

Urgent Ultrasound Diagnosis in Ovarian Apoplexy

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Abstract:

This study covers ovarian apoplexy is a sudden hemorrhage into the parenchyma of the ovary and at the same time into the abdominal cavity due to the rupture of one or more vessels that supply food. The disease often develops in young women (20-35 years). Ovarian apoplexy is a gynecological emergency.

Keywords: Apoplexy, pregnant, Ultrasonography, gynecology, ovarian pregnancy, Rupture, Intrauterine insemination, Ovulation induction, Early diagnosis, Case report, ultrasound method pelvic organs gynecology pregnant women.

INTRODUCTION

The presented article is devoted to the issue of diagnosis of rupture of ovarian cyst complicated by hemoperitoneum. Ovarian apoplexy ranks third in the structure of urgent diseases in gynecology and second among the causes of intra-abdominal bleeding. It is a sudden hemorrhage into the ovarian tissue, accompanied by a violation of the integrity of its tissue and in some cases bleeding into the abdominal cavity, may be asymptomatic or accompanied by the sudden appearance of unilateral pain in the lower abdomen. In the conditions of emergency rest during emergency diagnostics, the main advantage of ultrasound is the ability to perform in any conditions and in any condition of the patient, therefore, this method is considered in the scientific literature as the main one for the initial examination of such patients, nevertheless, in the scientific literature there is information about the differential diagnosis of emergency gynecological conditions accompanied by hemoperitoneum by X-ray computed tomography. The article presents the signs detected during ultrasound diagnostics and computed tomography in case of rupture of an ovarian cyst, systematized on the basis of literature data and our clinical experience. The main ultrasound and CT symptoms are intraperitoneal effusion with the presence of a "sentinel thrombus" in the injured ovary and cystic formation in the ovary. Properly diagnosed tumor-like formations of the ovaries facilitate the correct selection of patients who may not require surgery, or choose surgery with minimal access if such intervention is required. Subjective

assessment of the features of tumor-like formations with the help of ultrasound diagnostics, including compression elastography, proved to be highly effective in the differential diagnosis of bulky ovarian formations. All tumor-like formations have their sonographic features that allow making a reliable diagnosis of a particular formation. The article reveals data on the diagnostic significance of multiparametric ultrasound imaging in the detection of ovarian tumor-like formations. A detailed sonographic picture of tumor-like formations in B-mode, color, and pulse Doppler mode and compression sonoelastography mode was analyzed. This examination was especially relevant for women of reproductive age, as it depended on the further tactics of treatment of each patient. For all types of tumor-like formations ovaries, a qualitative feature was determined - elastotype on the Ueno scale and the index of stiffness (Strain Ratio) - a quantitative indicator. Follicular cysts, endometrioid and periovarian cysts were found to belong to the 0 elastotype. Cysts of the corpus luteum belonged to the II elastotype on the Ueno scale. The lowest values of the stiffness index were seen in follicular and periovarian cysts, and the highest value was observed in endometrioid cysts. Our results have shown that ultrasound examination of ovarian tumors is an accurate and highly informative method. In a general blood test, a marked decrease in hemoglobin levels can be seen (in the anemic and mixed forms of ovarian apoplexy). Pelvic ultrasound reveals in the affected ovary a large corpus luteum cyst with signs of hemorrhage in it and/or free fluid (blood) in the abdominal cavity. There were operated by laparoscopic access 110 women of reproductive age on ovarian apoplexy in the Military Medicine Clinical Center of the Southern region in 2008-2009. Patients were divided into two groups, depending on the volume of intraperitoneal bleeding: a group formed and 67 (60.9%) patients, in which the volume of blood in the abdomen did not exceed 300 ml, the second group consisted of 43 (39.1%) patients with volume haemoperitoneum more than 300 ml. Sonography was carried out by the standard method for devices: ALOKA-1100 and SA-8000 SE, vaginal transducer with a frequency of 6,0-7,5 MHz. Availability and amount of free fluid in the pelvis was determined by performing transvaginal ultrasound in the sagittal plane. All ultrasound images made in the sagittal plane, were divided into 4 types depending on the level of the liquid column relative to the uterus. Type 1 - the height of the liquid level is below or at the level of the isthmus of the uterus (Fig. 1), type 2 - echogenic strip liquid reaches the middle of the body of the uterus (Fig. 2), and type 3 - at or above the bottom of the corpus uteri (Fig. 3), type 4 - free fluid was determined around the ovaries and / or vesico-uterine space (Fig. 4). Surgical intervention was performed either immediately after the diagnosis of ovarian apoplexy and patient hospitalization or after trying conservative treatment. In our clinic there is allowed conservative treatment of ovarian apoplexy in hemodynamically stable clinical cases. For patients who received conservative treatment, performed dynamic monitoring with ultrasound monitoring. Laparoscopy is performed by the conventional method under endotracheal anesthesia with the use of mono- and bipolar electrosurgical technology

[3].

Statistical processing of the results was performed using the software Statistica. In the study of fertility found that never pregnant 50 (45.4%) patients. Women do not give birth, there were 65 (59.0%). Abortion had a history in 51 (46.3%) patients. Pain in the abdomen in the second phase of the menstrual cycle noted 87 (79.0%) women, and in the first -12 (10.9%). In 9 (8.1%) cases, the patients had a delay of the next month - from 3 days to a month. Of these, 2 (1.8%) patients revealed the early stage of uterine pregnancy. Average systolic and diastolic blood pressure among patients and second groups was $(117,9 \pm 10,7)$ / $(71,5 \pm 6,9)$ and $(114,7 \pm 11,3)$ / $(67,8 \pm 6,5)$ mm Hg accordingly. In ovarian bleeding the leading clinical symptom was pelvic pain. However intense acute pain often encountered in patients with blood loss more than 300 ml than in patients with haemoperitoneum to 300 ml. More than an half of patients with haemoperitoneum which did not exceed 300 ml (group I), indicated moderate or mild aching pain in the abdomen, accompanied by fever to subfebrile indicators -41 (61.1%) patient. Little pelvic pain were observed only in 4 (9.3%) patients, the second group ($\chi^2 = 14,7$ $p < 0,001$). There was found that 80% of patients had haemoperitoneum with the volume of 1000 ml which was revealed as hyperechoic free fluid in the vesico-uterine space around the ovaries. It corresponded to the 4th type of sonogram, and further demonstrated the formation of irregular shape, increased echogenicity, indicating the presence of blood clots.

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