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Human papilloma virus type 16 expression in pleomorphic adenomas and adjacent tissue of salivary glands

M. Myroshnychenko*, I. Brodetskyi, O. Dyadyk, V. Malanchuk

*Kharkiv National Medical University, Ukraine

Background & objectives: Pleomorphic adenoma (PA) is one of the salivary gland (SG) tumours. The role of human papilloma virus (HPV) in this tumour development is ambiguous. The objective is to determine the HPV type 16 expression in PA and SG adjacent tissue.

Methods: Two groups were formed. Group 1 (G 1) included 4 cases with an intact SG (autopsy material). Group 2 (G 2) included 30 cases (surgical material) with SG PA of mesenchymal (n=15), mixed (n=15) and epithelial (n=5) histological variants. Immunohistochemical reaction (IHCR) was performed, using mouse monoclonal antibody (MCA) to HPV type 16 (clone CAMVIR-1, «Diagnostic BioSystems», USA).

Results: IHCR was negative in G 1 and positive in G 2 in 26 cases (86.7%). In G 2 nuclear expression of MCA to HPV type 16 was found in tumour parenchyma (epithelial cells formed nests and cords, solid, trabecular, cystic, glandular, ductal, tubular structures; myoepithelial cells) and stroma (vascular endotheliocytes; immune and fibroblastic cells; myxoid and mucoid zones cells). In adjacent SG tissue, the ductal epithelial cells, myoepithelial cells expressed this MCA. IHCR in PA and SG adjacent tissue was the most pronounced, pronounced, moderately pronounced, respectively, in epithelial, mixed, mesenchymal tumour variants. In all PA variants, IHCR was less pronounced in SG adjacent tissue compared to PA tissue.

Conclusion: The positive expression (in 86.7% of cases) of MCA to HPV type 16 in pleomorphic adenomas tissue and adjacent tissue of salivary glands indicates that HPV type 16 may be one of the causes of such tumour development. The results obtained by the authors are of great therapeutic and prognostic significance.