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Frequency Analysis of Diseases in Women Operated on for Uterine Fibroids

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Abstract: The article presents data from our own studies of a retrospective analysis of the medical history of women operated on for uterine fibroids. The results of studies and the incidence of complications, as well as extragenital diseases in women with uterine fibroids are presented.

Key words: uterine fibroids, hysterectomy, extragenital diseases, complications of uterine fibroids.

Introduction

In recent years, it must be stated that the main method for treating uterine fibroids (leiomyoma) remains surgical intervention, with radical surgery on the uterus being performed on 8-9 out of 10 women. Despite this, the search for ways for early and refined diagnosis of complications of uterine fibroids continues. Significant experience in the echographic diagnosis of uterine fibroids has been accumulated in recent years. However, questions remain unresolved regarding the detection of complications of uterine fibroids at an early stage of their development, the refinement of the state of blood circulation in the uterus and the fibroid node, the scope of examination, and the management strategy for women of reproductive age with uterine fibroids. In connection with the foregoing, the search for accessible and informative methods for assessing the state of uterine fibroids and their complications is appropriate, given the high risk of morbidity and disability in women of reproductive age.

Aim of the Study is to evaluate the retrospective analysis of case histories of women with uterine fibroids and identify the frequency of associated extragenital diseases.

Materials and Methods

To study the indications and scope of surgery, a retrospective analysis was conducted on 56 case histories of women with uterine fibroids who underwent surgical treatment. The average age of the subjects in the retrospective group was 42 \pm 5.6 years, the number of pregnancies was 5.3 \pm 0.7, and the number of births was 3.06 \pm 0.43 (the average blood loss during the operation was 423.80 \pm 65.39 ml).

Results and Discussions

In the analysis of past infectious diseases, Acute Respiratory Viral Infection (ARVI) was most frequent in 29 (51.8%) cases, followed by measles (33.9%), chronic tonsillitis (26.8%), chronic inflammatory diseases of the female genital organs (21.4%) of cases. At the same time, endocrine diseases often leading to hormonal imbalance in women were rare, such as obesity (7.14%) and diffuse toxic goiter (8.9%). Among extragenital diseases, anemia was also common, occurring in 37 (66%) cases. It is interesting to note that of these, first-degree anemia accounted for 32.2%, second-degree anemia for 28.5%, and severe anemia (third degree) for only 5.3% of cases, although the symptom of abundant uterine bleeding (hyperpolymenorrhea) was more frequently an indication for surgical treatment of uterine fibroids in 46 women.

Along with this, a high percentage of digestive tract diseases should be noted: chronic cholecystitis (19.6%), chronic hepatitis (17.8%), and chronic gastritis (16%) of cases. The analysis of past illnesses showed that in the 56 women in the retrospective group who underwent surgical treatment, viral-

infectious and chronic inflammatory diseases prevailed against the background of chronic liver and stomach diseases. Moderate and severe anemia was observed in 28.5% and 5.3% of cases, respectively. This can possibly be explained by the fact that the reactivity of the organism was reduced in all women in the retrospective group due to chronic inflammatory diseases and gastrointestinal tract diseases.

Women in the study group underwent operations for complications of uterine fibroids. The main indications were hypermenorrhea (82.1%) and pain syndrome (21.4%) of cases. For the remaining examined patients, additional indications for surgical treatment were: uterine size of 12 weeks or more (7.14%), rapid growth (7.14%), and in only 3.57% of cases, lack of effect from conservative therapy. Consequently, hyperestrogenemia against the background of hepatobiliary system pathology is the leading cause in the etiopathogenesis of uterine fibroid complications, contributing to impaired blood circulation in the uterus and the tumor, which leads to increased bleeding and pain syndrome.

In this regard, studying the state of blood flow in the uterus and its tumors at the preclinical stage and its correction may lead to a reduction in the scope of the operation, i.e., removing only the formation and preserving the uterus as an organ.

Thus, the analysis of the scope of operations in the studied group of women showed that in 37.1% of cases, hysterectomy with both adnexa was performed, in 26.7% - hysterectomy with one adnexum, and supravaginal uterine amputation with one adnexum - 22.6% and with both adnexa - in 8.6% of cases. The above suggests that the uterine adnexa were also involved in the pathological process, most often a chronic inflammatory process. And in only 4.8% of cases in the retrospective group was the conservative operation of myomectomy performed, meaning the uterus was preserved.

According to modern concepts, uterine fibroids are a dyshormonal tumor with disturbances in the hypothalamus-pituitary-ovaries-adrenal cortex system. The leading role belongs to hyperestrogenemia, caused by changes in the metabolism of steroid hormones in the liver. The dyshormonal nature of the tumor leads to a number of metabolic disturbances and functional insufficiency of the liver. Our retrospective analysis of the case histories of women with uterine fibroids showed a high percentage of extragenital diseases in the examined patients. Specifically, chronic cholecystitis and chronic hepatitis occurred in 19.6% and 17.8% of cases, respectively.

