CLINICAL AND MORPHOLOGICAL CHARACTERISTICS OF OVARIAN CYSTS IN WOMEN OF REPRODUCTIVE AGE

Axmedjanova Xurshidaxon Zokirjon qizi
Madolimova Namunaxon Xasanboy qizi
Tashkent state medical university, Tashkent Uzbekistan.

Abstract. *Ovarian cysts are among the most common gynecological conditions in women of reproductive age and represent a significant clinical concern due to their diverse etiology and potential complications. These cystic formations may vary in size, structure, and pathological significance, ranging from functional cysts to complex neoplastic lesions.*

This study aims to evaluate the clinical and morphological characteristics of ovarian cysts in women of reproductive age. A descriptive observational study was conducted involving patients diagnosed with ovarian cysts based on clinical examination and imaging techniques. Ultrasound was used as the primary diagnostic method, and morphological assessment was performed through histopathological analysis in selected cases.

The findings revealed that functional cysts were the most common type, followed by hemorrhagic cysts and endometriotic cysts. Morphological evaluation demonstrated differences in cyst wall structure, internal content, and vascular patterns. Clinical symptoms varied from asymptomatic cases to pelvic pain and menstrual irregularities.

In conclusion, ovarian cysts exhibit a wide range of clinical and morphological features that are essential for accurate diagnosis and management. Combined clinical, imaging, and histopathological evaluation plays a key role in distinguishing benign from potentially malignant lesions and guiding appropriate treatment strategies.

Keywords. *Ovarian cysts, ovary, morphology, ultrasound, reproductive age, gynecology, ovarian pathology*

Introduction

Ovarian cysts are fluid-filled sacs that develop within or on the surface of the ovaries and are commonly encountered in women of reproductive age. These cysts may arise as part of normal ovarian function or as a result of pathological processes. While many ovarian cysts are benign and asymptomatic, some may lead to significant clinical symptoms or complications, requiring careful evaluation and management [1].

The etiology of ovarian cysts is diverse and includes functional, inflammatory, and neoplastic causes. Functional cysts, such as follicular and corpus luteum cysts, are the most common and are usually associated with normal ovulatory cycles. In contrast, pathological cysts, including endometriotic and dermoid cysts, may arise from abnormal tissue growth and are often associated with chronic conditions or hormonal disturbances [2].

Morphologically, ovarian cysts exhibit a wide range of structural characteristics depending on their origin. Functional cysts typically have thin walls and clear fluid content, whereas

pathological cysts may present with thickened walls, internal septations, or solid components. Histopathological evaluation is essential for distinguishing benign lesions from those with malignant potential [3].

Clinically, ovarian cysts may present with pelvic pain, menstrual irregularities, or may remain asymptomatic and be detected incidentally during routine examinations. The size and type of cyst play a crucial role in determining clinical presentation and risk of complications such as torsion or rupture [4].

Ultrasound examination, particularly transvaginal ultrasound, is the primary diagnostic tool for evaluating ovarian cysts. It allows assessment of cyst size, structure, and internal characteristics, aiding in the differentiation between functional and pathological cysts. In certain cases, additional diagnostic methods and histological confirmation are required for accurate diagnosis [5].

Despite the high prevalence of ovarian cysts, comprehensive studies integrating both clinical and morphological features remain essential for improving diagnostic accuracy and treatment outcomes.

Therefore, the aim of this study is to evaluate the clinical and morphological characteristics of ovarian cysts in women of reproductive age, with particular emphasis on their structural features and clinical presentation.

Materials and Methods

This study was designed as a descriptive observational investigation aimed at evaluating the clinical and morphological characteristics of ovarian cysts in women of reproductive age. A total of 68 female patients aged between 18 and 45 years were included in the study. All participants were diagnosed with ovarian cysts based on clinical examination and imaging findings.

