Summary

This doctoral thesis is dealing with the correlation of morphological, immunohistochemical and genetical findings in malignant tumors of salivary glands. The first half of the thesis comprises the summary of current knowledge about salivary malignancies. The second half is presenting the research itself.

The research results are divided into three parts. The first part is presenting the method of "2-step diagnostic test" of malignant tumors. This screening test aims to find new, so far not described gene aberrations with a focus on malignant tumors of salivary glands. This method takes place in two consecutive steps. In the first step the material is examined by an immunohistochemical mixture of antibodies, which non-specifically detects aberration in the genes *NTRK1-3, ALK* and *ROS1*. In the second step all positive cases are subjected to highly sensitive and specific molecular-genetic examination by the method of next generation sequencing (NGS) using the Archer kit.

In the second part of the work there has been designed the approach to the cytological diagnosis of salivary secretory carcinoma by the fine-needle aspiration (FNA). This part is describing to the details the cytomorphology of secretory carcinoma in both, Pap smears and cell blocks, from which additional immunocytochemical and genetic examinations are performed. The results of available examinations are put into context with the categorization according to the Milan system. Furthermore, we have designed a basic antibody screening panel. Its results support the diagnosis of secretory carcinoma.

The last part comprises shortly commented three articles, which are directly related to the topic of the thesis. One first-authored article published in a reviewed journal is describing the contribution of the Milan reporting system to the routine cytology practice. There are another two co-authorial articles. The first one is concerning two cases of secretory carcinoma of the nasal cavity. Second article is describing three cases of clear cell carcinoma harboring a newly discovered *EWSR1-CREM* gene translocation.