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Open Access Case Report

Appendiceal Endometriosis Mimicking Acute Appendicitis: A Case Report and Literature Review

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Abstract

Background: While endometriosis has a high prevalence among women during their reproductive years, appendiceal endometriosis is an uncommon clinical condition that affects women, and it is mostly presented as acute appendicitis and/or similar to several other gynecological disorders.
Case Presentation: A thirty-four years old female presented with symptoms of a 24-hour history of acute right lower quadrant (RLQ) pain as well as a chronic history of abdominal pain and chronic recurrent pelvic pain. The physical and clinical assessment was referred for a laboratory. The findings suggested acute appendicitis. The patient admitted Baghdad Teaching Hospital for Laparoscopic appendectomy., Later, the specimen was sent for histopathological examination, where it revealed endometrial glands and stroma embedded in the muscularis propria of the appendix.
Conclusion: Although rare, appendiceal endometriosis should be considered in the differential diagnosis of RLQ pain in reproductive-age women. This case indicates the necessity of routine histopathological examination of all appendectomy specimens to ensure accurate diagnosis and appropriate follow-up.

Keywords: Appendix; Case report; Chronic pelvic pain; Endometriosis; Histopathology; Laparoscopy.

Introduction

Approximately 10%–15% of women during their reproductive years suffer from endometriosis, a chronic inflammatory condition characterized by the presence of functional endometrial tissue outside the uterine cavity (1, 2). It mainly involves the ovaries, fallopian tubes, and uterosacral ligaments. Nevertheless, manifestations can occur in the thoracic cavity, gastrointestinal tract, and urinary system (3, 4).

The most common involved area in the extra-pelvic site is the gastrointestinal tract, with the rectosigmoid colon being the most common, then the ileum, cecum, and appendix (5). Appendiceal endometriosis is particularly rare, with a reported prevalence ranging from 0.05% to 1.69% in the general population and up to 13.2% in patients with known deep infiltrating endometriosis (6, 7, 8). Clinical presentation is highly variable; patients may be asymptomatic or present with cyclic right lower quadrant (RLQ) pain, melena, intussusception, or features of acute appendicitis (9, 10).

Acute appendicitis is an inflammatory process involving the mucosa of the vermiform appendix (11). Although acute appendicitis is the most common surgical emergency responsible for right lower abdominal pain (12), appendiceal endometriosis is very rare and may present with symptoms mimicking acute appendicitis or other entities (13).

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Case Presentation

Patient Information

A 34-year-old married female presented to the emergency department with a 24-hour history of acute right lower quadrant abdominal pain. The patient reported a history of chronic pelvic pain associated with menstruation (dysmenorrhea) but had no history of infertility or known endometriosis. Her past surgical history included a hysteropexy (cystocele repair) performed for anterior vaginal wall prolapse.

Clinical Findings

On physical examination, the patient was afebrile and hemodynamically stable. Abdominal examination revealed significant tenderness and guarding in the right iliac fossa (RIF) with a positive McBurney's sign.

Diagnostic Assessment

Laboratory Investigations: The complete blood count (CBC) showed mild leukocytosis with neutrophilia. Nevertheless urinalysis was within normal limits.

Imaging: Transabdominal ultrasound of the RIF demonstrated distended bowel loops with preserved peristalsis, but failed to visualize a dilated appendix or focal collections.

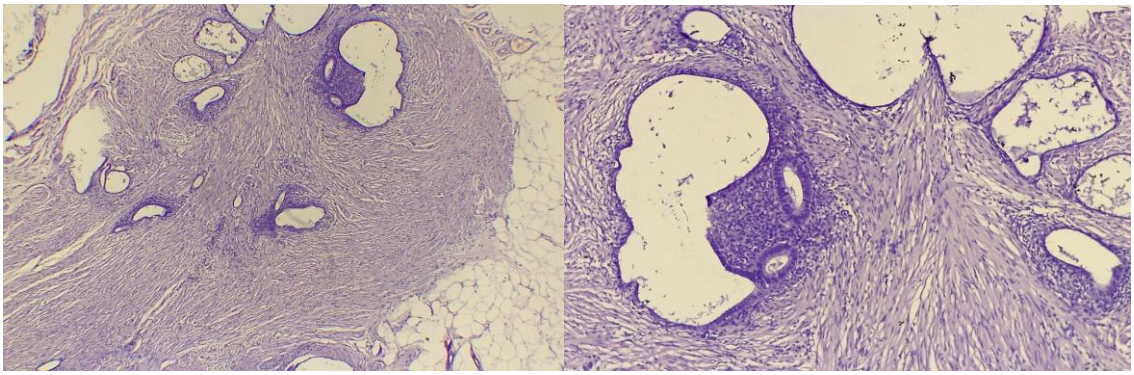
Pre-operative Diagnosis: Acute Appendicitis.

Therapeutic Intervention: The patient went through a surgical procedure by laparoscopic appendectomy under general anesthesia the appendix appeared inflamed and mildly thickened. No gross endometriotic lesions were visualized on the pelvic adnexa or peritoneum. The specimen was safely removed and sent for histopathological evaluation.