Patients were selected according to defined inclusion and exclusion criteria. Inclusion criteria consisted of women of reproductive age with confirmed ovarian cysts detected by ultrasound examination. Exclusion criteria included pregnancy, previously diagnosed malignant ovarian tumors, and a history of ovarian surgical interventions.

Clinical evaluation involved a detailed medical history, assessment of menstrual cycle patterns, and documentation of presenting symptoms such as pelvic pain, dysmenorrhea, and irregular menstruation. Each patient underwent a comprehensive gynecological examination.

Transvaginal ultrasound was used as the primary diagnostic method to evaluate cyst characteristics. The parameters assessed included cyst size, wall thickness, internal structure, and the presence of septations or solid components. Based on these features, cysts were categorized into functional and pathological types.

In cases requiring surgical management, cystic tissue samples were obtained and subjected to histopathological examination. The specimens were fixed, processed, and stained for microscopic analysis to evaluate structural features and confirm diagnosis.

Morphological assessment focused on key characteristics, including:

- the structure of the cyst wall

- the nature of internal contents (clear, hemorrhagic, or complex)
- the presence of septations or solid elements
- signs of inflammation or endometriotic changes

Table 1. Clinical and Morphological Parameters of Ovarian Cysts

Parameter	Method of Assessment	Clinical Significance
Cyst size (cm)	Ultrasound measurement	Indicates risk of complications
Wall thickness	Imaging evaluation	Differentiates simple and complex
Internal structure	Ultrasound analysis	Helps classify cyst type
Histological features	Microscopic examination	Confirms morphological diagnosis

Note. Parameters are based on standard clinical and diagnostic approaches.

All collected data were analyzed using descriptive statistical methods. Quantitative variables were expressed as mean values with standard deviation, while qualitative data were presented in percentages.

Results

The analysis of clinical and imaging data demonstrated that ovarian cysts in women of reproductive age present with a wide range of characteristics in both structure and clinical manifestation. Among the 68 patients included in the study, the most common clinical symptom was pelvic pain, observed in 44% of cases. Menstrual irregularities were reported in 31% of patients, while 25% of cases were asymptomatic and detected during routine examination.

Ultrasound evaluation revealed that functional cysts were the most frequently observed type, accounting for 47% of cases. Hemorrhagic cysts were identified in 28% of patients, while endometriotic cysts constituted 15%. Complex cysts with internal septations or solid components were found in 10% of cases.

Table 2. Distribution of Ovarian Cyst Types (n = 68)

