P.292 Prophylaxis of mandible fracture inflammatory complications

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Actuality: The prophylaxis of inflammatory complications of mandible fractures has always actual. Up to now the efficiency of ultrasonic aerosol treatment by antiseptics has not been adequately studied.
Research purpose: to determine the efficiency of associated influence of low-frequency ultrasound with antiseptics solutions in the prophylaxis of inflammatory complications of mandible fractures.
Material and Methods: 90 patients with mandible fractures divided into two groups have been examined. The 1-st group consisted of 40 patients, who were treated by traditional methods. The 2-nd group included 50 patients, who were subjected to mouth cavity ultrasound treatment by the solution of sodium hypochlorite.
Research results: Clinical observations showed that in patients of the 2-nd group the traumatic oedema of soft tissues in the fractured area diminished and pain removed more quickly. Besides, there were not observed inflammatory complications.
Conclusions: The results obtained have proved the efficiency of mouth cavity ultrasound treatment by the solution of sodium hypochlorite.
The above enables to widely apply ultrasonic aerosol treatment of mouth cavity by antiseptics in treatment of mandible fractures.

P.293 Pullout-strength of a biodegradable free form plate

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Introduction: The Inion Free Form Plate is a new designed biodegradable plate just with pilot holes. After drilling through the plate and tapping, a conventional biodegradable screw could be inserted, followed by a cut of the screwhead. As an alternative a countersink screw can be used. The plate is estimate to show the same mechanical stability than a conventional 2.0 mm biodegradable plate.
Aim of the study: Aim of the study was a comparison of the mechanical properties between the 1.4 mm Free Form Plate and the 2.0 mm conventional shaped plate.
Material and Methods: The mechanical testing, plate pullout, was conducted for the both fixations of the Inion Free Form Plate with following screw: Inion OTPS 2.0×20 mm Screw. Further, the failure mode was reported.
Results: Regarding the yield load, first peak load and maximum load, overlapping confidence levels were found if the Free Form Plate and the conventional 4 hole plate were compared. The Free Form Plate fixed with a screw with head and countersink showed the highest stability at maximum load. Regarding the Strain at yield load, first peak load and maximum load, overlapping confidence levels were found. The results of the mechanical testings showed no significant differences of the mechanical stability between the tested plates. The main failure mode was a failure of the screw shaft.
Conclusion: The results of the current investigation imply that the 1.4 mm Free Form Plate could be used as an alternative to the 2.0 mm conventional shaped plate.

P.294 The etymology of names presenting to a London hospital

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Objectives: Throughout history trends in common names have become evident as populations diversify in their mix of culture, ethnicity and religious beliefs. We questioned whether such patterns existed in our population group as well as the origin and historical development of the most common surnames.
Methods: 11,600 surnames were identified from the Royal London Maxillofacial Trauma and Emergencies Database during the period of 2000–2007. Common surnames were defined as having a frequency of more than 10 occurrences per annum. The data was ranked on an annual basis over a period of seven years.
The most common surnames were Khan (17%) and Ahmed (14%) ranked jointly with Ali (14%). Names such as Miah (12%), Rahman (10%) and Uddin (9%) were also popular. The distribution of trauma and emergencies within each group will also be presented.
Conclusion: The study provides interesting background information in an area not commonly investigated by clinicians.

P.295 The markers of cellular interactions at traumas of maxillary

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A bone is the complex dynamic system in which processes resorbtion and formations of the bone simultaneously proceed. The central role in the reconstruction of a bone play the proinflammatory cytokines and representatives of the family of TNF receptors – RANKL. In this research patients with traumas of maxillary bones (45 patients) took part according to their informed consent. The patients have been divided into the 3 groups: 1 – with single fracture of the jaw, 2 – with bisides fractures, 3 – with multiple fractures of a jaw. The concentrations of IL-6, IL-8 and RANKL in the blood of a patients with traumas of maxillary bones were investigated. For further researches blood plasma were used. The concentration of cytokines was studied by immunoenzyme method. The results obtained were treated using the generally accepted statistical methods. It is revealed, that in all groups concentrations of IL-6 and IL-8 were authentically raised. Apparently, it connects with the reaction of an organism to a trauma and serves like as defence factors. The level of the RANKL in the group with multiple fractures was above, than in the groups with one or two fracture of a jaw. As RANKL is the activator of the osteoclastes, the high level of this mediator leads to damage of an osteosynthesis and serves as a risk factor of development of complications.

P.296 The role of lipid rafts on RANKL-stimulated differentiation

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Sphingomyelin (SM) is a major component of lipid rafts, which are specialized structures that enhance the efficiency of membrane receptor signaling and are the main source of ceramide. Among lipid rafts made up of cholesterol, glycosphingolipids, and SM-rich membrane microdomains, receptor activator of RANK is facilitated by the localization of receptors and proximal signaling components. Rafts are involved in receptor activator of RANKL/RANK-induced differentiation into osteoclasts through the translocation and clustering of RANK into rafts upon stimulation. Lysenin binds to SM-rich membrane domains and induces pore formation in the plasma membrane. We examined that the role of SM in RANKL-stimulated proliferation and differentiation into osteoclasts with RAW264 cells.
For TRAP staining, RAW264 cells were placed in each well of a 24-well plate and incubated for 24 hours. Cells were incubated for 4 days in culture medium containing sRANKL and 0, 0.1, 0.5 or 1.0 mM of MbCD. Cells were treated with MbCD for 30 minutes