



THE ROLE OF THE HEAT SHOCK PROTEIN HSP60 IN SCREENING OF ENDOMETRIAL CANCER AMONG POSTMENOPAUSAL WOMEN WITH METABOLIC SYNDROME

Tyan O (UA) [1], Makarenko M (UA) [2], Hovsieiev D (UA) [3], Isaieva N (UA) [4], Vorona R (UA) [5]

Context

According to the Ukrainian National Cancer Registry in 2015 in the structure of morbidity among women, the endometrial cancer (10.4 %) takes the third place among all oncological pathologies of women, the breast cancer in the first place (22.4%) and the colorectal cancer (13.3%) in the second place.

The rapid increase in the incidence of the endometrial cancer among women identifies the problem of the studying of the risk factors and screening as one of the most urgent in the system of its early recognition.

The combination of the chronic fatigue syndrome and prolonged stress leads to disruption of the endocrine system and metabolism (obesity, diabetes, hyperinsulinemia, hyperlipidemia), which in turn leads to the development of a syndrome of disorders in the reproductive, metabolic and adaptive systems of the body.

Objective

The most important goal is finding the best method of early diagnosis of the endometrial cancer among women with a high risk of the development and definition of a risk group for the endometrial cancer among elderly women with a metabolic syndrome.

Methods

A preventive examination of 54 postmenopausal women was conducted, which included a standard gynecological examination, calculation of the index of the body weight. The next step was the selection of a risk group, which included 20 women. Further all patients were performed with?? an ultrasonography (US) of pelvic organs with color Doppler mapping (CDM) , equipment Toshiba SSA-780A AplioMX (Japan) in real time using intracavitary transducers with frequency acoustic vibrations 3.5; 5.0; 6.0 MHz in 3D and 4D acoustic modes. The main ultrasonic indications of uterine carcinoma by abdominal and transvaginal B-scanning can be an increase of M-echo, which is not typical for particular patient, patchy and irregular endometrium. Moreover, its structure has a higher echogenity or some areas of an increased echogenity compared to normal myometrium, also irregular external circuit, which penetrates the myometrium in different intensity.

[1] Department of obstetrics and gynecology postgraduate education National Medical University O.O. Bohomolets., [2] Department of obstetrics and gynecology postgraduate education National Medical University O.O. Bohomolets., [3] Department of obstetrics and gynecology postgraduate education National Medical University O.O. Bohomolets., [4] Department of obstetrics and gynecology postgraduate education National Medical University O.O. Bohomolets., [5] Department of obstetrics and gynecology postgraduate education National Medical University O.O. Bohomolets.

FOLLOW US!



@ESGYNECOLOGY

ESGYNECOLOGY.org

The type and level of endometrium's vascularity is one of the most important characteristic of its new growth. The qualitative evaluation of the blood supply was conducted. According to the quantity of color signals from the blood vessels of the new growth, we can distinguish hypovascular, middlevascular and hypervascular new growth.

According to the results of the ultrasonic examination of the endometrium, the basic and control groups of the study were selected. All patients gave blood for the study of the level of estradiol and levels of antibodies class IgG to the recombinant heat shock protein Hsp60 by ELISA method. The level of the immune status was also determined by immunoglobulin's (IG- G, IG-M, IG – A), cytokines (IL-1, IL- 4, IL- 6, IL- 10).

Women from the basic group underwent hysteroscopy by Olympus equipment (WA20016A Telescope, 4 mm, 12° direction of view, autoclavable, with a filter, for fluorescence diagnosis and HF-resection electrode WA22302D, loop, 12°, medium) and collection of the endometrial tissue for biopsy.

Patients

On the basis of the Kiev Clinical Maternity Hospital №5, a survey of 20 postmenopausal women was conducted. The age of the patients varied between 58 and 72 years. Women from a basic group (12 patients) had different degrees of obesity that was determined by the count of the index of body weight. The thickness of the endometrium was more than 4mm in all cases. A control group was made by 8 women with obesity, the thickness of the endometrium was 2 mm, the level of the estradiol corresponded to the level of postmenopausal period.

Main Outcome Measure

Postmenopausal women with a metabolic syndrome, endometrial hyperplasia and the presence of the high titer of antibodies class IgG to the recombinant heat shock protein Hsp60 have a high risk of endometrial cancer.

Results

In 12 patients from the basic group, endometrial hyperplasia was observed, the thickness of the endometrium was between 4 and 15 mm. Endometrial cancer (the degree of histological differentiation according to the TNM classification was G1-G2) was detected in 8 women and only 5 of them had an elevated estradiol level.

In these 8 patients with endometrial cancer, according to ultrasound, the sites with an increased endometrial vascularity were detected. The level of antibodies to Hsp60 was elevated in all patients, that is a marker of cellular stress, that is also the predicate of the tumor process. In 8 patients of the control group the thickness of the endometrium was 2 mm, the level of the estradiol corresponded to the level of postmenopausal period, but the level of antibodies to Hsp60 was elevated.

Conclusion

Postmenopausal women with a metabolic syndrome have a high risk of the developing endometrial cancer.

The level of antibodies class IgG to the recombinant heat shock protein Hsp60 has increased in all postmenopausal women of the basic and control groups with a metabolic syndrome. Among women from the basic group, the characteristics of the immune status were reduced, in contrast to the control group.

Not all women from the basic group had elevated levels of estradiol. Out of all women with the

endometrial cancer only 5 women out of 8 had an increased level of estradiol.

Out of all women with the endometrial cancer specific changes in the endometrium were identified by ultrasonic characteristic.

The results make us continue researching the problem of the early diagnosis of the endometrial cancer among postmenopausal women with a metabolic syndrome.