IL-1 - A CONNECTION FACTOR BETWEEN VISCERAL FAT AND ENDOMETRIAL CANCER

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Background and aims
Stressor exposure may have as a response visceral fat deposition. Visceral fat may induce low-grade, systemic inflammation which is etiologically linked to the pathogenesis of obesity related diseases such as endometrial cancer, cardiovascular diseases, etc. This low-grade inflammatory state induced by obesity is characterized by elevated concentrations of cytokines and acute phase reactants, such as Interleukine-1 (IL-1), Interleukine-6 (IL-6), Interleukine-8 (IL-8), Tumor Necrosis Factor-? (TNF-?), etc. The study aims are to evaluate the correlation between visceral fat, assessed by ultrasonography, and the systemic level of IL-1 in patients with endometrial cancer.

Material and method
Is a case-control study including 2 groups of patients: group I - 44 patients diagnosed with endometrial cancer, group II - 44 patients without gynecological pathology. The diagnosis was obtained by evaluating the histopathological tissue material obtained by endometrial biopsy. These patients underwent ultrasound examination by which intraperitoneal fat was determined. IL-1 levels were determined for each patient. Version 13 of the SPSS software and Microsoft Excel with Analysis Tool Pack were used for statistical analysis, all parameters being included in the study database. Also, the Student t test was used for the comparison of the means and the Mann-Whitney test for rank comparison in two independent samples.

Results
In patients diagnosed with endometrial cancer, the visceral fat area evaluated by ultrasound was significantly larger (p<0.0001) compared to the control group. The plasmatic level of IL-1 in the endometrial cancer group was significantly elevated (p<0.0002) compared to the control group. A linear positive correlation was also found between visceral fat area and plasmatic level of IL-1.

Conclusions
1. The plasmatic level of IL-1 have a linear positive correlation with the visceral fat.
2. Determination of visceral fat in association with the IL-1 level may be a predictive factor for endometrial cancer.

Keywords: endometrial cancer, IL-1, visceral fat.