



ACUTE APPENDICITIS IN LATE PREGNANCY: AN OBSTETRICIAN'S DISTRESS

Obstetrics & Gynecology

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ABSTRACT

Acute abdominal pain in late pregnancy is often challenging both in terms of diagnosis and Management. There isn't an easy accurate match on what is suspected and what is finally diagnosed thus requiring a high level of suspicion and clinical skills. The wide array of obstetric and non-obstetric causes of an acute abdomen can pose potential devastating outcomes for the mother and the fetus if not handled promptly. Here we present a case of acute appendicitis in a full-term pregnant woman with a previous cesarean section.

KEYWORDS

Appendicitis In Pregnancy, Acute Abdominal Pain In Pregnancy, Renal Colic In Pregnancy

INTRODUCTION:

Acute abdomen in pregnancy has many possible causes. It is a clinical scenario that warrants multidisciplinary team efforts. Diagnosis and management need to be tapered based on variables like gestational age at presentation. Treatment needs to be modified to balance medical, surgical, and obstetric challenges. The most common non-obstetric causes of acute abdominal pain in the third trimester are acute appendicitis, acute cholecystitis, pancreatitis, urolithiasis, intestinal obstruction, and trauma. (1) Obstetric and gynecological causes include placental abruption, uterine rupture, ruptured ovarian cyst, acute fatty liver of pregnancy, and HELLP syndrome. Anatomical and physiological changes in pregnancy need to be considered during diagnosis. As the uterus becomes an abdominal organ after the first trimester and during the late third trimester gravid uterus displaces most of the intraabdominal contents from their normal anatomical location. Physiological leukocytosis of pregnancy can mimic an inflammatory process – leading to false positives. Detailed knowledge of the anatomical and physiological changes leads to prompt management thereby reducing morbidity and mortality to mother and baby. Risks of imaging and surgical interventions on mother and baby and high potential of preterm delivery pose ethical challenges too. Appendicitis is the most common cause of acute abdomen in a pregnant woman and its incidence is 1 in 1500 pregnancies 2 which is similar to the non-pregnant population. (3)

Case Report

A 32 year young G2P1L1 with a BMI of 31.5, labeled as high risk due to Gestational hypertension and Gestational diabetes, presented at 37 weeks of gestation with severe right-sided lower abdominal pain. The pain started with an intensity of 5/10 like a labor pain later in spite of analgesics in the form of intravenous Paracetamol, Buscopan the pain score increased to 10/10. The pain was associated with nausea and vomiting no associated bowel changes and was radiating to the right lumbar region. Past history was significant for Cesarean Delivery 5 years ago. Initial clinical examination revealed normal vital parameters and abdominal examination –revealed a gravid uterus which was relaxed and moderate right iliac fossa tenderness along with renal angle tenderness, examination was limited due to body habitus as well as pain. So the initial working differentials were urinary tract infection and latent labor pain with scar tenderness. After analgesic and sending the basic investigations and arranging an urgent ultrasound scan which didn't reveal anything related to appendix accurately except the routine growth Doppler and liquor being in the normal range. Empirical antibiotic was started still no pain relief.

On reevaluation – there was tachycardia and agony was increasing gradually and on abdominal examination uterus was contracting mildly and tenderness over right iliac fossa and renal angle was unbearable. To relieve patients agony detail counseling was done and as the patient is already 37 weeks with previous LSCS and relative CPD thought of epidural for pain relief and the couple agreed for the same after the epidural patient pain score was decreased to 3/10. Through out the admission fetal monitoring by cardiotocography

was performed which was reactive. With a clinical suspicion on scar tenderness / acute appendicitis, the patient was taken up for emergency Surgery under combined spinal epidural, as conservative won't help in either of the differential diagnosis.

Intraoperative findings showed a unicornuate uterus with thinned and ballooned out the lower segment and an inflamed appendix with a fecolith. A lower segment cesarean section was done and the surgeon was involved for evaluation and Appendicectomy. The patient recovered well without any complications and was discharged home on postoperative day 3. On day 3 urine culture and sensitivity showed no growth.