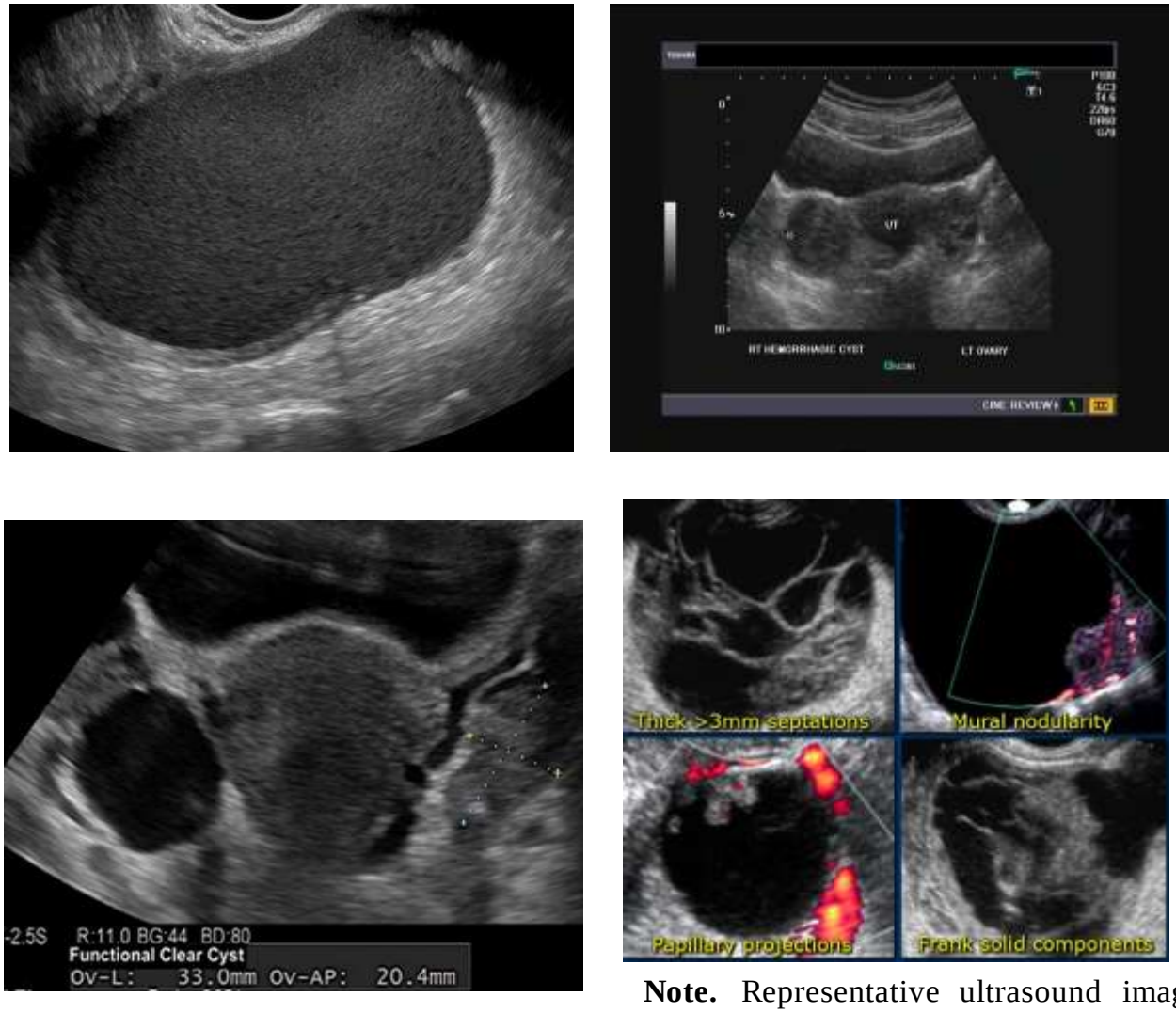
Type of Cyst	Number of Cases	Percentage (%)
Functional cysts	32	47%
Hemorrhagic cysts	19	28%
Endometriotic cysts	10	15%
Complex cysts	7	10%

Note. Classification based on imaging and morphological features observed during the study.

Further analysis showed that cyst size varied between 3 cm and 9 cm, with larger cysts more frequently associated with clinical symptoms. Thin-walled cysts with clear content were typically asymptomatic, whereas cysts with thick walls or complex internal structures were more often associated with pain and menstrual disturbances.

Histopathological examination, performed in selected surgical cases, confirmed the presence of structural differences between cyst types. Functional cysts showed simple architecture, while endometriotic cysts demonstrated characteristic hemorrhagic content and altered tissue structure. Complex cysts exhibited mixed features, including septations and cellular changes.

Figure 1. Ultrasound Features of Ovarian Cysts



Note. Representative ultrasound images illustrating different structural types of ovarian cysts.

Discussion

The findings of this study demonstrate that ovarian cysts in women of reproductive age present with diverse clinical and morphological characteristics. The predominance of functional cysts observed in this study reflects their strong association with normal ovarian physiology and hormonal fluctuations. These cysts are typically transient and often resolve spontaneously, which explains the high proportion of asymptomatic cases identified during routine examinations.

The presence of hemorrhagic and endometriotic cysts indicates a more complex pathological process. Hemorrhagic cysts are usually associated with bleeding within a

functional cyst, leading to internal echoes and structural changes visible on ultrasound. In contrast, endometriotic cysts are related to ectopic endometrial tissue and are commonly associated with chronic pelvic pain and menstrual disturbances. The findings of this study confirm that these cyst types are more likely to present with clinical symptoms compared to simple functional cysts.

