

## Summary

The aim of this work was to study epidemiologic relationships between uterine fibroids and metabolic syndrome and insulin resistance. We decided to use objective measures to determine the metabolic status of subjects in prospective study, which enables the researcher to detect all patients with studied disorders, including those who have not been diagnosed yet. This approach is novel – the literature on uterine fibroids does not mention similar approach. Main parameters chosen for our goal were the indicator of insulin sensitivity Kitt and the serum levels of lipid spectrum components (HDL-, LDL- cholesterol, and triglycerides). The Kitt indicator is calculated from the glucose levels obtained in the course of the short insulin tolerance test, nowadays commonly used in diabetological research. We are not aware of any gynecological study using this test yet.

The original hypothesis of insulin resistance as a risk factor for uterine fibroids has not been confirmed. The indicator of insulin sensitivity Kitt did not differ in women with fibroids and women without the tumors. Similarly, statistically significant difference was not found in neither one of the insulin sensitivity parameters such as serum insulin level, fasting C-peptide level and SHBG level. This has led us to a conclusion that occurrence of uterine fibroids is not influenced by sensitivity to insulin.

As for the metabolic syndrome, the occurrence of its components in women with fibroids is not higher compared to women without fibroids. On the contrary, the history of hypercholesterolemia is less common in women with fibroids and they were also found to have higher HDL-cholesterol levels. These findings imply that the uterine fibromatosis is not an atherogenic syndrome. Rather than that, there is a possibility that metabolic syndrome could be a protective factor for uterine fibroids – taking into account that a negative correlation between the atherogenic index and the volume of the largest fibroid and a positive correlation between HDL-cholesterol level and the volume of the largest fibroid (in women aged 30 – 45) were found.

The second part of the work is aimed at obtaining information on the frequency of symptoms related to uterine fibroids in a sample of our population. We found it to be very high – more than 50 % of women in their reproductive age suffer from disorders of menstrual cycle, pelvic pain, urinary symptoms or pelvic pressure symptoms and/or discomfort. However, we did not find higher frequency of these symptoms in women with fibroids compared to women without fibroids. From the results of our study we assume that symptoms commonly attributed to fibroids are not necessarily caused by their presence. Therefore we believe that women with diagnosed fibroids should be carefully examined and treated for other possible causes of the symptoms prior to offering any surgical treatment to the patient.