## **Abstract**

The Ph.D. thesis is a collection of seven commented articles on the topic of molecular-genetic of urogenital tumors. The spectrum of urogenital lesions is very wide, there is lots of new insights in field of urogenital pathology. Therefore, presented Ph.D. thesis is focused only on small part of urogenital neoplasms - renal cell carcinomas characterized by papillary growing pattern. The introduction presents different entities with papillary morphology, there are specified basic morphological, immunohistochemical and molecular-genetic characteristic of these lesions, their differential diagnosis is commented. In the results, there are presented recently published studies dealing with newly described entities of renal neoplasias, heterogenity of molecular genetic studies in individual tumorous groups is established, prognostic significance is commented, typical pitfalls are introduced. In the conclusions, the limitations of the use molecular-genetic methods are discussed and clinical outcome and significance is evaluated.