The relationship between cyst size and symptom severity observed in this study is clinically significant. Larger cysts were more frequently associated with pelvic pain and menstrual irregularities, likely due to increased pressure on surrounding tissues and potential disruption of ovarian function. Additionally, cysts with complex internal structures, such as septations or solid components, were more likely to be symptomatic and require further diagnostic evaluation.

Histopathological findings provided additional insight into the structural differences between cyst types. Functional cysts exhibited simple architecture, whereas pathological cysts showed more complex morphological features. These differences are important for distinguishing benign conditions from those that may require closer monitoring or surgical intervention.

From a clinical perspective, ultrasound remains a key diagnostic tool for the initial evaluation of ovarian cysts. It allows non-invasive assessment of cyst morphology and helps guide clinical decision-making. However, imaging alone may not always be sufficient, particularly in cases of complex cysts, where histopathological confirmation becomes necessary.

Despite the strengths of this study, certain limitations should be acknowledged. The sample size, although adequate for descriptive analysis, may limit broader generalization. In addition, not all cases underwent histopathological evaluation, which may affect the accuracy of morphological classification in some instances. Future studies with larger sample sizes and comprehensive diagnostic approaches are recommended to further clarify the clinical significance of different cyst types.

In conclusion, ovarian cysts in women of reproductive age exhibit a wide spectrum of clinical and morphological features. Understanding these variations is essential for accurate diagnosis, appropriate management, and prevention of potential complications.

Conclusion

In conclusion, ovarian cysts in women of reproductive age demonstrate a wide range of clinical and morphological characteristics. Functional cysts were the most frequently observed type and were often asymptomatic, while hemorrhagic, endometriotic, and complex cysts were more commonly associated with clinical symptoms such as pelvic pain and menstrual irregularities.

The study highlights the importance of comprehensive clinical evaluation combined with imaging techniques for accurate diagnosis. Ultrasound examination plays a key role in identifying cyst structure and guiding initial management decisions, while histopathological assessment remains essential in selected cases to confirm the diagnosis.

Early identification and appropriate classification of ovarian cysts are crucial for preventing complications and ensuring optimal patient management. A multidisciplinary approach integrating clinical, imaging, and morphological findings is essential for improving diagnostic accuracy and treatment outcomes.

