

ULTRASTRUCTURAL ANALYSIS OF SUBMANDIBULAR SALIVARY CALCULUS IN COMBINATION WITH X-RAY MICROANALYSIS

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Introduction: Sialolithiasis is one of the common diseases of the salivary glands. It was speculated that, in the process of calculi formation, degenerative substances are emitted by saliva and calcification occurs around these substances, and finally calculi are formed. However, the exact mechanism of the formation of calculi is still a matter of debate.

The aim of this study: To analyze seven stones ultrastructurally to determine their development mechanism in the submandibular salivary glands.

Materials and methods: To study the morphology (the central and peripheral parts of the submandibular sialolithiasis - n=7) we used a VEGA TESCAN TS 5130MM scanning electron microscope equipped with an Oxford Instruments energy-dispersive x-ray (EDS) system.

Results: The study revealed the presence of numerous microstructures of different shapes (nodular, laminar, reticular, microgranular, and multinodular) and variable size arranged in a haphazard fashion. X-ray microanalysis disclosed the component elements in the calculi to be C, Ca, P, Mg, S, Na. The main constituents were Ca and P - in central vs. peripheral parts: 2.5 ± 0.9 vs. 0.8 ± 0.2 ($p=0.028$) and 2.2 ± 0.7 vs. 0.63 ± 0.15 ($p=0.02$). The major crystals were whitlockite and brushite in central parts of submandibular salivary stone and hydroxyapatite in the peripheral parts.

Conclusions: The diverse microstructures encountered strongly suggest that different mechanisms of mineralization occur during growth and development of the sialoliths. High calcium and phosphorous content in the food may be attributed to one of the reasons for the formation of sialoliths.

Key words: salivary gland stone, ultrastructure, x-ray diffraction.

AMELOBLASTOMA – MORPHOPATOLOGICAL, CLINICAL AND PARACLINICAL FEATURES

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Introduction: Prevention, detection and treatment of tumors in all countries have become over the last 15-20 years some of the most pressing problems.

Among the jaw bone diseases, as diverse etiology, clinical and morphological manifestations, odontogenic tumors are commonly encountered in clinical care.

Purpose: The aim of the study was to determine the incidence of a common form of odontogenic tumor - ameloblastoma and to highlight its morphopatological, clinical and paraclinical features.

Materials and methods: We have analyzed and processed 450 forms of observation (medical records) of the patients treated in the Oncological Institute of Chisinau, during 2000-2011. Out of these - 16 patients were diagnosed with ameloblastoma.

We tried to mirror the pathological anatomy, clinical signs, radiography, progression and treatment of the odontogenic tumor - ameloblastoma.

Results: Following a statistical analysis for the past 11 years, performed at the Institute of Oncology, we have detected 16 cases of ameloblastoma, showing a higher frequency compared with other odontogenic tumors of the jaws.

Ameloblastoma is a benign tumor, locally invasive, found most frequently between ages 20 to 40. Ameloblastomas typically occur as hard painless lesions near the angle of the mandible in the region of the 3rd molar tooth (48 and 38) although they can occur anywhere along the alveolus of the mandible (80%) and maxilla (20%). Although benign, it is a locally aggressive neoplasm with a high rate of recurrence. The tumor has a very slow growth, with no general symptoms, usually are asymptomatic until a swelling is noticed and without metastases, but recurs after incomplete removal.

Conclusions: Odontogenic jaw tumors present a difficult and complex issue, which requires extensive studies, in order to make an appropriate treatment. Ameloblastoma is the most common odontogenic tumor, and the analysis results show that the frequency of this type of odontogenic tumors is relatively high, with the most clinical and therapeutic importance of all odontogenic epithelial tumors.

World Health Organization data show about 10 million annual primary cancer patients. Moldova is not an exception, showing annually about 8000 patients with various primary sites of cancer process and the "Cancer-National Register" highlights that the indices are growing steadily. Analysis results show that the frequency of this type of odontogenic tumor is relatively high.

Keywords: Odontogenic jaw tumors, ameloblasts, ameloblastoma, slow growth.

ANGLE CLASS III MALOCCLUSION. DIAGNOSIS AND TREATMENT DENTOALVEOLAR FORM

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Introduction: Angle Class III malocclusions relate to abnormalities of sagittal are fairly common and complex pathology of maxillofacial region, which can lead to various complications such as impaired function of mastication, increased risk of periodontal disease, the development of disorders of the TMG and need of timely diagnosis and treatment of this pathology.

Methods: The study is based on observations of the dynamics in the treatment of 12 patients with Angle Class III malocclusions, aged 9 to 12 years and performed at the Department of Pediatric Oral and Maxillofacial Surgery, Therapeutic Dentistry childhood and Orthodontics at the Republic Children's Clinic «E. Cotaga».

Results: On the basis of observations of patients with Angle Class III malocclusions on clinical examination revealed violations of personal, functional, clinical and morphological traits and disorders in photometric, biometric and radiographic methods of investigation.

Conclusions: At the heart of a dental anomaly of Angle Class III malocclusion are functional disorders, not corresponding to the size of jaw and teeth, as well as genetic factors.

Class III malocclusion notes a violation of the facial profile, pronounced nasolabial fold and smoothed chin tuck. For intraoral examination indicated a combination of sagittal anomalies of occlusion with transversal anomalies.