It is known that the liver plays a primary role in neutralizing external and internal toxic substances. Its antitoxic function involves the transformation of both common cellular metabolites and substances foreign to the body. Studying the mechanisms of detoxification is of particular interest for developing preventive measures and searching for ways to possibly increase the antitoxic resistance of the body. In this regard, we investigated the functional state of the liver in patients with uterine fibroids. Biochemical blood tests were conducted: determination of bilirubin, protein and protein fractions, aspartate aminotransferase and alanine aminotransferase. The antipyrine test was performed in the blood. Intermediate and final products of lipid oxidation, erythrocyte sorption capacity, and the level of medium-molecular peptides were determined. Functional liver examination was performed in 56 women with uterine fibroids aged 30 to 50 years and ten healthy women. All patients were divided into three groups: first – 12 with a subserosal fibroid node, second – 19 with a submucous node location, and third – 25 with an interstitial fibroid node. Late onset of menarche (at 16-17 years) was noted in 10 (17.8%) women. Deliveries occurred in 85.7% of women, 7 (12.5%) patients suffered from primary and secondary infertility, 10 (17.8%) women had a history of chronic bilateral adnexitis, 6 (10.7%) had cervical erosion, and 2 (3.5%) had an ovarian cyst.

Hyperpolymenorrhea was observed in 38 (67.8%). Curettage of the uterine cavity was performed in all 56 patients. The endometrial scraping underwent histological examination: glandular and glandular cystic hyperplasia was found in 54 (96%) patients, and adenomatosis in two. Three patients had a history of surgery for an ovarian cyst and ectopic pregnancy (48 women were of reproductive age). An ovulatory cycle with luteal phase insufficiency was diagnosed in 22 patients, an anovulatory hyperestrogenic cycle in 30, and an anovulatory hypoestrogenic cycle in four women.

When comparing the functional indicators of the hepatobiliary system, no significant differences were found in all groups of patients. However, compared to the control group, a non-significant increase in the activity of aspartate aminotransferase (0.65 \pm 0.02 and 0.69 \pm 0.5 \mumol/l) and alanine aminotransferase (0.75 \pm 0.07 and 0.85 \pm 0.08 \mumol/l) was noted, which are indicator enzymes that perform intracellular functions and become activated when the liver cell is damaged by various factors. No differences were found in the indicators of total protein and albumins in women of all three studied groups. As evidenced by the indicators of dysproteinemia, compared to healthy individuals, the level of alpha-1 globulins (4.57 \pm 0.2 and 4.5 \pm 0.15) and alpha-2 globulins (11.7 \pm 0.46 and 9.7 \pm 0.63) was increased in patients of the first, second, and third groups compared to the control group. The pigment-forming system of the liver was reduced: the level of total bilirubin in the first group was 14.0 \pm 0.6 \mumol/l, in the 2nd – 13.2 \pm 0.9 \mumol/l, in the 3rd – 12.7 \pm 0.8 \mumol/l, and in healthy individuals – 16.8 \pm 1.0 \mumol/l.

In the examined patients, a prolongation of the antipyrine half-life by 37-68% was established, and an increase in the apparent volume of distribution by 1.5-2 times compared to the indicators of healthy individuals. Thus, an increase in the level of acetyl hydroperoxides by 3.4 and 3.92 times was revealed compared to the indicators of healthy individuals. Changes in the content of malondialdehyde (MDA) are less pronounced.

The analysis of the obtained results indicates a mutually conditioned content of acetyl hydroperoxides and erythrocyte sorption capacity, which is one of the mechanisms for the development of the endogenous intoxication syndrome in women with uterine fibroids. The degree of expression of these changes was significant in patients with posthemorrhagic anemia caused by the submucous location of the tumor. As a result of the dynamic examination of patients with uterine fibroids before surgery, disturbances in the antitoxic function of the liver were revealed. Patients with uterine fibroids should be identified as a risk group for hepatobiliary system pathology.

All women in the retrospective group underwent transabdominal gray-scale echography (TAE). Subserosal form was found in 12 women, interstitial form in 25, and submucous form of uterine fibroids in 19. All patients in this group had complications of uterine fibroids, for which radical operations (amputation or hysterectomy) were performed. The informativeness of TAE in the diagnosis of uterine fibroids and its complications was: reproducibility - 91%, sensitivity - 92.8%.

Conclusions

Thus, the retrospective analysis of complications of uterine fibroids, for which surgical treatment methods were performed in 56 women, showed that the background diseases in complications of uterine fibroids are chronic hepatitis, cholecystitis, gastritis, as well as viral infections and chronic inflammatory diseases of the entire body, and especially the female genital organs.

The study of indications for surgical treatment established that the leading complications of uterine fibroids are hyperpolymenorrhea and pain syndrome. Based on the retrospective analysis, we suggest that the leading link in the pathogenesis of uterine fibroids is impaired blood flow in the uterus and the tumor, which leads to edema and tissue necrosis, which clinically manifests as pain syndrome. The indications for surgical treatment, specifically hysterectomy with adnexa, were hyperpolymenorrhea, pain syndrome, rapid growth, uterine size of more than 12 weeks of pregnancy, and a pathological process in the adnexa, most often of an inflammatory nature.

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