

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.