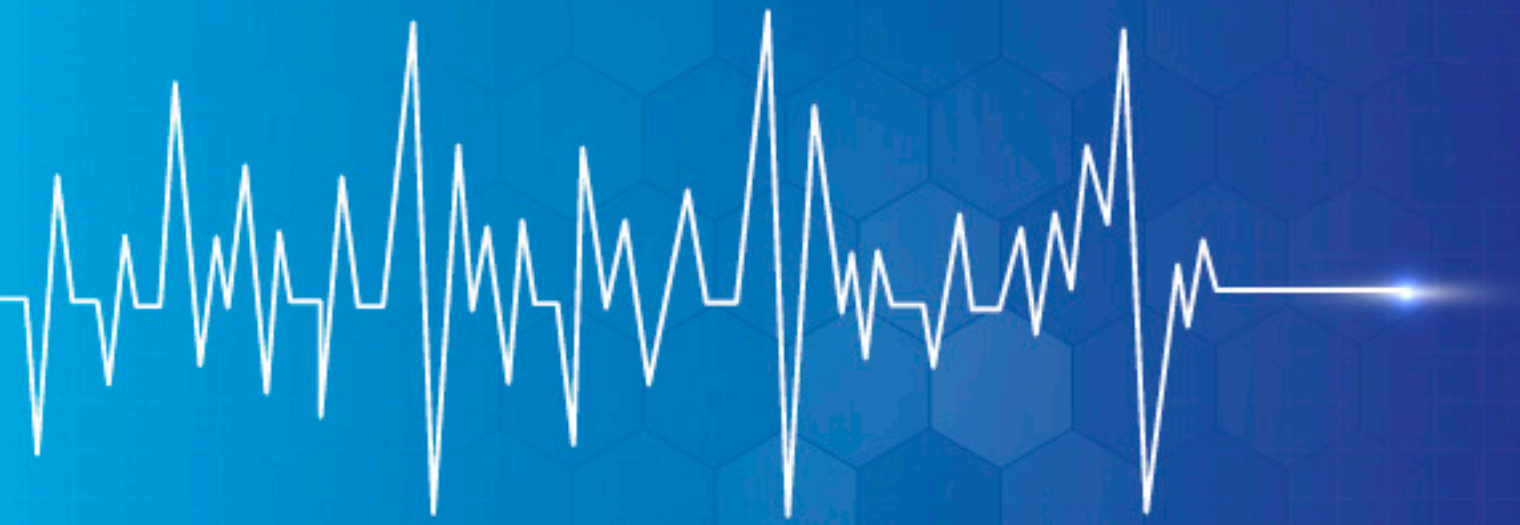
American Journal of Medical Science and Innovation (AJMSI)

ISSN: 2836-8509 (ONLINE)

VOLUME 5 ISSUE 2 (2026)



PUBLISHED BY
E-PALLI PUBLISHERS, DELAWARE, USA

American Journal of Medical Science and Innovation (AJMSI)

Volume 5 Issue 2, Year 2026
ISSN: 2836-8509 (Online)
DOI: https://doi.org/10.54536/ajmsi.v5i2.3840
https://journals.e-palli.com/home/index.php/ajmsi

A Rare Case Report of Coexisting Chronic Ectopic Pregnancy and Appendicitis

Elhaj Roaa[1*], Khadeeja Yahya Othman[2], Al-Sayed Al-Hady Abd-Elrahamn[1], Khalid Mohamed Ahmed Ahmedoon[3]

Article Information

Received: Septrmber 07, 2024

Accepted: November 02, 2024

Published: July 25, 2026

Keywords

Acute, Appendicitis, Ectopic Pregnancy, Urogenital Surgical Procedure, Vigilance

ABSTRACT

The case involves a rare occurrence of concurrent acute appendicitis and ruptured chronic ectopic pregnancy in an Indian patient presenting with right iliac fossa pain, elevated TWBCs, and positive serum BHCG. Diagnostic challenges were exacerbated by a history of treated miscarriage. Surgical exploration revealed both conditions, prompting discussions on their possible pathophysiological link. The case underscores the importance of prompt recognition and intervention in pregnancy-related acute abdomen to prevent maternal morbidity and mortality. The unique presentation contributes to existing literature, emphasizing the need for vigilance and early surgical intervention in equivocal cases.

