

# **ABSTRACTS**

## **OF LECTURES AND SCIENTIFIC POSTERS**

**EUROPEAN ORTHODONTIC SOCIETY**

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Nevertheless, to date no studies have investigated the influence of anodic oxidation on the cellular viability and growth to the surface of the orthodontic temporary anchorage devices (TADs). Therefore the aim of present study was to investigate on the effects of anodic oxidation of orthodontic TADs on human osteogenic cells viability and growth.

**MATERIALS AND METHOD:** One hundred-twenty 5 mm and thirty two 10 mm titanium grade V disks were used for the experiments. Human osteoblast-like osteosarcoma Saos-2 cell growth was evaluated for 24 hours in two different sections and the number of cells was calculated in eight equal fields of view. Distribution and intensity of procollagen I signal was determined using Zeiss ZEN 2008 and SP1D8 as the antibody. Cell viability was analyzed by the live/dead viability/cytotoxicity assay kit (Thermofiscer). For cell migration assay a culture-Insert-2-Well (IBIDI) was used and monitored for 12, 24, 40 and 48 hours. Data collected were first analyzed by means of conventional descriptive statistics. Pearson product-moment correlation, supplemented by one way analysis of variance for unpaired samples, was used for statistical analysis.

**RESULTS:** The impact of TiO<sub>2</sub> coating resulted to be negatively associated to cell growth. No significant difference in cell death was found among different disks. Greater distribution and amount of procollagen I was found between the control group and TiO<sub>2</sub> covered disks. Finally, cell migration revealed significant differences in ability of cells to repopulate disk surfaces at an early time point. Nevertheless, after 48 hours all discs showed complete repopulation of the gap area.

**CONCLUSION:** Anodic oxidized miniscrews are not toxic for human osteoblast-like cells. Nevertheless, the anodization process of the TAD surface negatively influenced cell adhesion and migration monitored at 12 hours. However, at 48 hours no difference was found between TADs with or without anodic oxidation process.

#### 016 THE EFFICACY OF FUNCTIONAL THERAPY ON THE QUALITY OF LIFE IN THE MANAGEMENT OF TEMPOROMANDIBULAR DISORDERS IN PATIENTS AFFECTED BY JUVENILE IDIOPATHIC ARTHRITIS

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**AIM:** Juvenile idiopathic arthritis (JIA) is a chronic inflammatory joint disease which can cause cartilage and bone damage as well as disability. The temporomandibular (TMJ) is frequently involved during JIA and, given the important role of TMJ disorders (TMD), there is an increasing interest in therapies that could improve the quality of life (QoL) in JIA patients. The objectives of the present study were to evaluate the clinical effectiveness of functional therapy used to reduce TMD in patients with JIA and to determine any change in the oral-health-related quality of life (OHRQoL).

**SUBJECTS AND METHOD:** A cohort of 58 patients with JIA (mean age, 13.4 ± 3.3 years; range, 5-18.2 years) and with TMJ involvement. Each patient, following the collection of clinical parameters, was treated for 24 months with a functional appliance individually customized by acrylic resin and resilient stainless steel with posterior and anterior metallic bite planes. During clinical assessment, TMJ signs and symptoms were recorded and OHRQoL was measured using the Oral Health Impact Profile (OHIP-14) questionnaire designed to measure the frequency of problems associated with the stomatognathic apparatus. The differences before (T0) and after therapy (T1, 24 months) of the clinical TMJ signs and symptoms parameters were evaluated by the chi-squared test and the Friedman two-way analysis of variance (ANOVA) was used to compare the relative changes in the OHRQoL scores at T0 and T1.

**RESULTS:** All patients successfully completed the study. The use of a functional appliance resulted in a statistically significant difference in pain during jaw movement, maximal mouth opening, TMJ sounds and crepitations ( $P < 0.001$ ) and TMJ clicking significantly reduced at T1 ( $P < 0.05$ ). Significant changes were observed in the different OHIP-14 scores parameters ( $P < 0.001$ ) and there were significant reductions in the domain of the OHIP-14 scores as treatment progressed compared with T0 ( $P < 0.001$ ).

**CONCLUSIONS:** Functional therapy significantly improves OHRQoL and most probably reduces the level of TMJ inflammation and TMJ arthritis-related orofacial symptoms, and was safe and well tolerated by the patients.

# EOS2017



**93<sup>rd</sup> Congress of the European Orthodontic Society**

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## **CERTIFICATE OF ATTENDANCE**

This is to certify that

Gaetano ISOLA

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gave an oral presentation at the 93<sup>rd</sup>  
Congress of the European Orthodontic Society, which took  
place in Montreux, Switzerland from the 5<sup>th</sup> until the 10<sup>th</sup> of  
June 2017.

A handwritten signature in black ink, appearing to read 'Christos Katsaros'. The signature is fluid and cursive, with a long horizontal stroke at the end.

Christos Katsaros  
EOS President