

The Ph.D. thesis is a collection of eleven commented articles on the topic of molecular-genetic profiling of urogenital tract tumors published in impact factor journals. In the introduction the origin and development of classification units is described including a brief overview of recent genetic profiles of selected types of renal carcinomas. Reviewed are major signaling pathways exploited in targeted therapy as well as the function of the corresponding drugs. Directions in which the research of new biomarkers is aimed are mentioned and the introduction ends with a short list of molecular genetic methods used in classification of renal carcinomas. In the results section are summarized the most important morphological, immunohistochemical, and molecular genetic findings of the studied sets of renal carcinomas. The data are compared with the present characteristics of known entities and hypotheses of possible new entities or relations between them are inferred. In the conclusions the suitability and limitations of the used molecular genetic methods are discussed in the context of the difficulties of the material analyzed and the designs of the studies.