

Aspiration (sclerosing) therapy in pelvic benign tumors: a topic for discussion

Abstract

The article discusses an important problem of modern gynecology - aspiration treatment of ovarian neoplasms using transvaginal ultrasound monitoring. Attention is focused on its minimally invasive character. As is pointed out, the usage of ultrasound mini-surgery permits to minimize as much as possible operative intervention without sacrificing the effectiveness of treatment. Arguments in favour of aspiration of one-chamber echo-free thin-wall masses of the ovaries in menopausal women are given. The method of ultrasound mini-surgery, indications and contraindications to its use are presented in detail.

Keywords: ultrasound mini-surgery, ovarian cysts, peritoneal cysts, menopause, cytological examination

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Introduction

The main tendency of the modern surgery is the reduction of operational injuries and the refusal of unreasonable operations that allows to reduce the frequency of intra - and postoperative complications, which are very difficult sometimes. Today, the possibility of highly informative methods of visual diagnostics (high-definition ultrasound, computed tomography with bolus contrast enhancement, magnetic resonance imaging) in combination with testing of markers of neoplastic processes allows in certain situations not only to argue the feasibility of conservative therapy and/or dynamic monitoring, but also to use widely methods of therapeutic aspiration biopsy with ultrasound control. In 2001 we developed the term “ultrasonic mini-surgery”, which units all the invasive interventions, carried out under the control of transvaginal echography.¹ As a method of treatment, ultrasonic mini-surgery can be applied in the following clinical situations:

- a. Pelvic inflammatory disease (abscesses)
- b. Complicated functional ovarian cysts
- c. Progressing ectopic pregnancy
- d. Peritoneal cysts (postoperative serous cavities)
- e. Simple serous ovarian cysts
- f. Postoperative pelvic hematomas.

The obtained aspirate is subjected to cytological study: the detection of cells of the true neoplastic process is an absolute indication for conventional surgical intervention. However, it must be taken into account that the predictive value of the cytological method does not exceed 20-30%. Higgins et al. found that sensitivity of cytoanalyzer of ovarian cysts does not exceed 25%, specificity - 90%. The frequency of false positives reaches 73% and the false negative - 12%. Therefore, the aspiration therapy is appropriate for peritoneal cysts, ovarian structures with absolutely free echo-structure and a thin capsule, as well as ovarian cysts with “classic” acoustic features of persistent yellow body. Undoubtedly, the leading criterion for the selection of patients with ovarian cysts for “ultrasound mini-surgery” is the age of the examined patients. The use of the sclerosing therapy

for ovarian cysts is fully justified in women of reproductive period (in peritoneal cysts age does not matter). However, several questions arise: what is the treatment tactics for the patients in postmenopausal women with unilocular thin-walled and anechoic ovarian formations, whose average diameter doesn't exceed 50 mm?

- i. “Traditional” surgery? It is necessary to consider all possible risks of such a choice, which often exceed the feasibility of this approach
- ii. Observation? However, without knowledge of the cells of this neoplasm it is wrong to adhere to overly conservative tactics. In such situations, it may be rational to use the opportunity of “ultrasound mini-surgery” with cytological survey of the obtained aspirate.
- iii. We tested the method of ultrasonic mini-surgery in 46 menopausal women ranging in age from 52 to 68 years. The duration of menopause varied from 6 to 22 years. It should be noted that while choosing this tactic a strict selection of patients according to several criteria, both separately and in their entirety, was made:
 - a. The absence of any clinical symptoms,
 - b. Unilocular, slim capsule, anechoic structure with no signs of internal blood flow (Power Doppler),
 - c. The maximum average diameter of not more than 50 mm,
 - d. No pathology of the cervix and body of uterus,
 - e. The absence of uterus (or uterine body),
 - f. High risk of intra - and postoperative complications (with particular attention to the directions on the presence of extensive adhesions in the abdominal cavity),
 - g. Detect the specific ultrasonic characteristics of peritoneal cysts,
 - h. The levels of tumor markers (CA 125, HE 4) does not exceed the reference values,
 - i. The possibility of cytological study of the material obtained.²

All surgical interventions were performed under intravenous anesthesia. Their duration did not exceed 10 minutes. After complete aspiration of cyst contents into its gap 70% ethanol (up to 10 ml) was injected with an exposure of 40-60 seconds (excluding peritoneal cyst). This contributed to the development of light burn of the lining of the cyst and, consequently, its sclerosis (Figure 1). In all cases during cytological investigation of the aspirate cellular elements were not detected, which suggested the presence of simple serous cysts of the ovary or peritoneal cyst. Subsequently these patients were under the observation with the use of high-definition transvaginal ultrasound. In all cases of observations relapse of pathological formations was not revealed.

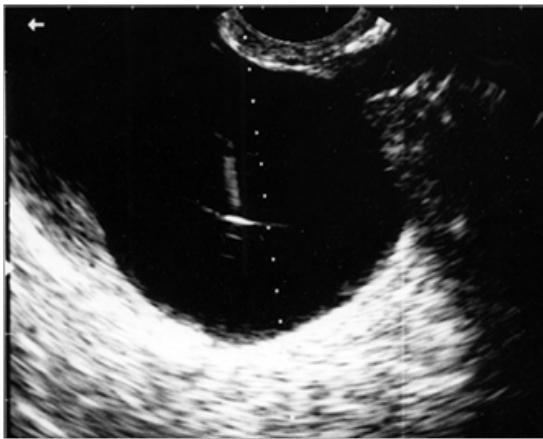


Figure 1 In the lumen of the ovarian cyst aspiration needle introduced.

Conclusion

The problem of the aspirational treatment of the formations of the ovaries in menopause is quite ambiguous and requires a comprehensive study. However, in the absence of absolute indications for abdominal surgery, the tactic of “passive” surveillance would be wrong. The study of the cellular composition of these formations with complex evaluation of other markers of tumor process allows to prove the feasibility of minimally invasive approach-ultrasonic mini-surgery.

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Conflict of interest

Authors declare there is no conflict of interest in publishing the article.

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