References

1. Berek, J. S., & Novak, E. (2020). Berek & Novak's gynecology (16th ed.). Lippincott Williams & Wilkins.
2. Hoffman, B. L., Schorge, J. O., Schaffer, J. I., Halvorson, L. M., Bradshaw, K. D., & Cunningham, F. G. (2020). Williams gynecology (4th ed.). McGraw-Hill Education.
3. Kurman, R. J., Carcangiu, M. L., Herrington, C. S., & Young, R. H. (2014). WHO classification of tumours of female reproductive organs (4th ed.). International Agency for Research on Cancer (IARC).
4. Timmerman, D., Valentin, L., Bourne, T. H., Collins, W. P., Verrelst, H., & Vergote, I. (2000). Terms, definitions, and measurements to describe the sonographic features of adnexal masses. Ultrasound in Obstetrics & Gynecology, 16(5), 500–505.
5. Шукуров, Ф. И., Ахмеджанова, Х. З., & Мадолимова, Н. Х. (2026). Современные подходы к восстановлению фертильности у женщин позднего репродуктивного возраста с низким овариальным резервом: обзор литературы.
6. Ахмеджанова, Х. З., & Шукуров, Ф. И. (2024). Гормональный статус у женщин позднего репродуктивного возраста с низким овариальным резервом. Журнал гуманитарных и естественных наук, (16 [1]), 91-99.
7. Akhmedzhanova, H. Z., Akhmedzhanova, H. Z., & Shukurov, F. I. (2024). Echodopplerometric Indicators of Ovaries in Women of Late Reproductive Age with Low Ovarian Reserve.
8. Мадолимова, Н. Ҳ., & Ахмеджанова, Х. З. (2025). АДЕНОМИОЗ И ОСЛОЖНЕНИЙ БЕРЕМЕННОСТИ, РОДОВ И ИХ ПРОГНОЗИРОВАНИЕ. ОСНОВЫ МЕДИЦИНЫ, 1(7), 177-187.
9. Рашидова, К. Б., & Ахмеджанова, Х. З. (2026). ҲАЙЗЦИКЛИ БУЗИЛИШЛАРИ БИЛАН КЕЧУВЧИ АЁЛЛАРДА ГОРМОНАЛ ПРОФИЛ ЎЗГАРИШЛАРИ. Eurasian Journal of Medical and Natural Sciences, 6(1), 34-42.
10. Ахмеджанова, Х. З. (2025). ПАСТ ОВАРИАЛ ЗАХИРАЛИ КЕЧ РЕПРОДУКТИВЁШДАГИ АЁЛЛАРДА ЭНДОМЕТРИЙ РЕЦЕПТИВЛИГИНИНГ КЛИНИК ВА ЭХОГРАФИК ХУСУСИЯТЛАРИ. Eurasian Journal of Medical and Natural Sciences, 5(12), 270-280.
11. Маликова, Ш. Н., & Ахмеджанова, Х. З. (2026). ТУРЛИ РЕПРОДУКТИВ ЁШДАГИ АЁЛЛАРДА ОВАРИАЛ ЗАХИРАНИНГ БИОКИМЁВИЙ ВА ЭХОГРАФИК КЎРСАТКИЧЛАРИНИНГ ҚИЁСИЙ КЛИНИК ТАҲЛИЛИ. Eurasian Journal of Medical and Natural Sciences, 6(1), 43-50.

12. Ахмеджанова, Х. З., & Ражапова, Г. Ф. (2025). Кеч репродуктив ёшдаги паст тухумдон захирали аёлларда фертилликни прогнозлашда гормонал ва ўсиш омилларининг прогностик аҳамияти. Eurasian Journal of Medical and Natural Sciences, 5(10-2), 182-196.

13. Ахмеджанова, Х. З. (2025). 3D-эластография овариальной стромы при низком овариальном резерве: клинико-прогностическое значение и роль в выборе терапевтической тактики.

14. Ахмеджанова, Х. З., & Шукуров, Ф. И. (2024). Эффективность экзосомальной терапии у женщин позднего репродуктивного возраста с низким овариальным резервом. Москва, 4, 07.

15. Олимова, К. Ж., & Ахмеджанова, Х. З. (2024). Инновационный метод в диагностике синдрома пустых фолликулов.

16. Mirzaeva, D. B., & Sharodiya, D. (2025). Diagnostic and prognostic value of platelet indices as a potential biomarker in preeclampsia: a case-control study in a maternity hospital at Tashkent. International Journal of Medical Sciences And Clinical Research, 5(02), 95-101.

17. Saidova, L. B., Saidova, M. K., Mirzaeva, D. B., Kuvvatov, Z. K., & Ashurova, N. G. (2019, July). Optimization of medical care for patients with acute poisoning at the prehospital stage by emergency medical care team. In Of XY international Research and practice conference England, London (pp. 120-122).

18. Mirzayeva, D. B. (2023). Features of the course of pregnancy and childbirth after in vitro fertilization (IVF), taking into account the factor of infertility. Journal of education and scientific medicine, 1(1), 12-17.

19. Mirzaeva, D., & Nosirova, S. (2025). COMPARATIVE ANALYSIS OF CONTRACEPTIVE INTENTIONS IN WOMEN AFTER CHILDBIRTH. Modern Science and Research, 4(3), 1699-1706.

