6.2. Streszczenie w języku angielskim

Ovarian cancer is called the "silent killer." This is mainly due to its asymptomatic course and unfavorable prognosis. Effective screening and differential tests for ovarian cancer are lacking in clinical practice. Available medical methods include transvaginal ultrasound and determination of HE4 and CA125 concentrations - alone or in combination taking into account menopausal status (ROMA algorithm Therefore, it is advisable to look for new methods to enable faster diagnosis of ovarian cancer. Such methods may be the determination of enzymes of the matrix metalloproteinases group as new biomarkers of ovarian cancer.

The purpose of this study was to determine the diagnostic utility of selected enzymes from the matrix metalloproteinases group - MMP-1, MMP-2, MMP-3, MMP-8, MMP-11, MMP-13 and MMP-26 in the biochemical diagnosis of ovarian cancer, regardless of its histological type.

The study included 120 patients with ovarian cancer, 70 women with benign lesions and 50 healthy volunteers. The study material was venous blood collected for anticoagulant (lithium heparin). Concentrations of selected metalloproteinases were determined by immunoenzymatic assay (ELISA), comparative markers were determined by chemiluminescence (CMIA). By means of diagnostic sensitivity and specificity, negative predictive value and positive predictive value, and ROC-AUC function, diagnostic reliability was determined.

Significantly higher plasma concentrations of MMP-1, MMP-11 and MMP-13 (positive markers) and lower MMP-8 (negative markers) were found in ovarian cancer patients compared to healthy women, suggesting their role in the pathogenesis of this condition. Higher levels of MMP-1, MMP-1 and MMP-13 are found in patients with ovarian cancer compared to women with benign ovarian lesions, which shows their usefulness in differential diagnosis.

Diagnostic utility determined by sensitivity, diagnostic specificity, negative and positive predictive value and diagnostic power of the tests showed the highest results for MMP-1 and MMP-13. Performing the combined analysis was associated with an increase in diagnostic parameters and the highest increase is found for MMP-1 + ROMA analysis.

The results suggest preliminary diagnostic significance of MMPs as stand-alone biomarkers in the diagnosis of ovarian cancer or as auxiliary biomarkers to the ROMA algorithm as tests to differentiate malignant from benign lesions.

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