

# RISK FACTORS, CLINICAL PRESENTATION, AND ULTRASOUND DIAGNOSIS OF TUBAL PREGNANCY

*Kayumova G.M.*

*PhD., Senior Lecturer., Department of Obstetrics and Gynecology No. 1,  
Bukhara State Medical Institute named after Abu Ali Ibn Sino*

*Abstract. Tubal pregnancy remains the most common form of ectopic pregnancy and represents a serious problem in modern gynecology due to the high risk of life-threatening complications. The aim of this study was to determine the frequency of risk factors, characteristics of clinical presentation, and ultrasound findings in patients with tubal pregnancy.*

*Keywords. Tubal pregnancy; ectopic pregnancy; risk factors; clinical presentation; transvaginal ultrasound; pelvic inflammatory disease; induced abortion; infertility; adnexal mass; hemorrhagic shock.*

**Relevance of the Study.** Tubal pregnancy remains one of the most common forms of ectopic pregnancy and represents a serious problem in modern gynecology. According to global literature data, it accounts for up to 95–98% of all ectopic pregnancy cases. Despite the development of early diagnostic methods, tubal pregnancy continues to occupy a significant place in the structure of maternal morbidity and emergency gynecological care [1,2,3].

The high frequency of complications, including massive intra-abdominal bleeding, development of posthemorrhagic anemia, rupture of the fallopian tube, and hemorrhagic shock, makes early detection of tubal pregnancy especially important. In cases of delayed diagnosis, the risk of adverse outcomes increases significantly [4,5,6].

In recent years, special attention has been paid to studying the risk factors of tubal pregnancy, since their timely identification makes it possible to form high-

risk groups and provide more careful dynamic monitoring of patients. In addition, analysis of the clinical presentation plays an important role, as it is often vague or atypical [7,8,9].

Modern ultrasound diagnostic methods, especially transvaginal echography, have significantly improved the possibilities for early detection of ectopic pregnancy. However, diagnostic effectiveness depends on comprehensive assessment of clinical data, medical history, and instrumental research methods [10].

**Aim of the Study.** To determine the frequency of risk factors for tubal pregnancy, the characteristics of clinical presentation, and the results of ultrasound examination in patients with ectopic pregnancy.

**Materials and Methods.** The study included 75 women admitted to a gynecological hospital with a diagnosis of tubal pregnancy.

The age of the patients ranged from 19 to 42 years. Most women were of reproductive age, which corresponds to the general epidemiological structure of the disease.

Ultrasound examination (transvaginal echography) was performed in 72 patients. Three patients with signs of hemorrhagic shock were excluded from ultrasound analysis due to the need for emergency surgical intervention.

**Results.** Analysis of medical history showed that the most common risk factor for tubal pregnancy was previous induced abortions — 36% of cases. This is likely associated with an increased risk of inflammatory changes in the endometrium and fallopian tubes after instrumental interventions.

Previous tubal pregnancy was detected in 3 (4%) patients. It is known that a previous ectopic pregnancy significantly increases the risk of recurrence due to structural changes in the fallopian tube.

Primary infertility was detected in 3 (4%) patients, and secondary infertility in 1 (1.3%). Infertility may be associated with chronic inflammatory processes, impaired tubal patency, and dysfunction of ciliated epithelium.

Only 4 (5.3%) women had a history of normal spontaneous delivery without complications.

Chronic inflammation of the uterine adnexa was observed in 19 (25.3%) patients. This factor is one of the leading mechanisms in the pathogenesis of tubal pregnancy, as it leads to adhesion formation and impaired transport function of the fallopian tubes.

Adhesive disease was noted in 4 (5.3%) patients, and previous surgeries in 6 (8%).

Out of 75 patients, 62 (82.6%) had one or more risk factors, indicating a high prevalence of complicated gynecological history among patients with tubal pregnancy.

**Clinical Presentation.** Pain syndrome was observed in all patients; however, its characteristics varied.

Acute lower abdominal pain occurred in 8% of patients. In most cases (92%), pain was pulling or aching in nature and sometimes cramping. Pain irradiation to the rectum, lumbar region, and lower extremities was observed.

Bloody vaginal discharge was noted in 54.7% of patients. Its intensity varied from mild spotting to moderate bleeding.

Signs of anemia were observed in 34.7% of patients and manifested as:

- dizziness;
- weakness;
- fatigue;
- decreased blood pressure.