Histopathological Findings

Gross Description: The specimen consisted of a 7.5 cm vermiform appendix. White-tan, and soft on the external surface. No distinct focal lesions or masses were noted on the serial cut sections.

Microscopic Description: Histological sections revealed a typical and largely intact appendiceal mucosa with few lymphoid follicles with distinct foci of benign endometrial glands surrounded by specialized endometrial stroma and within the muscularis propria and subserosal layers peri-glandular fibrosis were identified embedded deeply in. Evidence of old hemorrhage, characterized by the presence of hemosiderin-laden macrophages, was observed adjacent to these stromal areas. There was no evidence of cytological atypia or malignancy. The final histopathological diagnosis was confirmed as appendiceal endometriosis,Figure 1, A and B.



A **B**

Figure 1: Appendiceal wall with endometrial gland and stroma in muscularis propria layer, (Hematoxylin and eosin stain 4X, 10X) (A and B).

Discussion

Appendiceal endometriosis, due to its non-specific clinical presentation, may lead to misdiagnosis. The case shows that symptoms resemble acute appendicitis. The differential diagnosis by ultrasound is not definitive in identifying the pathology (14).

Surgical identification is equally challenging. While endometriosis powder-burn or blue-black lesions are classic the non-pigmented variants may appear as white opacities or red flame and appears during laparoscopy. Research by Jocko et al. indicated that 44% of visually "normal" appendices in gynecological surgeries had positive pathology upon excision (15). Another study by Lyons et al of 190 cases; 145 appendices showed abnormal pathology after laparoscopic surgery for females with chronic pelvic pain. (16)

This case confirms that even in the absence of gross pelvic endometriosis, the appendix can be a primary site of ectopic tissue. It also supports the practice of routine histopathological examination for every appendectomy, as visual inspection alone is insufficient to rule out rare pathologies (17, 18).

Theories on the pathogenesis of endometriosis include: Retrograde menstruation, benign metastasis, immune dysregulation, coelomic metaplasia, embryonic rest theory, endometrial stem cell recruitment theory, bone marrow-derived stem cell theory, hormonal imbalance,

alterations in epigenetic regulation and micro-RNAs. However, the definitive cause is still unknown (19).

Conclusion

Endometriosis of the appendix should be a differential diagnosis for any female of reproductive age presenting with RLQ pain, especially those with a history of chronic pelvic pain. We recommend a high index of suspicion and routine histological analysis of all excised appendices to ensure this rare but significant condition is not missed.

Authors' declarations:

We confirm that all the Figures and Tables in the manuscript belong to the current study. Besides, the Figures and images, which do not belong to the current study, have been given permission for re-publication attached to the manuscript. Authors sign on ethical consideration's Approval-Ethical Clearance: The project was approved by the local ethical committee in (Department of Pathology & Forensic Medicine, College of Medicine, University of Baghdad**) according to the code number (02) on (11/ 01/ 2026).**

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Authors' contributions:

Study conception & design: (Sura Tami Abduljabbar**). Literature search: (**Sura Tami Abduljabbar**). Data acquisition: (**Dr.Fareed Arrak Turkey**). Data analysis & interpretation: (**Dr.Nadia H.Ibraheem**). Manuscript preparation:** Dr.Nadia H.Ibraheem**).** Manuscript editing & review: Dr. Zainab Khalid shehab Almukhtar

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References

1.*Parasar P, Ozcan P, Terry KL. Endometriosis: epidemiology, diagnosis and clinical management. Curr Obstet Gynecol Rep. 2017;6:34-41.* *https://doi.org/10.1007/s13669-017-0187-1*

2. Giudice LC, Kao LC. Endometriosis. TL-364. Lancet. 2004;364(9447):1789-99. *https://doi.org/10.1016/S0140-6736(04)17403-5*

3. Johnson NP, Hummelshoj L, Adamson GD, et al. World endometriosis Society consensus on the classification of endometriosis. Hum Reprod. 2017;32(2):315-24. *https://doi.org/10.1093/humrep/dew293*

4. Gustofson RL, Kim N, Liu S, et al. Endometriosis and the appendix: a case series and comprehensive review of the literature. Fertil Steril. 2006;86(2):298-303. *https://doi.org/10.1016/j.fertnstert.2005.12.0765*

5. Yaghi M, Nassar H, Zadeh C, et al. Incidental appendiceal mass as the only manifestation of endometriosis. BMJ Case Rep. 2021;14(2):e239090. *https://doi.org/10.1136/bcr-2020-239090*

6. Allahqoli L, Mazidimoradi A, Momenimovahed Z, et al. Appendiceal Endometriosis: A Comprehensive Review of the Literature. Diagnostics. 2023; 13(11):1827. *https://doi.org/10.3390/diagnostics13111827*

7. Klein S, Tourangeau-Young R, Biglione A. Appendiceal Endometriosis Presenting as Chronic Appendicitis: A Case Report. Cureus. 2023;15(4):e37825. *https://doi.org/10.7759/cureus.37825*

