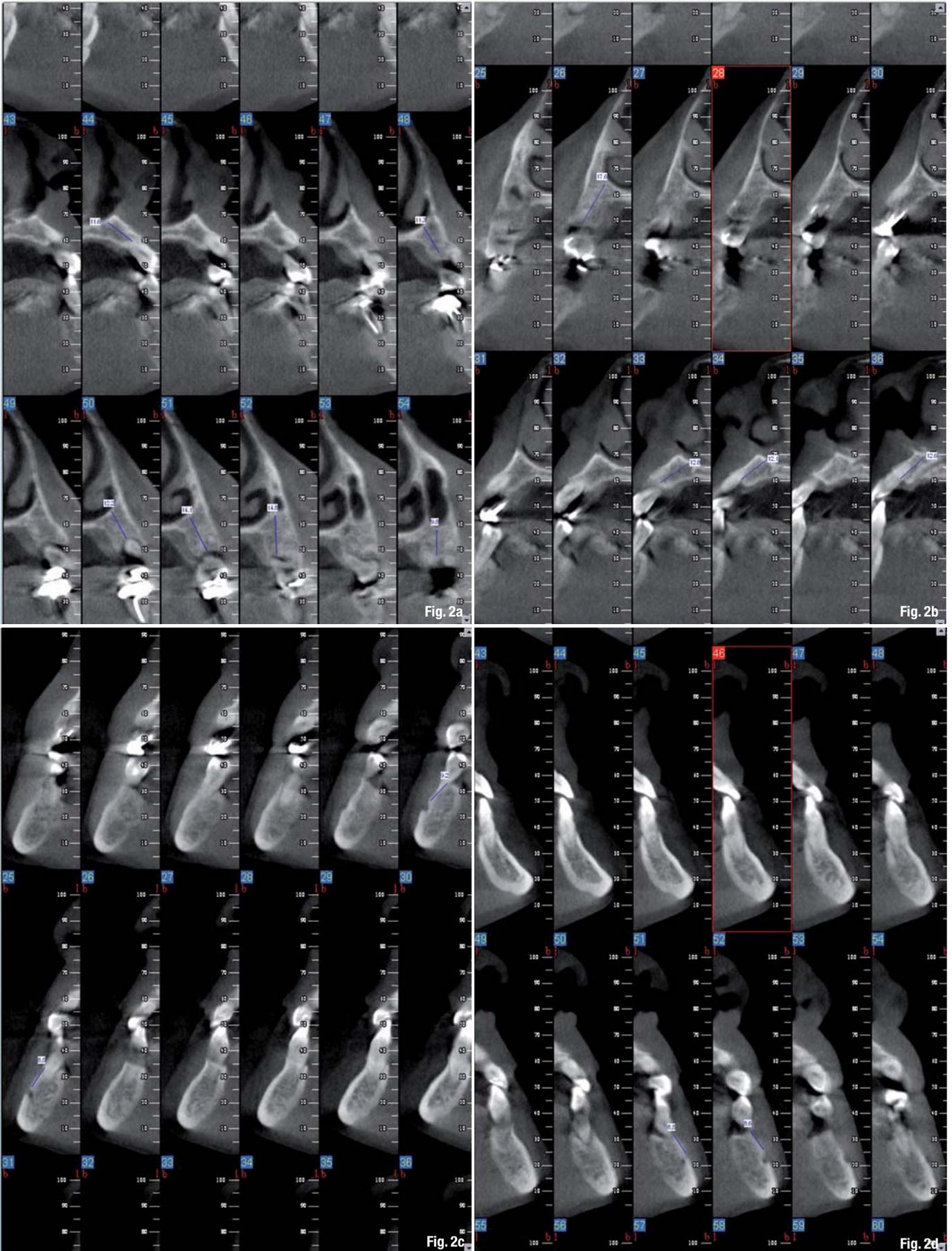
The Fast & Fixed method also compares favourably with delayed loaded implants. A large-scale study conducted in 2006 did not find significant differences between the two treatment methods when it comes to rates of healing and long-term success.²

However, when it comes to implants, it is important to always make sure that primary stability can be achieved, supported by well-fitting implants, so that safe healing and good load-bearing capacity of artificial teeth can be guaranteed. It is also important that the patient brings the proper conditions for an angular, immediate implantation: For complete treatment of the jaw he/she should be toothless (teeth may be extracted just before implantation begins). The implantologist should be experienced with regard to the method, and pre-operative diagnostics should have eliminated any possible risk factors.

