CLINICAL ORAL IMPLANTS RESEARCH

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Compromised implanto-prosthetic treatment with GBR in alveolar cleft reconstruction

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Background: Adequate alveolar bone base is one of the basic conditions for successful implant treatment. Age-related atrophies, pathological lesions, injuries, systemic diseases and congenital disorders cause various bone defects. The conditions of bone as well as gingival soft connective-epithelial tissues neigbouring to the alveolar cleft are very poor, deficient as well as refractory to any kind of augmentation and also resistant to adult-orthodontic therapy.

Aim/Hypothesis: AIM of the presentation. We do not planned a sequential surgical and orthodontic treatment in adults, but combine therapy based on GBR methodology when needed, and tooth-implants-prosthetic restoration.

Material and methods: Fifty-five year old woman had a special esthetic needs. She was born with palato-alveolo-labial complete cleft. She had a few surgical treatments in childhood with protocol of prof. Tessieu. She had partialy closed palato-alveolar cleft tissues and completely closed labial-lips tissues. Teeth 24, 25 were extraxted as hopeless (pain, mobility, big apical granulomas in both, no chances for effective endotherapy). Deep frozen allogenic bone block 10 x 10 x 7 mm size was fixed with a screw (Medartis) into the bone deffetcs after 24.25 tooth extraction. Six month later the screw was removed, the bone alveolar defect was completely filled by new cancellous bone. Two T3 Biomet 3i implants were installed. During next months the roots of the destroyed prosthodontics crowns on the teeth 15, 14, 13, 22, 23 and 26 were treated by individual inlays and reconstructive composites. All restored teeth and two installed prothetic abutments were the base for a six points prosthetic restoration. Patients accepted new porcelain-zirconia restoration in maxilla with gingivo-alveolar mask in the place of alveolar cleft. The analysis shwed no statistic significantly differences between the bone-margin of implants platform and no differences between level of gingival margin around the crown.

Results: Howhever patient fully accepted the success therapy - we tried to fix the vertical and sagittal lines of upper and lower central inciors. It was not possible, because of neighbouring alveolar cleft and asymmetry. We simulated many times the size of the teeth, their lenght as well as space between theem during waxup. It was difficult because of the lips deformation and irregular level of the lip-line covering anterior teeth. Patient accepted these anatomical imperfections, but did not accept surgical and cosmetic compensation of lip deformity.

Conclusion and clinical implications: Proposed methodology is fully accepted by the patients. The implants therapy is possible in adult patients with cleft palato-alveolar lip. This is one of the situations, where tooth-implants splinting seemed to be the choice, with good, acceptable esthetic effect, low iatrogenic procedure and its fully accepted by the patients. Success rate in that kind tissue deficiency seemed to be very good, bone remodeling has a slow metabolism, remodeling and slow reaction for mechanical loading or bacteria. The bone around the bone implant level was not resorbed and no gingival remission were observed during 3 years follow up.