8. Charatsi D, Koukoura O, Ntavela IG, et al. Gastrointestinal and urinary tract endometriosis: a review on the commonest locations of extra-pelvic endometriosis. Adv Med. 2018; 2018(1):3461209. *https://doi.org/10.1155/2018/3461209*

9. Laskou S, Papavramidis TS, Cheva A, et al. Acute appendicitis caused by endometriosis: a case report. J Med Case Rep. 2011 Apr 11;5(1):144. *https://doi.org/10.1186/1752-1947-5-144.*

10. Gupta R, Singh AK, Farhat W, et al. Appendicular endometriosis: A case report and review of literature. Int J Surg Case Rep. 2019;64:94-6. *https://doi.org/10.1016/j.ijscr.2019.07.046.*

11. Pereira BM, Mendes CA, Ruano RM, et al. Acute appendicitis may no longer be a predominant disease of the young population. Anaesthesiol Intensive Ther. 2019;51(4):283-8. *https://doi.org/10.5114/ait.2019.87332.*

12. Buckius MT, McGrath B, Monk J, et al. Changing epidemiology of acute appendicitis in the United States: Study period 1993-2008. J. Surg. Res. 2012;175 (2): 185-190. *https://doi.org/10.1016/j.jss.2011.07.017*

13. Saleem A, Navarro P, Munson JL, et al. Endometriosis of the appendix: Report of three cases, Int. J. Surg. Case Rep. 2011;2(2):16-19. *https://doi.org/10.1016/j.ijscr.2010.11.001*

14. Jansen RP, Russell P. Nonpigmented endometriosis: clinical, laparoscopic, and pathologic definition. Am J Obstet Gynecol. 1986; 155:1154-9. *https://doi.org/10.1016/0002-9378(86)90136-5*

15. Jocko JA, Shenassa H, Singh SS. The role of appendectomy in gynaecologic surgery: A Canadian retrospective case series. J Obstet Gynaecol Can.

2013; 35:44-8. https://doi.org/10.1016/S1701-2163(15)31047-1

16. Lyons TL, Winer WK, Woo A. Appendectomy in patients undergoing laparoscopic surgery for pelvic pain. J Am Assoc Gynecol Laparosc. 2001; 8(4):542-4. https://doi.org/10.1016/S1074-3804(05)60618-4

17. Yetkin G, Uludag M, Citgez B, et al. Endometriosis of the appendix presenting as acute appendicitis. BMJ Case Rep. 2009;2009:bcr0420091820. https://doi.org/10.1136/bcr.04.2009.1820

18. Brant WE, Helms CA. Fundamentals of Diagnostic Radiology. 4th ed. Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins Health; 2012. p. 792. Available from: https://openlibrary.org/books/OL25140172M/Fundamentals_of_diagnostic_radiology?utm_source

19.Lamceva J, Uljanovs R, Strumfa I. The Main Theories on the Pathogenesis of Endometriosis. Int J Mol Sci. 2023 Feb 21;24(5):4254. https://doi.org/10.3390/ijms24054254.

انتباذ بطانة الرحم في الزائدة الدودية الذي يحاكي التهاب الزائدة الدودية الحاد: تقرير حالة ومراجعة للأدبيات

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الخلاصة

الخلفية: انتباذ بطانة الرحم في الزائدة الدودية حالة سريرية نادرة تصيب النساء في سن الإنجاب. وغالبًا ما تمثل تحديًا تشخيصيًا نظرًا لتشابه أعراضها مع التهاب الزائدة الدودية الحاد أو غيره من الأمراض النسائية.

عرض الحالة: راجعت عيادة الطوارئ سيدة تبلغ من العمر 34 عامًا، تعاني من ألم حاد في الربع السفلي الأيمن من البطن استمر لمدة 24 ساعة، ولديها تاريخ مرضي لألم حوضي دوري مزمن. أشارت نتائج الفحص السريري والمخبري إلى التهاب الزائدة الدودية الحاد. أُجري لها استئصال الزائدة الدودية بالمنظار، وكشف التحليل النسيجي المرضي بشكل غير متوقع عن وجود غدد وبطانة رحمية ضمن الطبقة العضلية للزائدة الدودية.

الإستنتاج: على الرغم من ندرة انتباذ بطانة الرحم في الزائدة الدودية، إلا أنه ينبغي أخذه في الاعتبار عند التشخيص التفريقي لألم الربع السفلي الأيمن من البطن لدى النساء في سن الإنجاب. تؤكد هذه الحالة على ضرورة إجراء فحص نسيجي مرضي روتيني لجميع عينات استئصال الزائدة الدودية لضمان التشخيص الدقيق والمتابعة المناسبة.

الكلمات المفتاحية: الزائدة الدودية؛ تقرير حالة ألم الحوض المزمن؛ الانتباذ البطاني الرحمي؛ تنظير البطن؛ علم الأنسجة المرضية.