9.2. Streszczenie w języku angielskim

Endometrial cancer is the most frequent neoplasm of female genital organ, with a constant increase of the incidence in highly developed countries. It constitutes a heterogeneous group of epithelial neoplasms that differ in morphology, carcinogenesis process and clinical course. The assessment of cancer type (1 or 2) is of significant prognostic and predictive importance, suggesting the choice of a method and range of therapeutic management. Despite the fact that both types of endometrial cancer have independent carcinogenesis pathways, their occurrence in one neoplastic focus is possible. A component of type 2 cancer can develop in type 1 as a result of *TP53* gene mutation, which manifests in a mixed pattern. In that case, unfavourable prognosis is associated with the presence of serum component. Type 2 cancer can cause distant metastases to lymph nodes and peritoneum already at the early stage. Identification of such cases prior to the surgical procedure still remains a challenge. Intraoperative examination determining the degree of histological differentiation and the depth of myometrial infiltration that suggest the necessity of performing lymphadenectomy can be burdened with error as well. There is still a search for a preoperative biomarker that would diminish the risk of wrong diagnosis.

The aim of this study was to analyse preoperative serum concentrations of HE4 protein and the presence of antibodies against p53 protein (S-p53Ab) in blood serum in endometrial cancer, depending on cancer type, degree of histological differentiation, depth of myometrial infiltration, metastases to lymph nodes and invasion of the lymphatic vascular spaces.

The studies were conducted in a group of 89 patients suffering from endometrial cancer, treated in the Gynaecology and Obstetrics Department of the Independent Public Healthcare Facility Regional Complex Jan Sniadecki Hospital in Bialystok, in 2012-2017. The studies obtained the approval of the Bioethics Committee at the Medical University of Bialystok (R-I-002/286/2017).

Blood serum constituted the material for the assessment of HE4 concentrations and analysis of the presence of S-p53Ab. HE4 concentrations were assessed with the use of Cobas e411 analyser (Roche Diagnostics, Poland) applied for routine assessments using electrochemiluminescence (ECLIA) technique and Elecsys® HE4-Human epididymal protein 4 kit (Fujirebio Diagnostics Inc., USA). For detection of S-p53Ab in blood serum, MESACUP Anti-p53 TEST kit (Medical and Biological Laboratories Co., Ltd, Japan) was applied. Absorbance was measured using Labsystems Multiskan Spektrum Microplate

Readers (Thermo Scientific, USA). Statistical analyses were performed with the use of Statistica 13.0PL software (StatSoft Inc. Polska). Statistical significance level was set at $p<0.05$.

It was demonstrated that:

1. Blood serum S-p53Ab antibodies are significantly more frequent in patients suffering from type 2 endometrial cancer than in women diagnosed with type 1 endometrial cancer.
2. The presence of blood serum S-p53Ab antibodies in type 1 endometrial cancer indicates a lower degree of histological differentiation.
3. High HE4 serum concentrations and the presence of S-p53Ab in type 1 cancer suggest a myometrial infiltration of ≥50% of its thickness, whereas in type 2 cancer, S-p53Ab antibodies present in blood serum indicate a myometrial infiltration of ≥50%.
4. High HE4 concentrations in type 1 endometrial cancer as well as the presence of S-p53Ab in type 2 endometrial cancer demonstrate the invasion of lymphatic vascular spaces and suggest possible lymph node metastases.