A single center study of the role of inflammation biomarkers in endometrial cancer.

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Introduction: Endometrial cancer is estimated to be most common female cancer. Among other predictive factors, inflammation biomarkers resulting from white blood cell and platelet counts ratios have been introduced in the assessment of endometrial cancer.

Methodology: Preoperative NMR, LMR, NPR, LPR and MPR ratios in 154 patients of the gynecological department of Metaxa Memorial Cancer Hospital were calculated.

Results:

None of the ratios was able to find statistically significant differences between endometrioid and non-endometrioid histological type.

NLR was significantly different between women with serous histology and women with mucinous histology type (p=0,034) and between women with stage I and stage IV (p=0,020).

NPR was significantly different between women with positive and women with negative lymph nodes (p=0,032), women with stage I and women with stage III cancer (p=0,020) and between women with stage III and women with stage IV cancer (p=0,004).

LMR was found to be significantly different between patients with positive and patients with negative disease in the upper abdomen (p=0,031), women with endometrioid and women with serous histology (p=0,026), women with grade 1 and women with grade 3 (p=0,041), women with stage I and women with stage IV (p=0,015) and between women with stage II and women with stage IV (p=0,041).

MPR was significantly different between women with positive and women with negative lymph nodes (p=0,033), women with stage I and women with stage III (p=0,007) and between women with stage III and women with stage IV disease (p=0,030).

PLR was significantly different between women with positive and women with negative lymph nodes (p=0,001), women with serous histology type and women with mucinous histology type (p=0,034) and between women with stage I and women with stage III (p=0,007).

No statistically significant difference was observed for NMR for any comparison.

None of the ratiosdifferences was capable to detect statistically significant between the groups of malignant and benign endometrial pathology (for all ratios AUC<60%).

Inflammation biomarkers	
NLR	
Mean	2,5
Median	2,25
Standard Deviation	1,43
Range	12,8
NPR	
Mean	0,25
Median	0,23
Standard Deviation	0,06
Range	0,32
LMR	
Mean	5,26
Median	4,78
Standard Deviation	2,13
Range	18,58
MPR	
Mean	0,02
Median	0,02
Standard Deviation	0,01
Range	0,07
PLR	
Mean	10,65
Median	9,61
Standard Deviation	7,95
Range	86,27

Conclusion: NPR and MPR were associated with the nodal status while NLR and PLR were correlated with serous or mucinous histology. Upper abdomen metastases and endometrioid histology seem to have an effect on LMR and all of the profiles were found to be affected by the stage and the grade of the tumor.

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References

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