Poster Presentation

CHARACTERISATION OF OPN, OC, ßdef-2, bFGF AND MMP-2 IN BONE OF CLEFT LIP PALATE (CLP) PATIENTS FROM FIRST TIME PLASTIC ALVEOLAR OSTEOPLASTY

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Aim. Cleft lip palate (CLP) is a disruption of facial structure. The aim of our study was to determine appearance of the tissue factors in bone of patients with CLP during first time plastic alveolar osteoplasty.

Methods. Immunohistochemistry was performed with osteopontin (OPN), osteocalcin (OC), beta-defensin-2 (βdef-2), basic fibroblast growth factor (bFGF) and matrix metalloproteinase-2 (MMP-2). For the quantification of structures, the semi-quantitative census method was used. Spearman rank order correlation coefficient and Mann-Whitney U test were used for the statistical analysis.

Results. A significantly higher number of OPN positive osteocytes (U=28,000; p=0.002) and MMP-2 positive osteocytes (U=26,000; p=0,012) was observed in the CLP group when compared to the control group. The number of OC positive osteocytes (U=15,000; p=0.000), bFGF positive osteocytes (U=21,500; p=0,005) and βdef-2 positive osteocytes (U=50,500; p=0.003) was significantly lower in the CLP group in comparison to the control group. Strong, positive correlation between βdef-2 and bFGF (rs=0.610; p=0.002) was detected in the CLP group.

Conclusions. Increased appearance of OPN positive osteocytes shows increased bone homeostasis which may be a possible compensatory reaction to decreased quality of postsurgical bone. Increased MMP-2 positive osteocytes could suggest that bone of patients with CLP is more requisite for tissue repair. Decreased appearance of bFGF and OC positive osteocytes possibly indicate reduced abilities for bone tissue repair and regeneration, together with the low appearance of βdef-2, which indicates a tendency for reduced anti-inflammatory mechanism, could suggest the possibility of decreased wound healing properties in bone of patients with CLP after primary osteoplasty.