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CASE REPORT

Left Sided Acute Appendicitis in Pregnant Woman: A Case Report

Sol Yerleşimli Gebe Akut Apandisit: Olgu Sunumu

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ABSTRACT

Acute appendicitis is the most common surgical emergency. Each year, one of 1.000 people is operated with the diagnosis of acute appendicitis and the overall prevalence of it among pregnant women ranging between 0.05 and 0.1%. Left sided acute appendicitis is unusual and its existence in a pregnant woman is even rarer. Left-sided appendicitis is associated with congenital anomalies such as situs inversus totalis and intestinal malrotation. In this study, we aimed to present a left-sided appendicitis in a pregnant woman as of second reported case in the literature.

Keywords: Left sided appendicitis, appendicitis in pregnanacy, acute appendicitis

ÖZ

Akut apandisit en genel acil cerrahidir. Her yıl 1,000 kişiden biri akut apandisit tanısı ile ameliyat edilmektedir ve hamilelerdeki insidans %0,05 ile 0,1 arasında değişmektedir. Sol yerleşimli akut apandisit oldukça nadirdir hele de gebede gözükme insidansı oldukça düşüktür. Sol yerleşimli akut apandisit situs inversus totalis ve intestinal malrotasyon gibi konjenital anomalilerle birliktedir. Burada literatürdeki ikinci gebe apandisit olgusunu sunmayı amaçladık.

Anahtar Kelimeler: Sol yerleşimli apandisit, gebe apandisit, akut apandisit

Introduction

Appendicitis is inflammation of appendix and appendectomy is the most common emergency surgery performed at the emergency room for everyone including pregnant women.[1] An experienced surgeon can diagnose the patient by evaluating the clinical symptoms and radiologic findings.[2,3,4] The overall prevalence of acute appendicitis among pregnant women ranging from 0.05 to 0.1%. Appendicitis in pregnancy increases the risk of mortality and morbidity for both the mother and unborn child.[2,3,5] Perforated appendicitis is significantly higher among pregnant women than nonpregnant ones (43% versus 4% to 19%, respectively) because of the delayed diagnosis. Perforation in acute appendicitis increases the risk of fetal loss.

Although right lower quadrant abdominal pain is the most common presenting complaint for patients experiencing acute appendicitis, 30% of the patients feel the pain on the other side of the abdomen quadrant because of the various positions of the appendix vermiformis.[2,3]

Appendicitis causing pain in the left lower quadrant (LLQ) can occur with two congenital abnormalities: situs inversus totalis (SIT) and midgut malrotation (MM).[2]

Case Report

A 17-year-old, 20 weeks pregnant woman reported to the emergency department with LLQ pain. There was no fever history. Also, she had no previous history of similar pain, urinary symptoms, back pain or chest pain. She had taken parasetamol for pain relief one hour before arriving to the emergency room. She had not been taking any prescription medication and had no known drug allergies. She had a C-section with her first child.

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She had LLQ tenderness and palpation with localized rebound, but no guarding or palpable masses. On examination, there was no significant costovertebral tenderness. The remainder of her physical examination findings were unremarkable. Laboratory examinations revealed: white blood cell count 12.00 (K/mm^3) with 11.00 neutrophils, hematocrit 32, and platelet count 275.000. Electrolytes, creatinine, amylase, lipase, and liver function tests were all within normal limits. C-reactive protein was 45 (N<5 mg/dL). Abdominal ultrasound examination revealed that her appendix was at her left sight. According to the ultrasound examination, her liver and spleen were also located on the opposite side of her body. Ultrasound results were confirmed by magnetic resonance imaging (Figure 1a, 1b) that the pregnant patient had apandicitis with SIT.

After the fetus and the mother examined by a gynecologists; standart apendectomy was performed through a left sided McBurney's incision (Figure 2a, 2b). The procedure was explained to the patient and her verbal and written consent obtained. No postoperative complications observed. The pregnant patient stayed in the hospital for 2 days after the operation and was discharged later.