INTRODUCTION

Ectopic pregnancy (EP), defined as the implantation of a gestational sac outside the uterine cavity, poses significant clinical challenges due to its potential for maternal morbidity and mortality(Al Naimi *et al.*, 2021; ES J *et al.*, 2020; Stabile *et al.*, 2024). While EP predominantly occurs within the fallopian tubes, it can also manifest in other ectopic locations such as the ovaries, cervix, and abdominal cavity. In the United Kingdom, EP affects approximately 11 per 1000 pregnancies, highlighting its clinical significance. However, regional variations in prevalence exist, with studies in Saudi Arabia reporting rates ranging from 0.58% to 1.13%. Historically, the mortality rate for ectopic pregnancy was significantly higher, in the range of 1.7 to 35.5 deaths per 1,000 cases; however, advancements in diagnostic techniques and management strategies have contributed to a decline in case fatality rates over recent years (Zhang *et al.*, 2023).

Chronic ectopic pregnancy (CEP) represents a distinct subset of EP characterized by the prolonged presence of trophoblastic tissue within the fallopian tube (Wu *et al.*, 2023). This condition arises from incomplete resolution of an ectopic pregnancy, leading to persistent inflammation and tissue deterioration at the implantation site. Unlike acute ectopic pregnancies, CEP often presents with low or undetectable serum human chorionic gonadotropin (HCG) levels due to the absence of viable chorionic villi (Dunphy *et al.*, 2022). Diagnosis of cervical ectopic pregnancy (CEP) poses a unique challenge for clinicians, as biochemical markers and imaging modalities may yield inconclusive results. CEP is an extremely rare condition, representing less than 0.1% of all ectopic pregnancies, emphasizing the importance of precise diagnostic approaches tailored to this rare occurrence (DiBiase *et al.*, 2023).

The coexistence of CEP with other intra-abdominal pathologies, such as appendicitis, presents a rare yet potentially life-threatening scenario. The simultaneous occurrence of these conditions requires prompt recognition and intervention to mitigate adverse outcomes for the mother. While laparoscopy remains the gold standard for diagnosing and managing EP, advancements in ultrasonic imaging have expanded diagnostic capabilities and facilitated the adoption of non-surgical treatment options (Singh *et al.*). Emerging trends in EP management include the use of methotrexate therapy and the consideration of laparoscopic versus laparotomy approaches based on individual patient characteristics and clinician expertise (Naveed *et al.*, 2022).

In light of ongoing advancements in diagnostic techniques and treatment modalities, updates to clinical guidelines are warranted to ensure optimal care for patients with EP (Liu *et al.*, 2024). The forthcoming revision of the Royal College of Obstetricians and Gynaecologists (RCOG) guideline, informed by recommendations from the Healthcare Safety Investigation Branch (HSIB) report on EP diagnosis, holds promise for enhancing clinical practice and improving patient outcomes.

MATERIALS AND METHODS

This case report shows the diagnosis and treatment of a 28-year-old patient who is presenting with chronic ectopic pregnancy and acute appendicitis. The patient's history was first taken to try to establish her obstetric background and symptoms, such as pain in the right iliac fossa and vomiting. The findings in the abdominal and gynecological examination that gave grounds for further investigation include tenderness and adnexal cyst.

Laboratory tests would consist of a quantitative beta-human chorionic gonadotropin (BHCG) to establish pregnancy status, and a complete blood count, which was elevated for leukocytes. Imaging studies are ordered next,

[1] Department of Obstetrics and Gynecology, Shaqra General Hospital, Shaqra, Riyadh, Saudi Arabia
[2] King Fahad Hospital, AlBaha, Saudi Arabia
[3] Department of Human Anatomy and Embryology, Port Said University, Egypt
[*] Corresponding author's e-mail: RoaaHaddad1@outlook.com

and there was a transvaginal ultrasound that showed the uterus to be empty; there was a right ovarian cyst, and there was minimal free fluid in the pelvis. An abdominal and pelvic CT scan further described a dilated appendix filled with fluid, which implied inflammation.

An exploratory laparotomy was done because of an incomplete preoperative diagnosis. Intraoperative examination showed a right tubal ectopic pregnancy with rupture and inflamed appendix. Surgical management included a right salpingo-oophorectomy, appendectomy, and left ovarian cystectomy. The patient was treated with intravenous antibiotics and fluid postoperatively with anticipation of complications. Histopathological examination revealed chorionic villi in the fallopian tube and acute appendicitis. The patient had an uneventful recovery with follow-up care.