Hemorrhagic shock was diagnosed in 3 patients. Symptoms of acute abdomen were detected in 5 women.

The average time from the appearance of first symptoms to hospital admission was 9.8 days. The range varied from several hours to 35 days, indicating variability of clinical presentation and difficulty of early diagnosis. Ultrasound Findings in 72 patients, transvaginal ultrasound results showed:

- detection of a gestational sac outside the uterine cavity with a living embryo (progressive tubal pregnancy) — 7 cases (9.3%);
- presence of free fluid in the pelvis — 66 cases (88%);
- adnexal mass with heterogeneous echostructure — 48 cases (64%);
- enlargement of the uterus without signs of intrauterine pregnancy — 49 cases (65.3%).

Free fluid was most often localized in the posterior uterine space, which is an indirect sign of intra-abdominal bleeding.

The obtained results confirm the leading role of inflammatory diseases of the pelvic organs and induced abortions in the development of tubal pregnancy.

The clinical presentation is often nonspecific, which complicates early diagnosis. A comprehensive approach considering medical history, clinical symptoms, and ultrasound findings is essential.

The high diagnostic value of transvaginal ultrasound confirms the need for its widespread use when ectopic pregnancy is suspected.

**Conclusion.** Tubal pregnancy is characterized by a high frequency of risk factors, variable clinical presentation, and high diagnostic value of ultrasound examination.

The most significant risk factors include:

- induced abortions;
- inflammatory diseases of the pelvic organs;
- infertility;
- previous ectopic pregnancy.

Comprehensive evaluation of clinical and ultrasound data improves early diagnostic accuracy and reduces the risk of severe complications.

## Literature

1. Mertens, H. J. Androgen, estrogen and progesterone receptor expression in the human uterus during the menstrual cycle / H. J. Mertens, M. J. Heineman, P. H.

- Theunissen // Eur. J. Obstet. Gynecol. Reprod. Biol. - 2016. - Vol. 98, №1.-P. 58-65.
- 2.Morgan, T. Human Spiral Artery Renin-Angiotensin System / T. Morgan, C. Craven, K. Ward // Hypertension. - 2018. - Vol. 32. - P. 683-687.
- 3.Nachtigall, M. J. The effect of leukemia inhibitory factor (LIF) on trophoblast differentiation: a potential role in human implantation / M. J. Nachtigall, H. J. Kliman, R. F. Feinberg et al. // J. Clin. Endocrinol. Metab. - 2019.-Vol. 81.-P. 801-806.
- 4.Naicker, T. Quantitative analysis of trophoblast invasion in preeclampsia / T. Naicker, S. M. Khedun, J. Moodley et al. // Acta Obstet. Gynecol. Scand. - 2020. - Vol. 82, № 8. - P. 722-729.
- 5.Nanaev, A. Physiological dilation of uteroplacental arteries in the guinea pig depends on nitric oxide synthase activity of extravillous trophoblast / A.Nanaev, K. Chwalisz, H. G. Frank et al. // Cell Tissue Res. - 2021. - Vol. 282, №3.-P. 407-421.
- 6.Nayak, N. R. Comparative biology of the IGF system in endometrium" decidua, and placenta, arid clinical implications for foetal growth and implantation disorders / N. R. Nayak, L. C. Giudice // Placenta. - 2022. - Vol. 24, №4. -P. 281-296.
- 7.Nikas, G. Surface Morphology of the Human Endometrium: Basic and Clinical Aspects / G. Nikas, A. Makrigiannakis, O. Hovatta et al. // Ann. N. Y. Acad. Sci. - 2018. - Vol. 900. -P. 316-324. 6.
- 8.Norwitz, E. R. Implantation and the Survival of Early Pregnancy / E. R. Norwitz, D. J. Schust, S. J. Fisher // N. Engl. J. Med. - 2021. - Vol. 345, №19.-P. 1400-1408.
- 9.Pierleoni, C. Immunohistochemical identification of the receptor for urokinase plasminogen activator associated with fibrin deposition in normal and ectopic human placenta / C. Pierleoni, G. B. Samuelsen, N. Graem et al. // Placenta. - 2018. - Vol. 19, №7. -P. 501-508.
- 10.Pierro, E. Stromal-epithelial interactions modulate estrogen responsiveness in normal human endometrium / E. Pierro, F. Minici, O. Alesiani et al. // Biol.

Reprod. – 2018. - Vol. 64. - P. 831-838.