ORIGINAL ARTICLE

MORPHOLOGICAL JUSTIFICATION OF THE SALIVARY GLAND TISSUE RESECTION BOUNDARIES DURING SURGICAL TREATMENT OF PATIENTS WITH PLEOMORPHIC ADENOMAS

DOI: 10.36740/WLek202109127

Igor S. Brodetskyi [1], Vladislav A. Malanchuk [1], Olena O. Dyadyk [2], Yaroslava A. Kulbashna [1], Olena O. Astapenko [1], Nataliia V. Kapustnyk [3], Mykhailo S. Myroshnychenko [3]

[1] BOGOMOLETS NATIONAL MEDICAL UNIVERSITY, KYIV, UKRAINE

[2] SHUPYK NATIONAL HEALTHCARE UNIVERSITY OF UKRAINE, KYIV, UKRAINE

[3] KHARKIV NATIONAL MEDICAL UNIVERSITY, KHARKIV, UKRAINE

ABSTRACT

The aim is to substantiate morphologically the resection boundaries of the salivary gland tissue in the surgical treatment of patients with pleomorphic adenoma of different histological variants.

Materials and methods: The study used autopsy, surgical and biopsy material, divided into 2 groups. Group 1 included autopsy material (n=6), represented by tissue fragments of the parotid salivary gland, in which macroscopic and microscopic examination did not reveal any general pathological processes. Group 2 included surgical and biopsy material from 30 patients, represented by pleomorphic adenomas with adjacent tissue of the salivary gland at a distance of 0.5 cm and 1.0 cm. Histological, morphometric and statistical research methods were used.

Results: The morphological features of the salivary gland tissue which was adjacent to the pleomorphic adenoma at a distance of 1.0 cm, practically corresponded to the physiological norm. However, the tissue of the salivary gland, bordering the tumor at a distance of 0.5 cm, was characterized by pronounced changes. These changes were: violation of the ratio of the specific volumes of the parenchyma and stroma; atrophy of the terminal sections and ducts with cystic expansion of some ducts; thickening of the secretion and formation of calculi in the lumen of some ducts; atrophic and alterative changes in the epithelial lining the terminal sections and ducts; sclerosis and lipomatosis, areas with hyalinosis and dystrophic calcification in the stroma; hemodynamic disturbances in the stroma with a decrease in the number of vessels; pronounced focal or diffuse immune infiltration in the stroma in some areas with the lymphoid follicles formation.

Conclusion: The comprehensive study has confirmed that removal of the tumor with the adjacent tissue of the salivary gland at a distance of 1.0 cm in patients with pleomorphic adenoma of various histological variants is the most justified from the morphological point of view.

KEY WORDS: pleomorphic adenoma, salivary gland, resection boundaries, morphology

Wiad Lek. 2021;74(9 p.I):2182-2186

INTRODUCTION

Pleomorphic adenoma is the most common benign neoplasm of the salivary glands which accounts for 60 to 70% of all benign salivary gland tumors. It is histologically extremely heterogenous and has various clinical manifestations [1]. Pleomorphic adenoma is more commonly seen in the age group of 40-50 years, with 1-5% in the age of 16 years or older [2].

Patients with pleomorphic adenoma of the salivary glands often undergo surgical treatment – tumor resection with the adjacent tissue of the salivary gland with mandatory preservation of the branches of the facial nerve [3, 4]. Removing the tissue of the salivary gland, which borders on the pleomorphic adenoma, decreases the risk of tumor recurrence. In the domestic and foreign literature, there are no scientifically substantiated recommendations on the resection boundaries of the salivary gland tissue in the surgical treatment of patients with pleomorphic adenoma, which actualizes this study.

THE AIM

The aim is to substantiate morphologically the resection boundaries of the salivary gland tissue in the surgical treatment of patients with pleomorphic adenoma of different histological variants.

MATERIALS AND METHODS

The study used autopsy, surgical and biopsy material, divided into 2 groups.

Group 1 included autopsy material (n=6), represented by tissue fragments of the parotid salivary gland. This material was collected during autopsies at the pathological anatomy department of the Communal non-profit enterprise of Kyiv Regional Council "Kyiv Regional Clinical Hospital". Macroscopic and microscopic examination did not reveal any general pathological processes in the salivary glands. The cause of death of these persons was chronic cardiac or cardiopulmonary insufficiency.