Discussion

MM and SIT are the two congential abnormalities which cause left-sided acute appendicities (LSAA).[2] During fetal life our bowels progressed from primitive loop which turns around the axis of the superior mesenteric artery. MM occurs in case of nonrotation or incomplete rotation of the primitive loop.[6] The incidence of MM reported to be between 0.03% to 0.5% in live births.[2]

According to the literature, SIT incidence varies from 1 per 5000 to 1 per 10000 in live births.[7] There are two types of SI: Complete (SIT), or partial (MM). SIT occurs when both thoracic and abdominal organs are transposed. If restricted to one cavity alone, the condition known as partial transposition.[2] The incidence rates of SIT reported in the literature varies from 0.001% to 0.01% in the general population,[8] whereas the incidence rates of acute appendicitis associated with SIT is reported to be between 0.016% and 0.024%. Acute appendicitis associated with SIT occurs between the age of 8 and 63 and more common in men than in women.[9]

LSAA is extremely rare and it is diffucult to diagnose, because the appendix is located in an abnormal position. Delay in diagnosis may occur due to lack of uniformity in the clinical signs.[10] The viscera transposition may result in confusing symptoms and signs. The diagnosis of acute appendicitis in patients with SIT or MM can be based on physical examination (heart sounds in right region), electrocardiogram, chest X-ray (gastric fundus air shadow at left side), ultrasonography, computed tomography scan and diagnostic laparoscopy.[2,3]

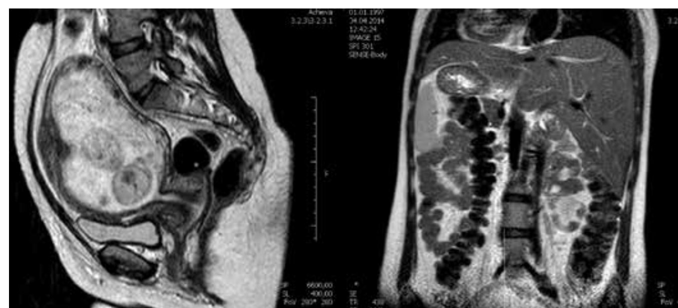

Figure 1a. Patient magnetic resonance imaging photos

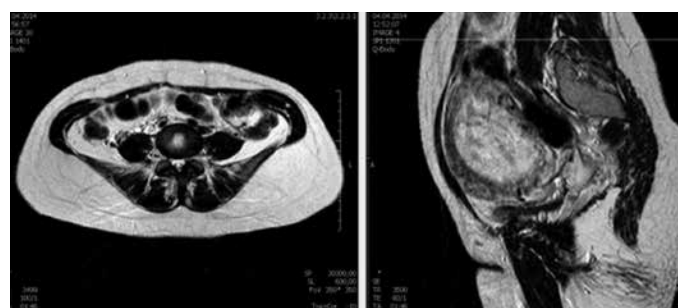

Figure 1b. Patient magnetic resonance imaging photos

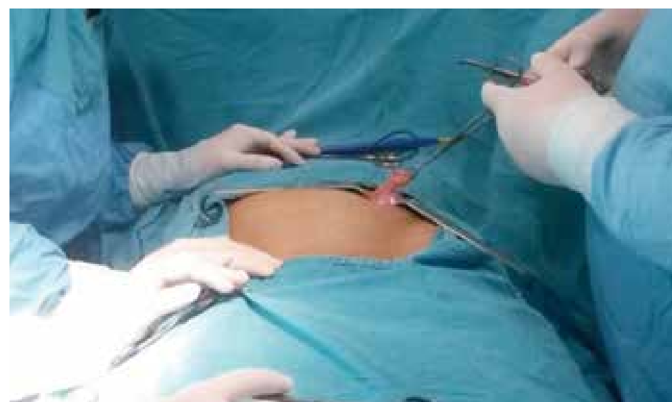

Figure 2a. A photo from operation

Figure 2b. At the end of the operation

Appendicitis can be difficult to diagnose in pregnancy because of the uterine growth. Woman's uterus and the baby inside grow and the intestines rise in the course of pregnancy and she can have abdominal pain outside of the lower guadrant. Urinary tract infections are very common for pregnant women and this situation can prevent the consideration of some other complications sometime. Eventually, late or wrong diagnosis contribute to maternal mortality and morbidity.

