Possible applications of a new implant system

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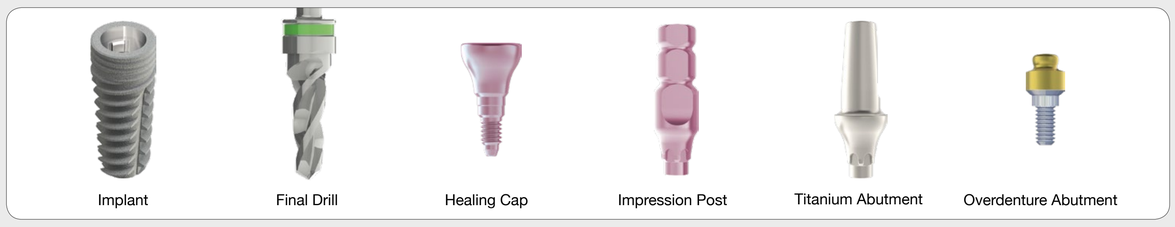
Task

This evaluation is intended to demonstrate the use and suitability of a new endosseous implant system under clinical conditions. The implants are placed surgically in the partially edentulous or edentulous jaws of the patients for functional and aesthetic oral rehabilitation. Subsequently, the prosthetic restoration is carried out with single crowns, bridges, partial or total dentures. The procedure was documented and evaluated in three phases, preoperative - intraoperative - postoperative. In the preoperative phase, the initial situation was recorded with radiological findings and a treatment plan was prepared. When selecting the patients, different indications were considered, such as direct implantation after extraction, late implantation or in connection with direct or previous augmentation. During the intraoperative phase, the implants were placed in a first step and subsequently left concealed in the patient‘s mouth for several months for osseointegration. In the second step, the treated region was reopened and then the soft tissue was shaped by healing caps. Finally, the patients received prosthetic treatment in the postoperative phase. As a result, the prosthesis was complete and the treatment was successfully completed. All steps were to be documented in writing, radiologically and photographically. In addition, the cases included are monitored and documented over the subsequent period.



Implementation

case study

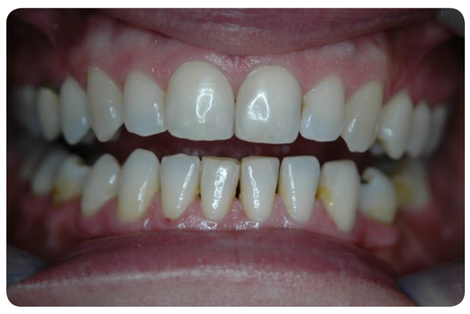


Fig. 02

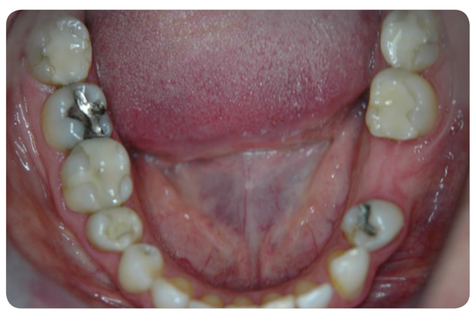


Fig. 03

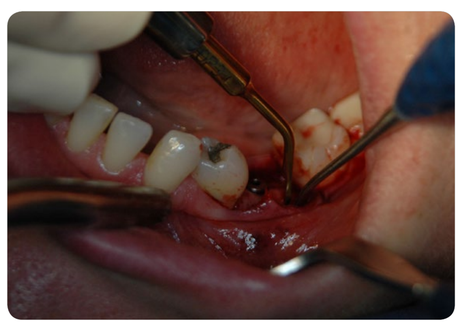
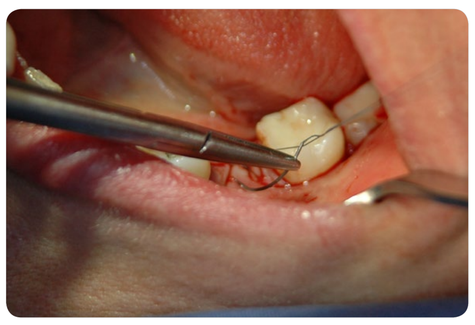