Pic 1: Elongated and Inflamed Appendix

DISCUSSION

Acute abdomen in pregnancy will always be a dilemmatic situation as every case is unique in itself.

Appendicectomy is the most common cause of non-gynecological surgery in pregnancy(4). Per se presence of gravid uterus causes few anatomical variations in the way we elicit clinically as well as leads to imaging limitations. A systematic review showed that laparoscopy done within 24 hours of the onset of symptoms showed that 67 % had intact appendices and 14% had perforated appendices 24 hours after onset of symptoms. Delays in management significantly increases maternal morbidity (52% vs. 17 % on perforated (appendices) and fetal mortality (43% vs. 7%) 5, 6.

Appendicectomy in negative laparoscopy was also associated with a 4% fetal loss and a 10 % preterm delivery probably due to the stress of the surgery itself.6, 8 Incidence by trimester of acute appendicitis in pregnancy is 32%, 42%, and 26%. The most common presentation was abdominal pain9 and tenderness and rebound tenderness was the most common sign. Current literature is unclear about the position of the appendix during pregnancy. Pates et al confirm the upward displacement of appendix 9,

Whereas Popkin et al and Hodjati et al claim that the appendix does not move10,

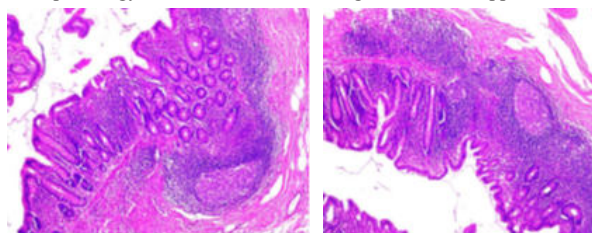
After 24 weeks appendicitis is known to cause preterm contractions 11.

Appendicitis and labor have almost similar symptoms such as abdominal pain, nausea, and vomiting. Laboratory and radiological workup of acute appendicitis during pregnancy come with their limitations. Leukocytosis cannot be used as a diagnostic tool due to the physiology of pregnancy [4]. The risk of CT scan radiation needs to be discussed with the patient prior to the test. Risks vs. benefit of CT scans need to be weighed. The false-negative rate of CT scan for diagnosing appendicitis in pregnancy is as high as 55% [12]. Ultrasound and MRI are other imaging modalities that can be used. Both have high false-negative rates and low sensitivity [12].

Definitive management of suspected acute appendicitis in pregnancy is appendectomy. Laparotomy vs. Laparoscopy would depend on the trimester of presentation. The laparoscopic approach of appendectomy during pregnancy is based on the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) guidelines [13]. A randomized control trial studied the outcomes of an elective appendectomy during cesarean delivery and found a mild increase in operative time and no increase in postoperative morbidity or gastrointestinal recovery and concluded that consideration can be safely given to selected cases such as palpable fecolith and/or abnormal appearing appendix or with a history of chronic pelvic pain and/or endometriosis. [14].

In our patient due to the gestational age of presentation, a prompt clinical diagnosis led us to perform an emergent cesarean delivery with the involvement of a general surgeon who had performed an appendectomy due to an inflamed appendix. Acute appendicitis had led to contractions in the patient which led to thinning out of the lower segment, noted intraoperatively.

Histopathology confirmed the clinical diagnosis of acute appendicitis.



Pic 2 and 3: Histopathology of Appendix

CONCLUSION

Pregnant patient with any abdominal pain needs an index of clinical suspicion on basis of history; the clinical examination needs a multidisciplinary team approach. Imaging modalities type should be clinician's discretion after a detailed evaluation of the whole scenario and discussed personally with the radiology team. Conservative management has most often led to maternal and fetal complications hence emergency. Laparoscopic or Open appendectomy (depending on gestational age) should be Considered as soon as Possible.

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