

Appendicitis in pregnancy: a case report and a review of the current literature

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Summary

Acute appendicitis is the most common surgical problem in pregnancy. Antibiotic treatment does not always improve the outcome and emergency intervention is required. We present a case of appendicitis complicated by a plastron formation occurring during pregnancy and the outcome.

Key words: Early pregnancy; Acute appendicitis; Plastron formation.

Introduction

Acute appendicitis is the most common surgical problem in pregnancy requiring emergent intervention. Pregnancy is associated with anatomic and physiologic changes that may disguise and delay the diagnosis of acute appendicitis. Early diagnosis and surgical intervention is mandatory for the eventful outcome of pregnancy.

Case Report

A 27-year-old woman at eight weeks of gestation with dif-fused abdominal pain, diarrhetic syndrome (over 15 diarrhetic episodes per day), fever (up to 38.5°C), persistent vomiting (hyperemesis) and severe dehydration for four days was admitted to our hospital. The patient was administered oral doses of amoxicillin and symptomatic treatment by her attending gynaecologist. On physical examination, she presented with increased abdominal resistance (defence), elicited pain, rebound tenderness on light and deep palpation and a palpable mass in the right iliac fossa. She had a painful rectal digital examination. Upon admittance, her white blood cell count was elevated ($14.5 \times 10^9/l$, granulocytes 85%), electrolytes were diminished (Na: 135, K: 3.1), while red blood cell count and haemoglobin concentration were normal (Hct: 37.5%, Hgb: 12.5 mg/dl, RBC: 4.26 M/ μ l). Her treatment included intravenous amoxicillin-clavulanic acid 3 g/24 hours, intravenous fluid administration 5 l/24 hrs, paracetamol 1g IM for pain relief, N-butyl-scopolamine 20 mg IM twice a day and pre-biotic ultra-yeast 2 x 3 orally. On the following four days her fever persisted above 37°C, with spikes up to 38.5°C during the evening. Abdominal and intravaginal ultrasound on the second day of hospitalization confirmed a cystic structure in the right abdominal quadrant, indicating an intraabdominal well organized inflammatory process (plastron) and fluid present in the Douglas pouch.

Results

Despite the four-day antibiotic treatment she received, no improvement was noticed in either her clinical picture or her lab results. Diarrhetic episodes up to 15 per day and the fever pattern persisted throughout. The surgical team initially intended to proceed with diagnostic laparoscopy; however the worsening of her condition and the strong suspicion of a plastron formation prevented either laparotomy or laparoscopy and necessitated the immediate use of more advanced antibiotics to treat sepsis, allegedly harmful for the fetus. Given that the parents already had two children, and did not want to risk an anomalous fetus or pregnancy complications they decided to terminate of the pregnancy.

Discussion

The incidence of appendicitis in pregnancy (0.05-0.07%) is similar to that in the general population [1]. Acute appendicitis is not rare in the first semester of pregnancy. It accounts for almost 50% of all pregnancy-related appendicitises [2]. Appendicitis is difficult to diagnose in pregnancy: the clinical presentation often varies and diagnosis is usually delayed. Right-side abdominal pain is the principal basis for diagnosis, while leukocytosis and low-level fever, as in the non-pregnant state, are unreliable for diagnosis. Pregnant patients are more likely to present with perforations possibly due to the immunosuppression of the pregnancy (43% vs 4-19% in the general population) [3-5]. Perforations in pregnancy often lead to serious complications, including peritonitis and fetal death, however the risk of perforation appears to increase with gestational age, and thus it is more rare [6]. The gynaecologist should be aware of the possibility of appendicitis in any pregnant woman that presents with new or acute abdominal pain. Our experience suggests that appendicitis should be diagnosed and appendectomy should be performed as early as possible in patients presenting a highly suggestive

clinical and ultrasonographic picture, preferably by laparoscopy, in order to avoid more severe complications which could be life-threatening for the mother or foetus.

Conclusions

Although imperfect, history and physical examination continue to be the best way to diagnose appendicitis in pregnancy. For indeterminate cases, some authors argue that laparoscopy may be acceptable, given the risk of fetal loss (1.5% in uncomplicated appendicitis, 35% in ruptured appendicitis) with a delayed or missed diagnosis [6].

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