A total of 53 cases of appendicitis with SI were mentioned in the study of Block and Michael[11] and this study included a case of a 4-month pregnant woman. According to our knowledge, the case which we review here is the second appendicitis case reported with SIT and pregnancy. The patient mentioned in this study did not aware that she had congenital anomaly until examined at our hospital. In addition to the classical physical examination and the clinical symptoms evaluation, additional tests were performed in case of any unusual situation. This providence prevented a series of possible circumstances that could resulted in infant and/or maternal death.

After the determination is done to understand whether it is SIT or MM, the appendectomy procedure is the same for everyone. However, laparoscopy may be a good option for finding out the differential diagnoses or doing the definitive surgery.[2]

In conclusion, appendicitis in pregnancy can cause serious complications and a close cooperation is required between different specialist to provide the best care for the mother and unborn infant. In addition, the possible anatomical differences like SIT and MM must be considered in atypical clinical presentations of everyone.

Ethics

Informed Consent: Obtained.

Peer-review: External and Internal peer-reviewed.

Authorship Contributions

Concept: Muhammed Zübeyr Üçüncü, Design: Merve Müge Üçüncü, Data Collection or Processing: Merve Müge Üçüncü, Analysis or Interpretation: Merve Müge Üçüncü, Literature Search: Muhammed Zübeyr Üçüncü, Writing: Muhammed Zübeyr Üçüncü.

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References

1. Tamir IL, Bongard FS, Klein SR. Acute appendicitis in the pregnant patient. Am J Surg 1990;160:575-576.
2. Akbulut S, Caliskan A, Ekin A, Yagmur Y. Left-sided acute appendicitis with situs inversus totalis: review of 63 published cases and report of two cases. J Gastrointest Surg 2010;14:1422-1428.
3. Hou SK, Chern CH, How CK, Kao WF, Chen JD, Wang LM, Huang CI. Diagnosis of appendicitis with left lower quadrant pain. J Chin Med Assoc 2005;68:599-603.
4. Lebeau R, Diane B, Koffi E, Bohoussou E, Kouame A, Doumbia Y. [Appendicitis and pregnancy: 21 cases]. J Gynecol Obstet Biol Reprod (Paris) 2005;34:600-605.
5. Firstenberg MS, Malangoni MA. Gastrointestinal surgery during pregnancy. Gastroenterol Clin North Am 1998;27:73-88.
6. Nicholas JM, Rozycki GS. Special feature: image of the month. Diagnosis: acute left-sided appendicitis. Arch Surg 2001;136:705-706.
7. Lee MR, Kim JH, Hwang Y, Kim YK. A left-sided periappendiceal abscess in an adult with intestinal malrotation. World J Gastroenterol 2006;12:5399-5400.
8. Golash V. Laparoscopic management of acute appendicitis in situs inversus. J Minim Access Surg 2006;2:220-221.
9. Franklin ME Jr, Almeida JA, Pérez ER, Michaelson RLP, Majarrez A. Cholecystectomy and appendectomy by laparoscopy in a patient with situs inversus totalis: A case report and review of the literature. Asoc Mex Cir Endoscopica 2001;2:150-153.
10. Ahmed JU, Hossain GMZ, Karim MM, Hossain ASMI, Ahmed M, Bhuya MSA. Left sided acute appendicitis with situs inversus in an elderly-an unusual case. JCMCTA 2007;18:29-31.
11. Block FB, Michael MA. Acute Appendicitis in Complete Transposition of Viscera: Report of Case with Symptoms Referable to Right Side Mechanism of Pain in Visceral Disease. Ann Surg 1938;107:511-516.