Case Report

The twenty-eight-year-old Indian lady presented on 6th October 2022 with a one-week history of right-sided loin pain accompanied by vomiting for one day. The pain, described as squeezing in nature, progressively intensified over time. Notably, she had experienced one episode of vomiting the day before the presentation. There were no associated symptoms of fever, diarrhea, or constipation. Obstetrically, she had a cesarean section delivery three years ago and recently underwent a medically treated miscarriage, resulting in irregular vaginal bleeding. She denied any history of pelvic inflammatory diseases or sexually transmitted infections. On examination, the patient appeared unwell with vital signs showing a pulse rate of 92, blood pressure of 100/70, respiratory rate of 20, and temperature of 36.9 Celsius. Abdominal examination revealed maximal tenderness in the right iliac fossa with positive rebound tenderness and mild tenderness in the left iliac fossa. A gynecological examination revealed a closed cervix with a right adnexal cyst.

RESULTS AND DISCUSSION

Investigations

Investigations revealed a serum quantitative beta-human chorionic gonadotropin (BHCG) level of 103 IU/L and a complete blood count showing a significant leukocytosis of 13.8 *1000, hemoglobin of 9.98 g/dl, and platelet count of 194 *1000. A pelvic ultrasound demonstrated an empty uterus, a right ovarian cyst measuring 3.28 cm, and mild free fluids in the pouch of Douglas. CT abdomen and pelvis revealed a dilated and thickened appendix as shown in Figure 1 and reported in Figures 2 and 3.

Treatment

Given the ambiguity of the diagnosis, an exploratory laparotomy was performed. Intraoperatively, a ruptured right tubal chronic ectopic pregnancy with necrotic tissue and free occult blood in the peritoneum was discovered, alongside an enlarged inflamed appendix. The surgical intervention involved right salpingo-oophorectomy, Abdominal and pelvic CT scan without contrast shows

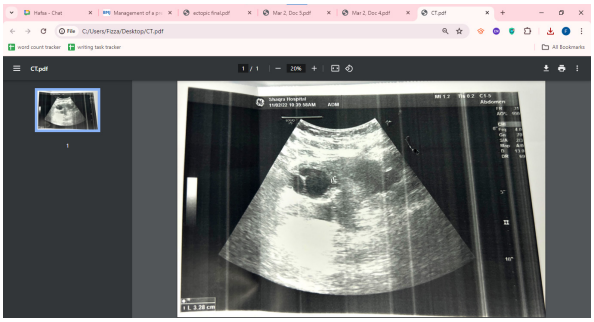
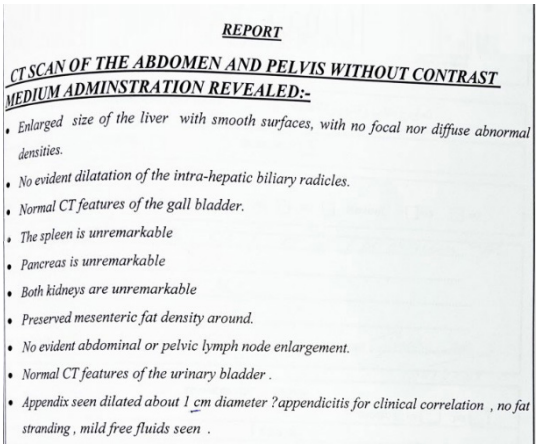


Figure 1: U/S showing the Right ovarian complex cyst

normal organs except for a dilated appendix with some surrounding fluid. It is a concerning situation as it isn't appendicitis due to no inflammation as reported in Figure 2.

The ultrasound examination shows a normal liver,



REPORT

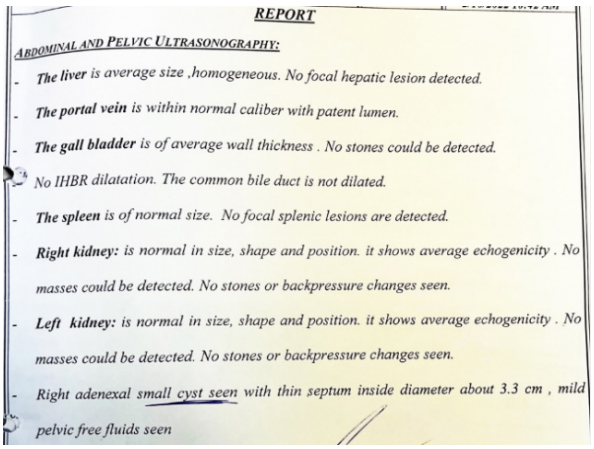
CT SCAN OF THE ABDOMEN AND PELVIS WITHOUT CONTRAST MEDIUM ADMINSTRATION REVEALED:-

- Enlarged size of the liver with smooth surfaces, with no focal nor diffuse abnormal densities.
- No evident dilatation of the intra-hepatic biliary radicles.
- Normal CT features of the gall bladder.
- The spleen is unremarkable
- Pancreas is unremarkable
- Both kidneys are unremarkable
- Preserved mesenteric fat density around.
- No evident abdominal or pelvic lymph node enlargement.
- Normal CT features of the urinary bladder .
- Appendix seen dilated about 1 cm diameter ?appendicitis for clinical correlation , no fat stranding , mild free fluids seen .

