



Hydrosalpinx with acute abdominal pain during the third trimester of pregnancy: A case report

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ABSTRACT

Background: Acute abdomen in pregnancy is a unique clinical challenge. We report a rare case of hydrosalpinx presenting as acute abdomen in the third trimester of pregnancy in the absence of infection and hormonal treatment. **Case:** A 38-year-old Caucasian woman (gravida 4, para 3), at an estimated 29 weeks of a spontaneous singleton pregnancy, presented to the emergency department with severe abdominal pain in the right lower quadrant, which had been present for three days. Magnetic resonance imaging (MRI) demonstrated a right-sided hydrosalpinx. It was successfully treated with conservative treatment and the patient delivered vaginally at term without complication.

Conclusion: Hydrosalpinx should be considered as one of the differential diagnoses for acute abdomen during pregnancy. A multidisciplinary approach is recommended, with a careful work-up, due to the risks to both fetus and mother.

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1. Introduction

Acute abdomen in pregnancy is a unique clinical challenge; the incidence rate is 1 in 500–635 pregnancies [1]. The differential diagnosis can be divided into gastrointestinal, urinary tract, gynecological or obstetrical etiologies. Early diagnosis of acute abdomen in pregnancy is essential to avoid the risk of complications for both the mother and the fetus. An aggressive approach is therefore recommended when acute abdomen is suspected [2].

Hydrosalpinx is an obstruction of the fallopian tube, resulting in fluid accumulation. Usually, it is asymptomatic but it can present as abdominal or pelvic pain. It is a major cause of infertility. We report a rare case of acute abdomen in the third trimester of pregnancy, in the absence of infection and hormonal treatment, which was diagnosed by magnetic resonance imaging (MRI) as a right hydrosalpinx. It was successfully treated with conservative treatment.

2. Case

A 38-year-old Caucasian woman, gravida 4, para 3, at an estimated 29 weeks of a spontaneous singleton pregnancy, presented to the emergency department with severe abdominal pain in the

right lower quadrant that had been present for three days. The pain was colicky in nature, radiating to the back and thigh, and interfering with the patient's daily normal activity. The pain was aggravated by movement and not relieved by analgesics. There was neither fever nor vaginal bleeding. There was no history of vomiting, other gastrointestinal symptoms, urinary symptoms, sexually transmitted disease, and no fainting. The patient had had a low transverse cesarean section (due to brow presentation) two years previously and two normal vaginal deliveries. She had no history of any significant illness or allergies or infertility. There was no significant family or psychosocial history. Her menarche commenced at the age of 13 years with subsequent regular cycles.

Her body weight was 80 kg, her height 162 cm and her BMI 30.48 kg/m². Physical examination was done; she was afebrile with a pulse rate of 90 to beats per minute, blood pressure of 122/73 mmHg and a respiratory rate of 20 cycles/min. There were no signs of anemia or jaundice. Abdominal examination revealed tenderness to palpation in the right lower abdomen, but there was no distention, guarding, or rebound. Intestinal sounds were normal. Uterine fundal level was equal to 29 weeks and fetal heart sound was positive. The external genitalia was normal. Bimanual pelvic examination demonstrated a normal, closed uterine cervix and no bleeding.

Hemoglobin, white blood count, hematocrit, platelet, renal and liver function tests were all within the normal ranges. Urine culture and high vaginal swab results were negative. The serologic chlamydial test was negative.

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An obstetric ultrasound exam demonstrated a single live intrauterine fetus at 29 weeks of gestation, adequate amniotic fluid, placenta posterior upper, and an estimated fetal weight of 1011 g, with normal doppler and no sign of abruption. Kidney and bladder ultrasound examination revealed no evidence of nephrolithiasis nor of hydronephrosis.

Magnetic resonance imaging (MRI) findings were consistent with an elongated tubular structure containing fluid, inferior to the right kidney and extending into the right paracolic gutter, down to the pelvis, and surrounding the right ovary, with a maximum diameter of about 2 cm. It contained multiple incomplete multiple septations. No solid components were noted. There was no clear communication with the kidney or bowels [Fig. 1]. The findings indicated a right-sided hydrosalpinx.

A multidisciplinary approach was instituted, with input from maternal and fetal medicine, surgery, neonatology and radiology. The patient was treated conservatively (hydration and analgesia without antibiotics) and kept in hospital for seven days. Her symptoms improved. During follow-up, she was asymptomatic. She spontaneously delivered a healthy baby vaginally at 39 weeks. The baby weighed 3020 g, was 47 cm in length and had an APGAR score of 8 and 9 at the first and the fifth minute, respectively. The postpartum period was uneventful. An abdominal ultrasound exam performed after 4 months demonstrated a significant reduction in the size of the hydrosalpinx. The patient was performing her normal daily activities; she was followed up at our gynecology clinic.