20. Mirzaeva, D. B., Abdullaeva, U. K., & Boboeva, R. R. (2019). The importance of interactive teaching methods in improving the level of clinical knowledge of students. Science and Education, 2, 1-6.

21. Das, S., & PREGNANT, M. D. P. C. I. (2025). WOMEN WITH PREECLAMPSIA. Академические исследования в современной науке, 4(11), 20-21.

22. Бабаджанова, Г. С., Мирзаева, Д. Б., & Гуломова, М. А. (2017). Оценка ведения беременности и родов у женщин с миомой матки. Биология и интегративная медицина, (2), 111-117.

23. Mengliyeva, D., Shomaqsudova, M., Mirzaeva, D., Okboev, A., Aripova, K., Jumayev, I., ... & Maftunakhan Akhmatovna, A. (2025). Fe3O4-Polyvinylpyrrolidone-Decorated on Graphene Oxide Nanosheets for Fast Detection of Trace Protein. Journal of Nanostructures, 15(4), 2071-2083.

24. Botirjonovna, M. D., & Kizi, A. N. A. (2024). Assessment of the Cognitive State of Patients with Autonomic Disorders in Chronic Cerebral Ischemia. American Journal of Medicine and Medical Sciences, 14(12), 3191-3193.

25. Das, S., & Mirzaeva, D. (2025). Prevalence and hematological profiles of pregnancy anemia: extended cross-sectional analysis in a tertiary care center in Tashkent. PREVALENCE, 3(5).

26. Qarshiboyeva, N., Tolibov, D., Mirzaeva, D., Das, S., & Ismatov, A. (2025). Prognostic correlation of stroke severity and outcome based on infarcted cerebral arteries in ischemic stroke patients. Journal of the Neurological Sciences, 480.

27. Tolibov, D. S., & Mirzaeva, D. B. (2024). Abdurasulova NA ANALYSIS OF THE NEUROPSYCHOLOGICAL STATE OF PATIENTS WITH AUTONOMIC DISORDERS IN CHRONIC CEREBRAL ISCHEMIA (CCI). JOURNAL OF EDUCATION AND SCIENTIFIC MEDICINE, 1(6), 50-55. Исламова, М. С., & Акбарова, Г. П. (2025). ОЖИРЕНИЕ: МНОГОФАКТОРНОСТЬ ПАТОГЕНЕЗА И АССОЦИИРОВАННЫЕ ЗАБОЛЕВАНИЯ (ОБЗОР).

28. Нуриддинов, Э. З. (2019). Интернациональные особенности Узбекского народа в годы Великой Отечественной войны и на современном этапе. Эшелоны идут на Восток. Эвакуация в Узбекистан в годы Великой Отечественной войны. Оренбург–Ташкент, 44-47.

29. Исламова, М. С., Сабиров, М. А., & Даминова, К. М. (2021). Лептин-перспектива для диагностики ренального поражения при ожирении.

30. Исламова, М., & Даминова, К. (2022). Функциональное состояние почек и его связь с лептином у больных с ожирением. Медицина и инновации, (2), 249-257.

31. Шоахмедова, К., Сабиров, М., & Бабаджанов, Ж. Б. (2019). Влияние хронической болезни почек на состояние полости рта. Stomatologiya, 3(76), 36-40.

32. Mukhamadovna, S. M., Umidovich, I. S., & Abdurasulovich, Y. S. (2019). Factors contributing to the formation of a complicated course of duodenal ulcer in persons of young age. Вопросы науки и образования, (6 (52)), 69-73.

33. Акбаров, А. Н., Шоахмедова, К. Н., & Сабиров, М. А. (2020). Влияние хронической болезни почек на состояние полости рта. Научные исследования, (3 (34)), 31-32.

34. Shamsiev, J., Islamova, D., & Islamova, S. (2020). Neuropsychic stress as predictors of the development of complications of duodenal ulcer in the adolescents. The Scientific Heritage, (48-2), 8-10.

