Perio meets implant dentistry

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The preservation of the natural dentition is the prerequisite in daily patient care. In advanced periodontal disease, the successful realisation of implant therapy requires knowledge in patient expectations, clinical diagnostics, proper surgical skills and delegation of basic services to dental hygienists. Implant treatment in severe periodontitis demands a two-step, time-tested approach, evaluating the outcomes of basic periodontal therapy before implant placement.

Integrated dentistry: Success

The successful positioning of dental partnerships in the fast-growing health market implicates predictable treatment strategies to save permanent teeth. According to orthopaedic, cardiac or vascular medicine, an on-time decision-making protocol for implant therapy is recommended to counterbalance functional and aesthetic discomfort in advanced endodontic and periodontal breakdown settings. Patient's current and future expectations drive our practices into the necessity to provide synergistic periodontal and implant treatment solutions. The advantages are:

- Optimising implant success by proceeding with periodontal therapy
- Enhanced economic profit due to by-effects from delegated scaling and root planing
- Promotion of oral and body health of both dental patients and staff members

The need to preserve healthy teeth and gums, the ever-expanding influences of web, TV and magazines and an increase in low-cost implant treatment render implant dentistry internationally attractive. The transition of dental practices into the implant market is reasonable, especially for growing dental partnerships. The capital investment and running costs for a surgical implant setting are redeemed by more than 30 implants a year. Because of the economic commitment, a careful financial strategy is needed not to neglect challenges and developing concepts preserving and salvaging compromised teeth from conservative and periodontal dentistry.

Decision-making

Classical implant therapy protocols comprise must-indications resulting in an immediate treatment plan. According to patient preferences, clinical settings and insurance plans, these must-indications with an ad-hoc implant placement recommendation are, in order of precedence:

- Long-term missing bridgeworks or prostheses, edentulous mandible
- Advanced endodontic damage
- Trauma (tooth fracture)
- Oral cancer surgery

Periodontal diseases represent con-indications. Treatment planning is running more complex. The decision-making comprises a time-tested therapeutic approach. In advanced periodontal settings of more than 50 per cent bone loss with furcation involvement level III, patients suffer from oral discomfort. The tooth prognosis becomes less positive, the frequencies of follow-up visits increase (Fig 1). Periodontal therapy ‘before’ implant planning is aimed at saving doubtful (not hopeless) teeth with a grace period of at least three to six months to evaluate for periodontal treatment outcomes. Thorough scaling and root planing frequently results in a mid-term improvement (two years) up to a long-term stabilisation (five years) of preliminarily affected teeth.

The decision to maintain the periodontally compromised dentition undergoes the following criteria (Fig 2):

- Patients with no preferences to comfort, aesthetics and costs
- Patients willing to accept enhanced tooth mobility, occasional

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The recommendation to replace affected teeth with implants is indicated in the following clinical situations and should be planned on-time after completion of periodontal therapy (three to six months):
- Patients running a demanding business striving for fixed teeth
- Enhanced masticatory and clear pronunciation
- Long-term re-habilitation without input in time, effort and expenses

Currently, the items above are effective at implant placements within the local bone, minor lateral hard and soft tissue deficiencies, following sinus floor elevation, in settings with sufficient implant abutment distances of 3mm and after periodontal therapy. Extended surgical protocols enhance treatment time (Fig 5), render the case prognosis uncertain and may aggravate long-term success.

Implant therapy in advanced periodontal disease

The survival rates of teeth with severe periodontal damage published in evidence-based studies are rarely valid for patients requiring treatment in dental offices (Fig 6). Shortcomings in oral hygiene, lack in supportive care, oral dysfunctions, stress, smoking and general disorders abbreviate the function times of periodontally compromised teeth sustainably.

The advice to replace affected teeth with implants in advanced periodontal settings within the maxilla implicates on-time patient information of the second and third molar removal: implant placement and prosthetic bridge works are scheduled in the functional masticatory area until to the first molar. In the mandible, the second molars can be preserved due to their beneficial root anatomy. They should be restored, but not included in implant planning. Following the removal of the first molar in the maxilla, the implant therapy is often preceded (if the supporting bone is less than 4mm) or accompanied by a simultaneous sinus lift. The implant treatment plan in periodontally compromised patients results in a reduced dentition (Fig 5):
- Fixed bridge works in the maxilla and mandible up to the first molar
- Maxilla: preservation of pre-molars and first molars, tooth removal and implant therapy with sinus floor elevation at furcation involvement level III (Fig 6)
- Mandible: preservation of second molars, restoration, no inclusion into bridge works
- Volume thickening with free autogenous gingival grafts in initial thin biotype settings (Fig 7)

Treatment of advanced periodontal disease with implants replacing the natural dentition is recommended “time-tested” 1.5 months following periodontal therapy (SNP).

Implant therapy should be performed with minimal augmentation. Extended surgical therapy prolongs treatment time, renders course prognosis unusually and may aggravate long-term success.

Implants require a comprehensive maintenance care. Peri-implant inflammations duplicate foreign body infections that are more harmful for the body health than periodontal diseases.

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