English

Soft tissue management around Alpha-Bio Tec implants in the esthetic zone – from the prosthetic aspect

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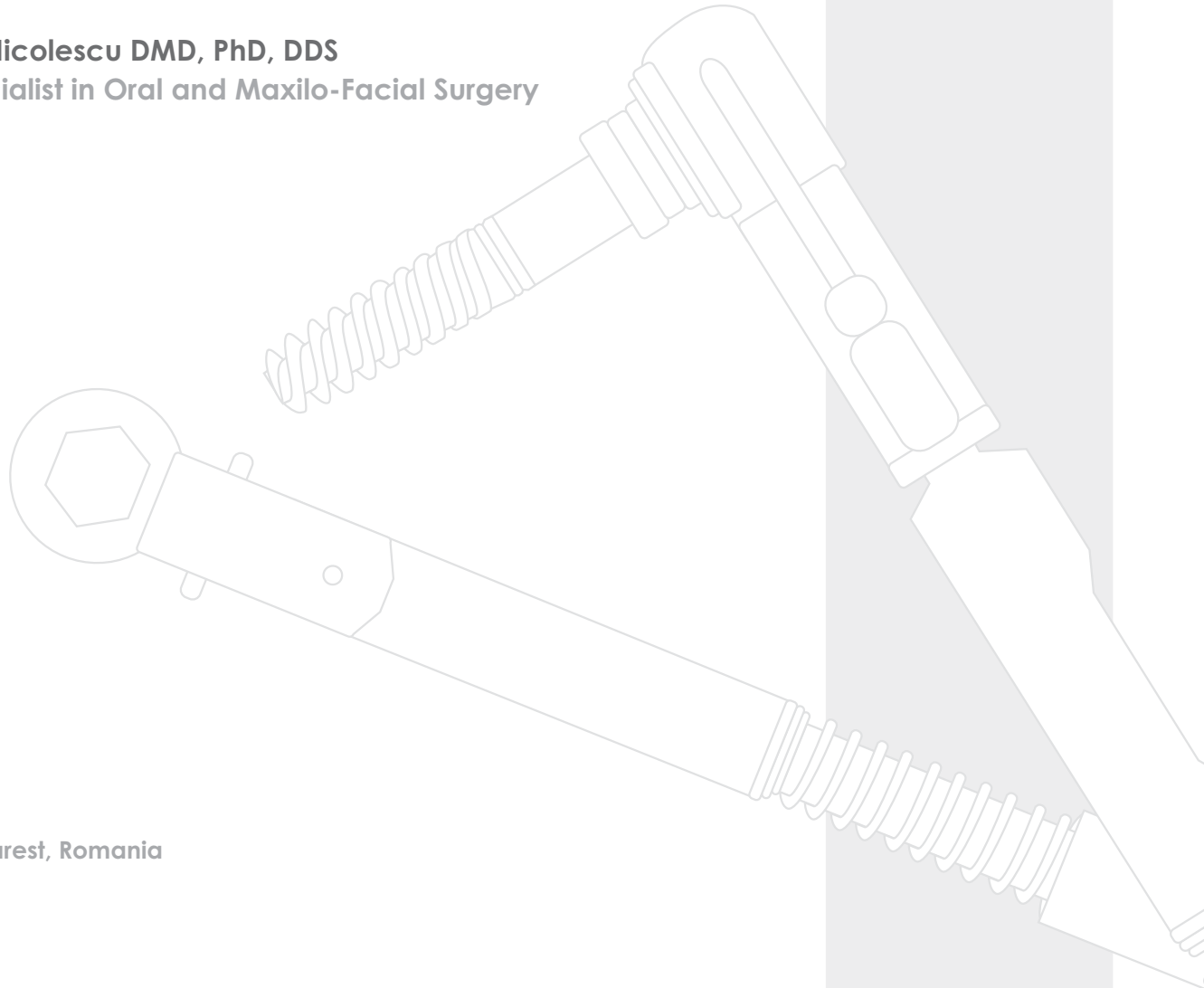

Bucharest, Romania

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Replacing damaged teeth with single implant supported crowns in the esthetic area is one of the most challenging clinical situations that a clinician has to deal with. In addition to given or surgically created local conditions for ideal immediate implant placement, the timing of the crown placement and how it is created are also very important. Immediate temporary appliances are necessary not only for preserving the bone tissue at the first stage level but also for guiding the soft tissue healing and modeling around inserted implant. This has a tremendous impact on long term stability of the achieved result.

The creation of predictable peri-implant esthetics requires proper preservation of the osseous and soft tissues surrounding the failing teeth, proper three-dimensional implant placement and proper understanding of prosthetic management (Redemagni M. et al. Eur J Esthet Dent 2009; 4:328-337). The structure and function of the mucosa that surrounds dental implants has been debated in several studies. When compared with gingiva surrounding natural teeth, there are several similar anatomical and histological features. Both have a pink color, a firm consistency, are well keratinized and are continuous with the epithelium and supra-alveolar connective tissue. Both tissues contribute to the establishment of the soft tissue interface, which may prevent the penetration of oral bacteria.