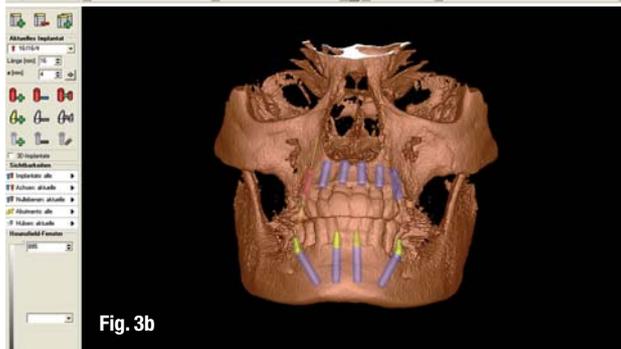
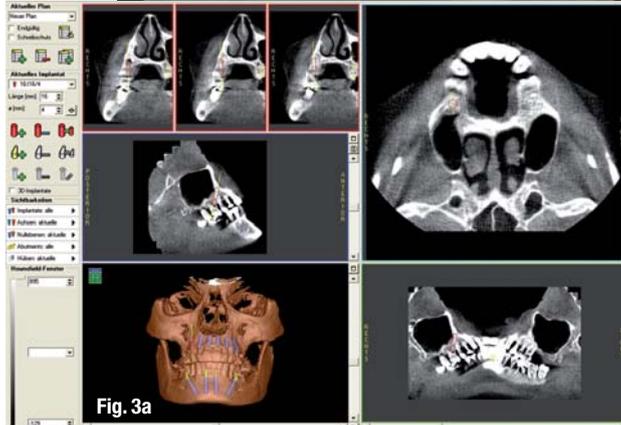
Digital volume tomography is the best method for pre-operative diagnostics because the images are more precise and allow a better planning prior to implantation. Especially in cases of bone loss, this is of extraordinary importance so that a decision can be made

Figs. 1a-h Pre-operative radiological views.





Figs. 2a-e_Images taken with digital volume tomography.



Figs. 3a & b_Co-Diagnostix Planning Software: Showing where to place implants.
Figs. 4a-d_Loss of tooth attachment shown during surgery.



whether or not an implantation is possible. With the proper planning software, actual preparations can be made virtually. For instance, in our clinic we use Co-Diagnostix.

Case presentation

A 44-year-old female patient suffered from periodontitis profunda and came to our clinic with the specific wish of not wanting dentures under any circumstances—even as a temporary solution. All her teeth were extremely loose. Nutrition for her was limited to soft foods.

The plaque control report of our clinical examination showed optimal oral hygiene. The last professional cleaning had taken place six months ago. An additional professional cleaning was not performed since no improvements could be expected and no concretions would enter the mouth during extractions.

Concretions were found subgingivally and approx- imally, which the patient could not remove in spite of all her best oral hygiene efforts because they were located too deeply to be reached by a toothbrush or dental floss. Looseness of her teeth was between 2 and 3, but mostly at 3. Bone loss had taken place equally in the upper and lower jaw.

Further diagnostic examinations were conducted via digital tomography. Digital tomography precisely illustrates available space, nerve placements and topography of the jaw cavity. With this examination method it could be determined that the patient's teeth could not be saved.

Use of the Co-Diagnostix software facilitated detailed planning for the positioning of the implants and the necessary sinus lift of the right upper jaw. Highest precision planning was made possible by the three-dimensional images and precise data gained by the use of digital volume tomography in pre-operative examinations.

Diagnostic findings were confirmed during surgery: Natural fastening of the teeth in the upper and lower jaw was no longer possible. The teeth were extracted.

After the extraction of teeth in the upper jaw, four implants were set at an angle of 17 degrees—regio 14, 12, 22, 24. In regio 26, one implant was inserted at a 35 degree angle. Afterwards we began a sinus lift procedure in the right upper jaw. Through a window in the facial bone wall we detached and lifted the Schneider membrane from the sinus floor, the mesial and distal walls of the jaw cavity. The resulting space gave us the opportunity of anchoring endosseous implants by fill-

ing areas of the jaw with the bone replacement material Allograft made by Zimmer Dental. The implant in regio 16 was inserted at an angle of 35 degrees and fastened bicortically. The biological material Allograft was stabilised with the addition of a Bio-Gide membrane made by Geistlich.

After extraction of the teeth in the lower jaw and smoothing of the jaw tissue, implants in regio 35 and 45 were set at a 35 degree angle, and implants in regio 32 and 42 were set at a 0 degree angle. All implants—in the upper and lower jaw—were provided with abutments and prosthetic caps.

Prior to surgery, plaster models had been made. Additionally, the dental laboratory prepared a mock-up of the bite pattern, affixing synthetic teeth for the upper and lower jaws. This way, instead of taking a rough traditional bite pattern with silicone and an individual tray after the operation, a more effective and innovative method was used. Right after surgery, the prosthetic caps were powdered, and the prepared mock-ups with synthetic teeth were affixed.

