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Case Report
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Surgery during Pregnancy: An Unusual Case of Lower Abdominal Pain in Second Trimester of Pregnancy. Management of Mucocele of the Appendix

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Introduction

Surgery during pregnancy, not related to an obstetric indication, is required in 0.75% to 2% of pregnancies [1]. Gastrointestinal procedures are most common; appendectomy is the most common [2]. We presented the diagnostic and therapeutic approach in emergency setting of a case of appendiceal mucocele presented as acute right lower abdominal pain in a pregnancy woman. Appendiceal mucocele is a rare cause of acute abdomen, it occurs in 0.2% to 0.7 % of appendectomies, more commonly in females and more frequently in patients over 50 [3]. There are only few reports of appendiceal tumors occurring during pregnancy [4]. Appendiceal mucocele is an obstructive dilatation of the appendix caused by intra-luminal accumulation of mucoid material [5]. Appendiceal mucoceles are historically classified into four histologic groups: Simple retention cysts, mucosal hyperplasia, mucinous cystadenoma, and mucinous cystadenocarcinoma [6]. This neoplasm rarely spreads through the lymphatic or vascular routes, but spread well beyond the appendix to the peritoneum. The clinical presentation is rather unspecific, often asymptomatic, rarely presenting as an acute appendicitis. The preoperative diagnosis let to avoid accidental iatrogenic perforation during surgery that can lead to pseudomyxoma peritonei characterized by peritoneal dissemination with high morbidity and mortality rate [7].

Case Presentation

A 33 years old pregnant female at 18+2 weeks gestation, was admitted to the emergency department for lower abdominal pain associated to nausea, anorexia and emesis. There was no history of fever, change in bowel habit, urinary problems. She hasn't any concomitant disease. Standard laboratory examination showed mild leukocytosis with increase of neutrophil count. On examination she revealed about 18 week's size gravid uterus with abdominal rebound tenderness in the right iliac fossa and Mc Burney positive sign. Ultrasound of the abdomen reports a dilated non compressible colon with striated wall thickening and intraluminal fluids and gas echoes, rounded mass that projects into the lumen of the right colon, finding that suggests Ileocolic intussusception. She underwent abdomen MRI that showed intestinal volvulus, caecum dilatation liquid containing and free abdominal fluid. She had a colonoscopy trying to reduce the suspected volvulus but the diagnosis was excluded and the only pathological find was caecum mass with a central crater from witch mucoid material exudes. We planned for diagnostic laparoscopy and further treatment. Pneumoperitoneum was created with Hasson in umbilical position using carbon dioxide and the pressure was kept at 11 mmHg. Trendelenburg position with 20° left tilt was kept. A 30° telescope was introduced through the umbilical port for the complete examination of the abdomen. Two 5 mm ports were placed in both iliac fossas. Laparoscopy revealed ovary, fallopian tube normal looking, and a 14 × 5 × 3 large bluish mucocele of the appendix in retrocaecal position. We performed a right parietocolic and caecum mobilization, meticulous isolation and section of mucocele's base with endo-Gia 60 mm staplers after separating the mesoappendix from it with help of bipolar cautery. Carefully inspect both the mesoappendiceal transection line and the mucocele appendix stump line. We retrieved out in a plastic bag closed under direct vision the mucocele of the appendix through the umbilical port and send it to pathology. At the end of the surgical procedure an ultrasound monitoring was performed that confirmed no fetal abnormalities. Her postoperative course was uncomplicated. Was discharged in day 3 post operation. Histopathological examination confirmed simple mucocele of the appendix. She had normal spontaneous vaginal delivery at term of a healthy baby.

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Discussion

Surgery during pregnancy is required in 0.75% to 2% of pregnancies [1-3]. Approximately 42% of these operations are performed during the first trimester. Appendectomy is the most common procedure which is performed in 1 per 500 to 2,000 pregnancies. Histological analysis of the appendices indicates the presence of a mucocele in 0.07% to 0.3% of cases. In surgical decision making the health status of the mother should always be put first. Indication and timing of surgery as well as risks of anesthesia and surgery should be considered when deciding on performing surgical procedures in pregnant women. Preoperative multidisciplinary approach, also including an obstetrician, is mandatory. Laparoscopic approach is the preferred operative method in all pregnant patients with acute abdomen despite anatomical changes which might complicate the procedure. Perioperative considerations for the pregnant patient include correct positioning, non-teratogenic analgesics, risk assessment for venous thromboembolism and fetal monitoring. Delay in diagnosis and treatment possesses the risk of complication for mother and child.

Conclusion

Physiologic changes during pregnancy occur due to hormonal and anatomic changes and can interact with surgery and anesthesia in important ways [8]. Both the indication and timing of surgery as well as risks of anesthesia and surgery on fetus and mother should be considered when deciding on performing surgical procedures in pregnant women. In surgical decision making the health status of the mother should always be put first [1,2]. A preoperative multidisciplinary approach, also including an obstetrician and pediatrician, is mandatory. Delaying diagnosis and treatment carry risks of septic complications [9,10]. Diagnosis of appendicitis in pregnant patients can be difficult because of physiological and anatomical changes induced by pregnancy [11]. Clinical symptoms of gastrointestinal complaints, abdominal pain are common in normal pregnancy. Increased inflammatory markers during gestation limit the value of routine laboratory examination in pregnant patient [12]. Limitations in diagnostic imaging techniques can also contribute to a delay in diagnosis. Retrospective studies have shown laparoscopy for appendicitis in pregnancy to be safe and effective as pattern delivery rates are very low an fetal loss is rare [13].

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