Immediate acrylic provisional on implant 1.5

Fig. 1

Color and texture of healed gingiva around implant

Fig. 2

The main differences between the two are the direction of the collagen fibers of the connective tissue, the brittle attachment of the fibers to the implant, and the lack of periodontal ligament around dental implants. Connective tissue is considered very important to support epithelium, block its apical migration and avoid pocket formation and gingival recession. (Rompen E. et al. Clinical Oral Implants Res 2006;17(Suppl 2): 55-67)

To evaluate esthetic implant outcome, it is important to consider the soft tissue profile (Pradeep AR et al. J. Periodontol.2006; 77: 534-544). There are three parameters to consider:

- Proximal papilla
- Position of the surrounding buccal mucosa
- Thickness of the surrounding buccal mucosa

Through adequate provisional restoration and by creating an emergence profile similar to tooth shape cervical area, it is possible to guide the healing and maturation of the soft tissues around immediately placed implants.

Anatomically shaped emergence profile of a temporary crown

Fig. 3

Anatomical emergence profile

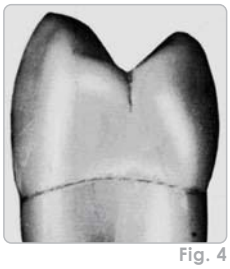

Fig. 4

Inappropriately shaped emergence profile

Fig. 5

After bone integration, the final crown should respect the three-dimensional anatomic-like shape, avoiding food impaction, enabling saliva clearance and sustaining the soft tissues around it.

After achieving the desirable results, the stability and positive long term prognosis of soft tissues around single implant supported crowns are directly related with bone crest stability and peri-implant bone mechanical stimulation (Tarnow et al. J. Periodontol. , 2000: 546-49).

Case 1 – Immediate implant – immediate restoration using natural extracted tooth 21

Case at presentation

Fig. 6

Panoramic x-ray

Fig. 7

Extracted 21

Fig. 8

Socket after extraction

Fig. 9

Implant placement before GTR – "envelop" flap

Fig. 10

Natural crown preparation for immediate placement

Fig. 11

Natural crown attached to implant abutment

Fig. 12

Palatal access for screw retention

Fig. 13

Single point suture

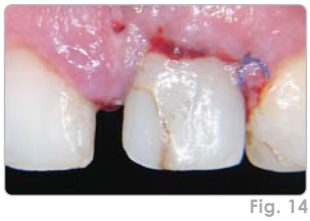

Fig. 14

Out from anterior guidance

Fig. 15

Healing after 6 month

Fig. 16

Anatomical soft tissue maturation

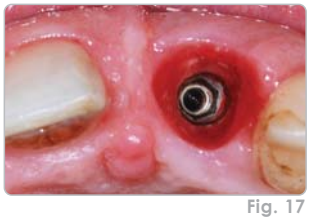

Fig. 17

Thick keratinized mucosa around implant 21

Fig. 18

Frontal area prepared for fixation of final restorations

Fig. 19

All ceramic restorations for 12, 11, 21, 22

Fig. 20

Soft tissue contour – occlusal view

Fig. 21

Final restoration after 2 years

Fig. 22

Panoramic x-ray after 2 years

Fig. 23

Turn page for the next case.

Case 2 – Delayed placement - immediate restoration on 21

Cist recurrence on 21

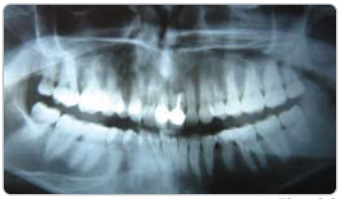

Fig. 24

Clinical aspect at presentation

Fig. 25

Provisional crowns prepared for placement after extraction

Fig. 26

Provisional crowns at 7 days after extraction

Fig. 27

Provisional crowns 8 weeks after extraction

Fig. 28

Natural profile of soft tissue contour - buccal aspect

Fig. 29

Occlusal view-no buccal natural contour caused by buccal plate dehiscence on 21 -indication for delayed placement

Fig. 30

Implant 21 flapless placement

Fig. 31

Screwed provisional emergence profile

Fig. 32

Gingival contour under 5 month provisionalization

Fig. 33

Soft tissues composite support for master impression

Fig. 34

Polyether master impression

Fig. 35

Final crowns on master die

Fig. 36

Zirconium abutment and final ceramic crowns

Fig. 37

Gingival contour after 3 years from crowns placement

Fig. 38

Frontal view

Fig. 39

Lateral view

Fig. 40

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