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EVALUATION OF THE EFFICACY OF THE SALIVA MICROCRYSTALLIZATION TEST IN PATIENTS WITH SYSTEMIC BONE REMODELING DISORDER

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Annotation: This article evaluates the diagnostic efficacy of the saliva microcrystallization test in detecting systemic bone remodeling disorders, such as osteoporosis. The study compares saliva crystallization patterns with traditional diagnostic methods, including bone mineral density (BMD) assessments and serum biomarkers. Findings indicate that the saliva microcrystallization test shows promise as a non-invasive, cost-effective diagnostic tool. However, its variability and external influences require further investigation to enhance its clinical reliability. The study highlights the potential of this test as a supplementary method for early detection and monitoring of systemic bone disorders.

Keywords: Saliva microcrystallization test, Bone remodeling disorder, Osteoporosis diagnosis, Non-invasive diagnostic methods, Bone mineral density (BMD), Serum biomarkers, Systemic bone disease, Diagnostic efficacy.

Target: predicting the disruption of bone remodeling processes in patients with SCD based on the oral fluid microcrystallization test and increasing the effectiveness of surgical dental treatment in these patients. In this regard, we set the following

Tasks:1) To determine the frequency of occurrence of systemic imbalance of bone remodeling in patients with SCD. 2) To establish a correlation between the violation of bone remodeling and the crystallographic picture of oral fluid.

Materials and methods: All patients with SCD underwent an examination, including: a survey, examination, palpation of the salivary glands, OPG, computed tomography in the area of the submandibular salivary gland, sialometry, questionnaires, densitometry, and a microcrystallization test of oral fluid.

Research results: In patients in the control group, dendritic crystals,fern-shaped, have a complete appearance with clearly defined crystallization centers. In the 1st group of patients with calculous sialadenitis without impaired bone remodeling, crystal-prismatic structures of smaller sizes are predominantly located in the center of the drop, and in the intermediate

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zone there is incomplete crystallization, there are individual crystals. In the 2nd group of patients with SCD with impaired systemic bone remodeling, there may be small single crystals of various shapes over the entire surface of the drop, there may be no foci of crystallization and inclusions of an amorphous form may appear.

Conclusions: the saliva crystallization test reflects the processes of bone remodeling disorders in patients with SCD and can be used as a non-invasive, easily reproducible diagnostic method. In all patients with sialolithiasis, it is necessary to study the state of crystallization of oral fluid, and if it changes, to study the state of bone remodeling. To prevent stone formation, subsequent correction of bone remodeling imbalance is necessary.

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