

Analysis of PCNA as Saliva Gland Tumor Marker with the System for Quantification of Visual Information's

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Digital systems for the quantification of visual information's (QVI) become an important tool for the telemedicine methodology. One reason is the fast generation and real time transfer of the obtained visual information's, and the other is the extraction of exact and reliable facts about analyzed object. One such system was developed at the Faculty for Stomatology in Beograd, and has been used for the analysis of tumor markers. Through this research 15 different markers were investigated, and here we presents the results obtained for the PCNA (proliferate cell nucleus antigen) marker. PCNA is the nucleus protein which is synthesized in the late G1 and S-phase of cell cycles. It is closely connected to the DNA synthesis and cell proliferation. Literature obtained experimental data suggest that there is good correlation between the cell proliferation and the saliva gland tumor prognosis. On the other hand this points out that cell proliferate activity may have the important role in biological genesis of tumors.

For our experiments samples of saliva gland tissues were colored and analyzed with the QVI system. PCNA is exactly proved in the cell nucleus. Analysis of all cases, using QVI, obtained following results. In normal submundibular gland average values of PCNA positive nucleus was 1.1% with the standard deviation value of 0.2%. Positive nucleus were limited on ductal system and asinus cells. Myoepiterila cell were negative. In all the cases PCNA value in tumors varied from 6.9% for benign to 22.9% for malignant tumors. Tumor cells with the positive nucleus coloring are mostly focal and located in epital areas and fields as well as in outer tumor cells of tubulo-ductal structures.

As the conclusion we can posted that our results suggests that the PCNA index could be important factor as the indicator in submandibular gland tumor prediction. Using the QVI system, was successful and all obtained results are in agreement with the results obtained with the other methods of analysis. Prediction values of this methodology must be approved by the follow-up studies.

KEY WORDS: Telemedicine; PCNA marker; Quantification of visual information

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