

Znaczenie diagnostyczne i prognostyczne telomerazy w raku głowy i szyi

Prognostic and diagnostic value of telomerase in the head and neck cancer

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Summary

Telomerase is an enzyme responsible for maintaining the constant length of chromosomal telomeres, which are necessary for normal function of eucaryotic cells. Presence of active telomerase in neoplastic cells prevents shortening of telomeres what makes these cells immortal. Telomerase plays an important role in carcinogenesis. Aim of this study was to investigate the activity of telomerase in head and neck tumors and assess its diagnostic and prognostic value. **Material and methods.** Material consisted of 30 head and neck tumors treated surgically and 9 samples from healthy skin and mucous membranes. Telomerase activity was investigated using TeloTAGGG Telomerase PCR ELISA method. **Results.** Telomerase activity was found in 24 (80%) malignant tumors. Relative activity of telomerase in neoplasms was from 16,9 to 766,2 RTA. Telomerase expression was much lower in samples of healthy skin and mucous membrane (RTA <5). Statistically significant difference was proven for T1 and T2 tumors, comparing to T4 tumors ($p < 0.05$). No statistically significant difference in telomerase activity for G1 and G2 differentiation tumors comparing to G3 and for tumors without lymph nodes metastases comparing to tumors with metastases. **Conclusion.** Malignant head and neck tumors show high activity of telomerase comparing to healthy tissue. Detection of telomerase activity in head and neck malignant neoplasms can be a useful marker for cancer assessment. The quantification of telomerase activity has clinical diagnostic value for head and neck malignant neoplasms. To make a convenience of telomerase as a marker for diagnostic and prognosis in patients with malignant head and neck tumor needs further investigations.