3. Discussion

Abdominal pain is a common complaint at all ages [3]. The differential diagnosis during pregnancy is extensive, since abdominal pain may have obstetrical (placental rupture, uterine rupture, ruptured ectopic pregnancy), gynecological (ovarian cyst rupture, adnexal torsion, degenerating fibroid), gastrointestinal (acute appendicitis, acute cholecystitis, acute pancreatitis, intestinal obstruction) or genitourinary (urinary tract infection, renal stone, pyelonephritis) etiologies. The commonest causes of acute abdomen in pregnancy are acute appendicitis followed by acute cholecystitis [4]. A multidisciplinary approach should be considered in pregnant women with acute abdominal pain when the diagnosis is not reached within 6 to 8 hours. In pregnancy, intractable abdominal pain can be safely evaluated using MRI [5]. There are several reports of the acute abdomen during pregnancy [6,7] but no report of hydrosalpinx with acute abdomen in the third trimester of pregnancy. Hydrosalpinx is often a sequel to chlamydial infection, which affects fallopian tube epithelial transporters and ion channels. However, in our case, the serologic chlamydial test was negative.

Various treatments have been proposed for patients suffering from distal tubal infertility, including fimbrioplasty and salpingostomy [8]. Akman et al. [9] reported that both pregnancy and implantation rates

were significantly lower in patients with sonographically documented hydrosalpinges after transfer of embryos during a natural cycle.

We were unable to find in the literature any case of acute abdomen with hydrosalpinx during pregnancy. To the best of our knowledge, there are no guidelines on the treatment of hydrosalpinx during pregnancy in the presence of acute abdomen pain, or on postpartum follow-up. Conservative management can be considered, as in our case, with a careful work-up due to the risks to fetus and mother. One question is whether there is a higher rate of premature rupture of membranes or preterm labor in pregnant women with hydrosalpinx. Multi-center studies would be needed to answer these questions.

4. Conclusion

We have reported a unique case of hydrosalpinx in pregnancy and this should be considered as one of the differential diagnoses for acute abdomen. A multidisciplinary approach is recommended, with a careful work-up due to the risks to both fetus and mother.

Contributors

All authors have contributed to conception and design of the study, drafting the article, and revising it critically for important intellectual content.

All authors saw and approved the final article.

Conflict of Interest

The authors declare that they have no conflict of interest regarding the publication of this case report.

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Patient Consent

Written informed consent was obtained from the patient for the publication of this case report.

Provenance and Peer Review

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References

- [1] G. Augustin, M. Majerovic, Non-obstetrical acute abdomen during pregnancy, *Eur. J. Obstet. Gynecol. Reprod. Biol.* 131 (1) (2007) 4–12.
- [2] J.R. Allen, T.S. Helling, M. Langenfeld, Intraabdominal surgery during pregnancy, *Am. J. Surg.* 158 (6) (1989) 567–569.
- [3] R.D. Powers, A.T. Guertler, Abdominal pain in the ED: stability and change over 20 years, *Am. J. Emerg. Med.* 13 (3) (1995) 301–303.
- [4] M. El-Amin Ali, M. Yahia Al-Shehri, Z.M. Zaki, S. Abu-Eshy, H. Albar, A. Sadik, Acute abdomen in pregnancy, *Int. J. Gynaecol. Obstet.* 62 (1) (1998) 31–36.
- [5] U. Nair, Acute abdomen and abdominal pain in pregnancy, *Curr. Obstet. Gynaecol.* 15 (2005) 359–367.
- [6] N.B. Cilo, D. Amini, H.J. Landy, Appendicitis and Cholecystitis in Pregnancy, *Clin. Obstet. Gynecol.* 52 (4) (2009) 586–596.
- [7] H. Jackson, S. Granger, R. Price, M. Rollins, D. Earle, W. Richardson, Diagnosis and laparoscopic treatment of surgical diseases during pregnancy: an evidence-based review, *Surg. Endosc.* 22 (9) (2008) 1917–1927.
- [8] V. Gomel, Salpingostomy by laparoscopy, *J. Reprod. Med.* 18 (5) (1994) 265–268.
- [9] M.A. Akman, J.E. Garcia, M.D. Damewood, et al., Hydrosalpinx affects the implantation of previously cryopreserved embryos, *Hum. Reprod.* 11 (5) (1994) 1013–1014.

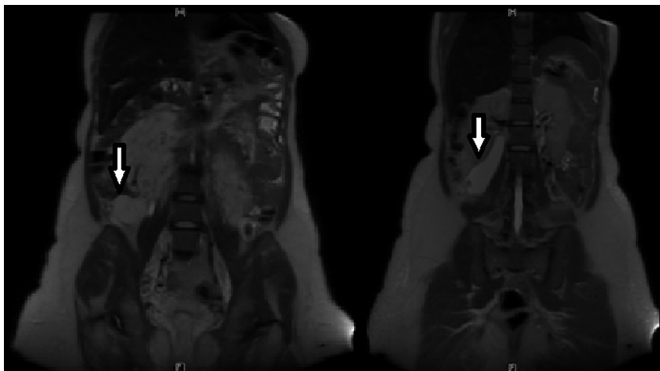


Fig. 1. Magnetic resonance imaging (MRI) showing an elongated tubular structure containing fluid, inferior to the right kidney, extending into the right paracolic gutter down to the pelvis and surrounding the right ovary, with a maximum diameter of about 2 cm. There is no clear communication with the kidney or bowels.