Fig. 04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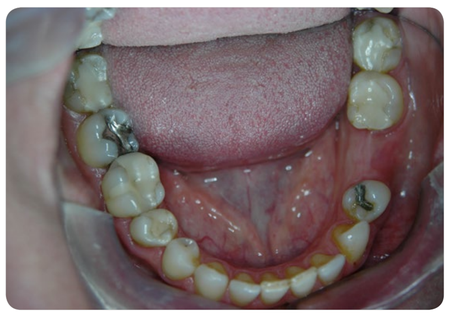
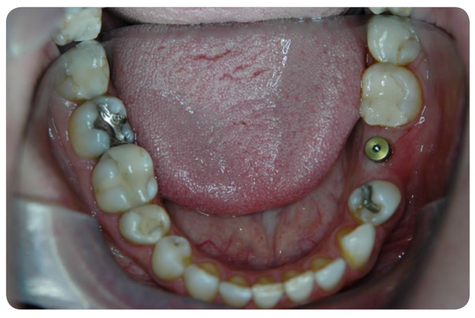


Fig. 06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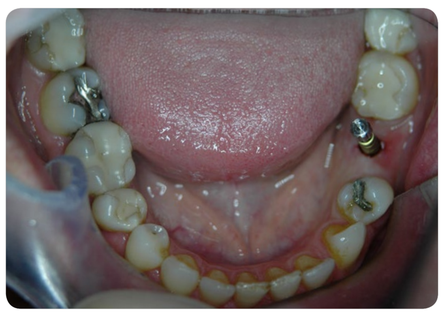
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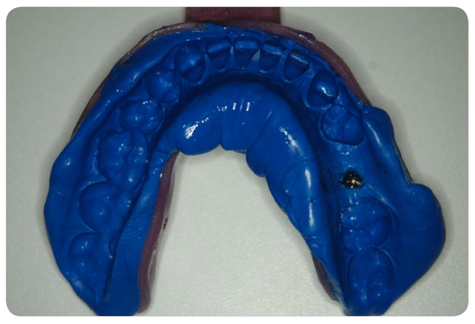
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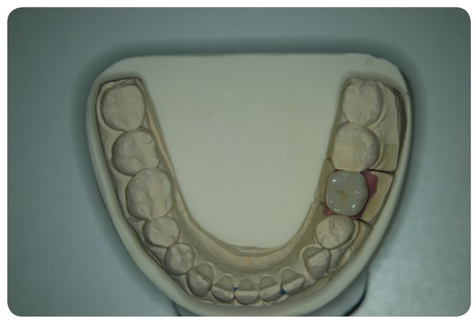
Fig. 10

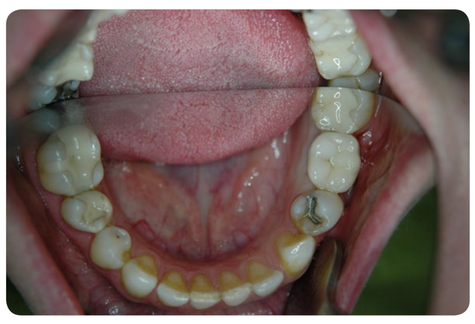
Fig. 11

In this case study (patient: female, 46 years, non-smoker) a ConeCept implant was placed in the mandible region 36. The bone quality was determined with D3 (after mixing). After conduction anesthesia, a ridge incision was made and a mucoperiosteal flap was formed that was not mobilized beyond the mucogingival border. The implant position was determined by measuring the distance to the adjacent teeth. At the determined implant position, the corticalis was first perforated using the piezo surgery method (Piezosurgery, Mectron S.p.A, Italy). The further drilling of the implant was carried out with the milling tool belonging to the system: pilot hole (1.5 mm), extension (32 100, 38 100), the final drill (42 100), and the associated countersink (4,2mm).

With the inserter, the implant was placed slightly subcrestally (approx. 0.2 mm). The primary stability was monitored by the torque control during insertion. The cover screw, which was charged with chlorhexidine gel at the windings, was screwed in. Autogenous bone chips were attached to the lower vestibular implant shoulder. These were obtained by means of the piezo surgery method and by collecting the drilling chips produced during the milling of the implant gallery. No soft tissue mobilization was required for wound closure, an artificial membrane was not used. The radiological control shows a prosthetically ideal positioning of the implant.