Figure 2: CT scan of the abdomen and pelvis

gallbladder, spleen, and kidneys. However, a small cyst was found in the right ovary and a small amount of pelvic free fluid was seen as reported in Figure 3.

appendectomy, and evacuation of blood clots.



REPORT

ABDOMINAL AND PELVIC ULTRASONOGRAPHY:

- **The liver** is average size ,homogeneous. No focal hepatic lesion detected.
- **The portal vein** is within normal caliber with patent lumen.
- **The gall bladder** is of average wall thickness . No stones could be detected.
- No IHBR dilatation. The common bile duct is not dilated.
- **The spleen** is of normal size. No focal splenic lesions are detected.
- **Right kidney:** is normal in size, shape and position. it shows average echogenicity . No masses could be detected. No stones or backpressure changes seen.
- **Left kidney:** is normal in size, shape and position. it shows average echogenicity . No masses could be detected. No stones or backpressure changes seen.
- Right adenexal small cyst seen with thin septum inside diameter about 3.3 cm , mild pelvic free fluids seen

Figure 3: Abdominal and pelvic ultrasonography: No focal hepatitis lesion detected.

Additionally, a ruptured left ovarian cyst necessitated a left cystectomy. Postoperatively, the patient received intravenous antibiotics and fluids for three days, with the removal of the surgical drain at forty-eight hours. The patient was discharged home in good condition on oral antibiotics and continues to be followed up in the outpatient clinic.

Outcome and Follow-up

Histopathology results confirmed the presence of chorionic villi consistent with tubal pregnancy in the right fallopian tube, as well as an inflamed appendix and left cystic fibrous wall with hemorrhage, inflammation, and granulation tissue. The patient's recovery postoperatively was uneventful, and she continues to be monitored in the outpatient setting. The case underscores the importance of prompt diagnosis and intervention in cases of ambiguous presentations, such as concurrent ectopic pregnancy and appendicitis, to prevent adverse outcomes and ensure optimal patient care.

Discussion

Abdominal pain presents a diagnostic challenge, particularly in pregnant patients, where physiological changes and anatomical variations complicate assessment (Sabo *et al.*, 2021). Appendicitis is a common surgical concern during pregnancy, occurring at a rate of approximately 1 per 2000 pregnancies, while ectopic pregnancy affects 1-2% of all pregnancies (Yavuz *et al.*, 2021). However, the coexistence of acute appendicitis and ectopic pregnancy is exceedingly rare, with documented cases representing a small fraction of overall presentations. The etiology of appendicitis remains multifactorial, with luminal obstruction and secondary infection postulated as primary contributors(Alkouz *et al.*, 2023). Concurrently, theories regarding the potential link between appendicitis and subsequent ectopic pregnancy suggest a complex interplay of inflammation and infection, with shared anatomical proximity contributing to the pathophysiological cascade.

In our case, the patient's presentation of right iliac fossa pain, repeated vaginal bleeding, positive rebound tenderness, and low serum beta-human chorionic gonadotropin (BHCG) levels, alongside a history of treated miscarriage, posed a diagnostic dilemma. The overlapping symptoms and inconclusive diagnostic markers underscored the challenge of accurately differentiating between appendicitis and ectopic pregnancy. In such instances, emergent diagnostic laparotomy or laparoscopy is recommended to facilitate timely intervention and prevent adverse outcomes. Notably, our case highlights the unexpected discovery of chronic ectopic pregnancy concurrent with acute appendicitis, a presentation rarely documented in the literature.

Prior reports of concurrent ectopic pregnancy and appendicitis have predominantly implicated right tubal ectopic pregnancies, aligning with the anatomical proximity and potential for shared pathophysiological mechanisms. This observation underscores the importance of considering both conditions in patients presenting with right iliac fossa pain during pregnancy. While surgical exploration remains the definitive diagnostic and therapeutic modality, advancements in imaging techniques, such as ultrasound and MRI, offer valuable adjuncts in preoperative evaluation.