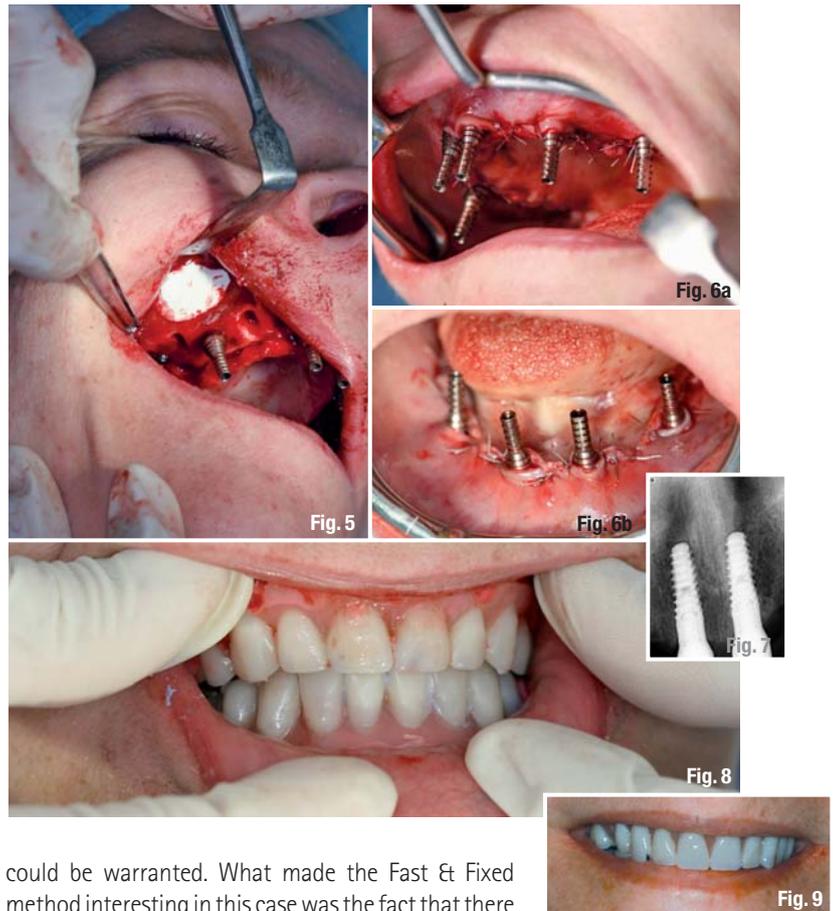
Advantages of this method: The base of the bite mock-up is used as an individual tray to show the dental technician the position of the gums. This is very important for making the base of the bridge. Using the synthetic teeth, the dental technician can determine and document the relation of the jaws, bite height, chewing-, central- and laugh lines, as well as shape and length of teeth for manufacturing the permanent dental prostheses.

This method allows the lab technician to begin making a long-term temporary solution. At the same time, this also results in enormous savings of time for the doctor and the dental technician. For the patient, there is one important advantage: A feeling of additional confidence. As in our case, the patient was able to see what her future prostheses would look like, making her feel more secure.

Conclusion

The Fast & Fixed therapy concept represents an interesting new development which has established itself in the last few years as a solution for toothless jaws.

This method makes a firmly seated and biomechanically supportive solution possible within 24 hours of implantation surgery. This was of special importance to our patient because she did not want removable dentures and preferred a fixed solution. Finishing her synthetic teeth the following day was made possible by the fact that no infection of the tissue was present on the day of surgery. The jaw bone was intact and was still of good quality, so that primary stability



could be warranted. What made the Fast & Fixed method interesting in this case was the fact that there was only limited bone density available, so that only angled insertion of the implants could lead to the desired success. Additional support was necessary in the right upper jaw which was obtained with the use of bone replacement material.

Bite impressions made prior to surgery saved the doctor additional time. The bite mock-ups are made exactly according to each patient's individual needs, thereby making the dental technician's work fast and efficient. The permanent prostheses are much easier to make since relation of the jaws, bite height, chewing-, central- and laugh lines, as well as shape and length of teeth had already been determined when making the mock-ups. Therefore, preoperative bite impressions and mock-ups represent an ideal addition to the Fast and Fixed method.

Fig. 5 Stabilisation with BioGide Membrane.
Figs. 6a & b Finished implantation in the upper and lower jaw, with soft tissue sutured.
Fig. 7 Post-op radiographs of the maxilla and mandible.
Fig. 8 Post-op fixed bite mock-up of the maxilla and mandible, checking occlusion for balance.
Fig. 9 Fixed long-term temporary solution with synthetic teeth made by Ivoclar, upper and lower jaw, 24 hours after surgery.

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