Exposure was performed 3 months after implant placement by ablation of the soft tissue over the cover screw using a CO2 laser beam (CO2 laser US-20D, DEKA M.E.L.A. S.r.l., Italy). The healing cap M in the height of 4.5mm was used. The osseointegration was examined using the Periotest method (Periotest M, Medizintechnik Gulden, Germany). The impression was taken with an impression post for open impression taking using an impression material with high final hardness (Honigum heavy, DMG Chemisch-pharmazeutische Fabrik GmbH, Germany).

A model with a model implant was fabricated in the dental laboratory and an all-ceramic crown was then fabricated on a customized titanium abutment.

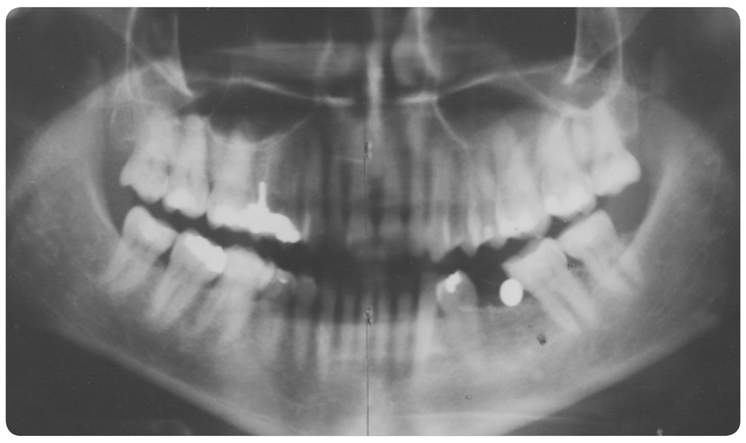
Fig. 01

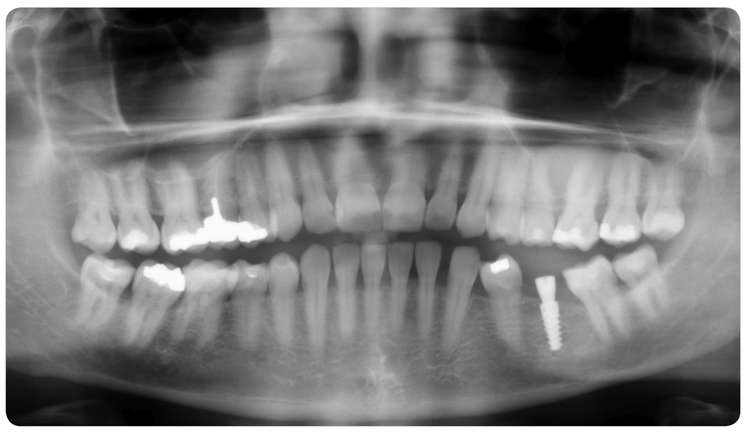
Fig. 12

bottom line

The ConeCept implant system was developed to meet the growing demand for more cost-effective treatment concepts for price-sensitive patients as well as the demand for simplified and standardized workflows in everyday practice. In addition, the number of components was reduced to an effective minimum and optimized for maximum practicability during application. The highest quality in production is guaranteed unconditionally. The ConeCept Implant System is based on the Platform-Switch concept and aims to provide an improved treatment method to maintain crestal bone level and prevent periimplatitis. The implant shoulder is not covered by the ConeCept abutment or other ConeCept abutment parts. Several studies have shown that this optimal soft tissue shaping has an improved emergence profile, which ultimately leads to long-term preservation of the prosthesis. In addition, the tapered connection (tube in tube) ensures maximum sealing at the interface between implant and abutment. The ConeCept implant is manufactured with its conical geometry as a self-tapping screw implant with a blasted and acid-etched surface using standardized state-of-the-art processes. The internal connection of the ConeCept Implant is equipped with three grooves to ensure high flexibility of abutment alignment (with six positions). In addition, the universal platform size promises a versatile selection of all prosthetic components regardless of the implant size. This ensures simple, time-saving and precise care, which optimises the time and error management of the practitioner.
The follow-up documentation of numerous ConeCept case studies proves the satisfactory application and underlines the success of the sophisticated implant system.

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