The management of concurrent ectopic pregnancy and appendicitis necessitates a multidisciplinary approach, prioritizing maternal and fetal well-being. Prompt surgical intervention is paramount to mitigate the risk of complications and ensure optimal outcomes. However, the emergence of non-operative management strategies for uncomplicated acute appendicitis during pregnancy warrants consideration, balancing the benefits of surgical intervention with the potential risks to maternal and fetal health. Future research efforts should focus on refining diagnostic algorithms, optimizing treatment strategies, and elucidating the long-term implications of different management approaches in pregnant patients with concurrent ectopic pregnancy and appendicitis.

CONCLUSION

In conclusion, the coexistence of chronic ectopic pregnancy and appendicitis, though rare, underscores the complexity of abdominal presentations during pregnancy. Early recognition and intervention are imperative to minimize maternal morbidity and mortality risks. Our case contributes to the existing literature by highlighting the unique manifestation of chronic ectopic pregnancy concurrent with acute appendicitis, emphasizing the importance of maintaining a high index of suspicion and adopting a comprehensive approach to diagnosis and management in such cases.

Acknowledgment

The authors would like to extend their gratitude to their institute and colleagues for their support and collaboration in facilitating this study.

Disclosure

The authors declare no conflict of interest.

Ethical Statement

Consent was obtained directly from the patient(s).

REFERENCES

Al Naimi, A., Moore, P., Brüggmann, D., Krysa, L., Louwen, F., & Bahlmann, F. (2021). Ectopic pregnancy: a single-center experience over ten years. *Reproductive biology and endocrinology, 19*, 1-6.

Alkouz, Y. B., Jihwaprani, M. C., Ismirahmadani, T. D., Abdulmonem, M. A., & Mousa, A. A. (2023). Simultaneous Tubal Heterotopic Pregnancy with Acute Appendicitis: A Case Report and Literature Review of 5 Cases. *Bagcilar Medical Bulletin/Bağcılar Tıp Bülteni, 8*(4).

DiBiase, F., Burrell, D., & Smith, H. A. (2023). Cervical Ectopic and Cesarean Scar Pregnancies: Navigating the Differential of an Abnormal Lower Uterine Pregnancy. *Topics in Obstetrics & Gynecology, 43*(6), 1-11.

Dunphy, L., Rey, C. A., Arshad, I., & Hapangama, D. K. (2022). Ruptured chronic ectopic pregnancy presenting with a negative urine pregnancy test. *BMJ Case Reports CP, 15*(8), e245742.

ES J, V. S., Varghese, M., Yeldhos, S., & Baby, A. (2020). Ectopic Pregnancy–An Overview. World Journal of Pharmaceutical Research, 9(5).

Liu, X., Liu, C., & Peng, Y. (2024). New advances in the causes and treatment of ectopic pregnancy: A review. *MEDS Clinical Medicine, 5*(1), 26-31.

Naveed, A. K., Anjum, M. U., Hassan, A., & Mahmood, S. N. (2022). Methotrexate versus expectant management in ectopic pregnancy: a meta-analysis. *Archives of Gynecology and Obstetrics*, 1-7.

Sabo, C. M., Grad, S., & Dumitrascu, D. L. (2021). Chronic abdominal pain in general practice. *Digestive Diseases, 39*(6), 606-614.

Singh, P., Nanda, S., Sirrohiwal, D., Dahiya, P., & Singhal, S. Laparoscopy: An emerging modality of management of ectopic pregnancy in a low resource setting.

Stabile, G., Cracco, F., Zinicola, G., Carlucci, S., Mangino, F., Stampalija, T., & Ricci, G. (2024). Subserosal pregnancy: Systematic review with proposal of new diagnostic criteria and ectopic pregnancy classification. *European Journal of Obstetrics & Gynecology and Reproductive Biology*.

Wu, X., Tian, Y., Zhu, H., Xu, P., Zhang, J., Hu, Y., Ji, X., Yan, R., Yue, H., & Sang, N. (2023). Invisible Hand behind Female Reproductive Disorders: Bisphenols, Recent Evidence and Future Perspectives. *Toxics, 11*(12), 1000.

Yavuz, Y., Sentürk, M., Gümüş, T., & Patmano, M. (2021). Acute appendicitis in pregnancy. *Turkish Journal of Trauma and Emergency Surgery, 27*(1), 85.

Zhang, S., Liu, J., Yang, L., Li, H., Tang, J., & Hong, L. (2023). Global burden and trends of ectopic pregnancy: An observational trend study from 1990 to 2019. *Plos one, 18*(10), e0291316.

Figure Legends

Figure 1 U/S showing Right ovarian complex cyst

Figure 2 CT scan of the abdomen and pelvis

Figure 3 Abdominal and pelvic ultrasonography: No focal hepatitis lesion detected.