The basis for predicting the course of colorectal cancer and choice of the optimal treatment method is to determine the clinical pathological stage according to the TNM classification. The high risk of tumor recurrence in patients with lymph node involvement routinely qualifies them for adjuvant treatment. Despite the absence of metastases in local lymph nodes, as evaluated by conventional histological techniques, approximately 30% of patients have disease recurrence. The insufficiency of routine diagnostic methods used to assess the status of regional lymph nodes may lead to incorrect assessment of prognosis and inadequately chosen therapy. Studies in recent years using immunohistochemical techniques show that in approximately 20-30% of patients with pN0 category (H-E staining) the neoplastic cell deposits of less than 2mm were identified in the lymph nodes. Increasing the sensitivity of identifying micrometastases has its clinical implications because of the possibility of reclassifying pN0 to pN1, which leads to changes in therapeutic management. However, knowledge of the prognostic significance of micrometastasis of cancer in regional lymph nodes is not fully systematized.

The aim of this study was:

- to assess the influence of the presence of micrometastases in regional lymph nodes on prognosis (3-year survival time, overall survival time) in patients with colorectal cancer;
- to identify micrometastases in regional lymph nodes using semi-serial sectioning technique and immunohistochemical methods in patients with colorectal cancer in terms of their potential significance in the assessment of anatomo-clinical stage and the choosing the appropriate therapy;
- to analyze correlations between the status of regional lymph nodes (presence or lack of micrometastases) and the pathomorphological prognosis parameters, which were determined in tumor: the histopathological type, the degree of differentiation (G), the pathologic stage of cancer pT, the presence of tumor budding (TB), lymphatic invasion (LI), vascular invasion (VI) and perineural invasion (PNI), which may allow to selecting a group of patients with increased risk of micrometastases presence in regional lymph nodes;
- to determine the group of the most important pathomorphological factors affecting on overall survival time in patients with colorectal cancer.

The materials consisted of specimens from the primary tumors and 1041 regional lymph nodes that were not involved by cancer, which were obtained from 79 patients with colorectal

cancer. Micrometastases and selected pathological parameters were assessed with IHC methods using specific antibodies directed against the proteins of CK20, podoplanin, CD31, S100.

The study indicates that the presence of micrometastases in regional lymph nodes in patients with colorectal cancer is an independent unfavorable prognostic factor (3-year survival time, overall survival time). The use of semi-serial sectioning technique and immunohistochemical methods significantly increases the incidence identification of micrometastases in regional lymph nodes in patients with colorectal cancer, which allows to reclassify their status from pN0 to pN1 and to achive the additional benefit from adjuvant therapy. The obtained results show that the recognised and potential of pathomorphological prognosis parameters, which were determined in tumor are not useful to identify a group of patients with increased risk for the presence of micrometastases in regional lymph nodes. In this study, it was identified that the group of the most important pathomorphological factors including the micrometastases in lymph nodes, the pathologic stage of cancer pT, the macrometastases in lymph nodes and the tumor deposits, affecting on prognosis (overall survival time) in patients with colorectal cancer.