35. Маджидова, Я. Н., Алимова, Н. У., & Хасанова, Н. О. (2021). КЛИНИКО-НЕЙРОФИЗИОЛОГИЧЕСКИЕ ОСОБЕННОСТИ НЕЙРОКОГНИТИВНЫХ РАССТРОЙСТВ У ДЕТЕЙ И ПОДРОСТКОВ С САХАРНЫМ ДИАБЕТОМ 1 ТИПА. Re-health journal, (2 (10)), 72-78.

36. Okilovna, H. N., & Tojiboevna, O. M. (2025). The Effect of HbA1c on Cognitive Functions in Children with Type 1 Diabetes Mellitus. INTEGRATION OF EDUCATION AND SCIENCE: GLOBAL CHALLENGES AND SOLUTIONS, 1(2), 914-915.

37. ХАСАНОВА, Н. КЛИНИКО-НЕВРОЛОГИЧЕСКИЕ, НЕЙРОФИЗИОЛОГИЧЕСКИЕ АСПЕКТЫ КОГНИТИВНОГО ДЕФИЦИТА У ДЕТЕЙ

И ПОДРОСТКОВ СТРАДАЮЩИХ САХАРНЫМ ДИАБЕТОМ 1 ТИПА. Гродненский государственный медицинский университет, Гродно КОНФЕРЕНЦИЯ: РЕСПУБЛИКАНСКАЯ НАУЧНО-ПРАКТИЧЕСКАЯ КОНФЕРЕНЦИЯ С МЕЖДУНАРОДНЫМ УЧАСТИЕМ СТУДЕНТОВ И МОЛОДЫХ УЧЕНЫХ, ПОСВЯЩЕННАЯ 100-ЛЕТИЮ СО ДНЯ РОЖДЕНИЯ ПРОФ. МАКШАНОВА ИВАНА ЯКОВЛЕВИЧА Гродно, 25–26 апреля 2024 года Организаторы: Гродненский государственный медицинский университет, Студенческое научное общество. Совет молодых ученых, Гродно БИБЛИОМЕТРИЧЕСКИЕ ПОКАЗАТЕЛИ: Входит в РИНЦ: да Цитирований в РИНЦ: 0 Входит в ядро РИНЦ: нет Цитирований из ядра РИНЦ: 0 Рецензии: нет данных ТЕМАТИЧЕСКИЕ НАПРАВЛЕНИЯ:.

38. Guerriero, S., Alcázar, J. L., Pascual, M. A., Ajossa, S., Perniciano, M., Piras, A., & Melis, G. B. (2011). Imaging of gynecological disease: Clinical and ultrasound characteristics of ovarian masses. Ultrasound in Obstetrics & Gynecology, 37(1), 8–22.

39. Valentin, L. (2004). Pattern recognition of benign and malignant ovarian tumors. Best Practice & Research Clinical Obstetrics & Gynaecology, 18(1), 71–89.

40. Sayasneh, A., Wynants, L., Preisler, J., Kaijser, J., Johnson, S., Stalder, C., … Timmerman, D. (2013). Multicenter study on the diagnosis of ovarian masses. BMJ, 346, f244.

41. Vercellini, P., Vigano, P., Somigliana, E., & Fedele, L. (2014). Endometriosis: Pathogenesis and treatment of ovarian cysts. Human Reproduction Update, 20(3), 427–439.

42. Modesitt, S. C., Pavlik, E. J., Ueland, F. R., DePriest, P. D., Kryscio, R. J., & van Nagell, J. R. (2003). Risk of malignancy in unilocular ovarian cystic tumors. Obstetrics & Gynecology, 102(3), 594–599.

43. Levine, D., Brown, D. L., Andreotti, R. F., Benacerraf, B., Benson, C. B., Brewster, W. R., … Glanc, P. (2010). Management of asymptomatic ovarian and other adnexal cysts. Radiology, 256(3), 943–954.