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Original Research Article

To Determine the Most Common Causes of Acute Abdominal Condition in Pregnancy: An Observational Study

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Abstract

Aim: The aim of the present study is to determine the common causes of acute abdominal condition in pregnancy.

Methods: The study included 100 pregnant female in different trimesters whose presented to the department of Obstetrics and Gynecology, BMIMS, Pawapuri, Nalanda, Bihar, India with acute abdominal pain of obstetric and non-obstetric causes which included 50 obstetric cases and 50 non-obstetric cases.

Results: In the age group (21-30 years); ectopic pregnancy was present in about 13 patients (13%) followed by abruption placenta which was seen in about 5 patient (5%). In the age group (31-40 years) ectopic pregnancy was revealed in about 15 patient (15%), followed by acute appendicitis (10%). While the age group (41-50 years) revealed that the most common cause was ectopic pregnancy which revealed about 7 patient (7%), followed by abruption placentae and acute appendicitis with 5 patients each .This study also showed that ectopic pregnancy was the most common cause of acute abdomen in all trimesters which was present in about 35 patients (35%).

Conclusion: The most common cause of acute abdomen in pregnancy is ectopic pregnancy followed by acute appendicitis.

Keywords: Abdominal pain, acute abdomen, acute fatty liver, appendicitis, cholecystitis, Pregnancy

Introduction

The management of acute abdominal pain in pregnancy is challenging for a variety of reasons. Complications and conditions that are associated with or unrelated to pregnancy (urinary tract disorders, gastrointestinal and vascular diseases) may cause abdominal pain or the acute

abdomen. [1] The diagnosis of acute abdominal pain in pregnant women is particularly difficult because of multiple confounding factors related to normal pregnancy: nonspecific leukocytosis, displacement of abdominal and pelvic structures from their normal locations by the gravid uterus, difficult abdominal examination, and nonspecific nausea and vomiting. [2]

Abdominal pain or discomfort is one of the commonest minor disorders of pregnancy. The uterus enlarges approximately 20 times during pregnancy as compared to the non-pregnant state and this result in stretching of supporting ligaments and muscles, as well as pressure on other intra-abdominal structures and the layers of the anterior abdominal wall.[1] Abdominal pain is one of the most common reasons for visits to the emergency room. Although for the majority of patients, symptoms are benign and self-limited, a subset will be diagnosed with an "acute abdomen as a result of serious intra-abdominal pathology necessitating emergency intervention. [3]

Causes of acute abdomen in pregnancy include ectopic pregnancy, peduncular torsion of an ovarian cyst, ovarian bleeding, and pelvic inflammation. [4] However, it may also be caused by such illnesses as acute appendicitis, ileus, and cholecystitis. [5]

Prompt diagnosis and treatment are crucial for the well-being of the mother and the fetus, and imaging is often required to clarify the clinical picture. Ultrasound (US) and MR imaging are the preferred primary imaging investigations of pregnancy, because of the lack of ionizing radiation.MR imaging is often used when US is inconclusive. CT is used more sparingly in pregnancy because of its level of ionizing radiation. It is the investigation of choice when there is a life-threatening situation and in case of traumatic injuries when a rapid diagnosis is required.Surgical treatment is indicated in most cases but the diagnostic criteria, methods of diagnosis therapy, and consequences of mismanagement differ. In acute abdomen in pregnancy, some have advocated aggressive early surgical intervention. [6,7] In pregnancy, these symptoms and signs are blunted by the anatomical displacement of the pregnant uterus. [8] And the masking effect of the physiological symptoms of normal pregnancy, such as nausea, vomiting, mild abdominal pain and constipation. [9,10] The aim of the present study is to determine the most common causes of acute abdominal condition in pregnancy.

Materials and Methods

The study included 100 pregnant female in different trimesters who presented to the department of Obstetrics and Gynecology, BMIMS, Pawapuri, Nalanda, Bihar, India for 1 year, with acute abdominal pain of obstetric and non-obstetric causes which included 50 obstetric cases and 50 non-obstetric cases.

We divided these cases into obstetric and non-obstetric causes according to result of clinical examination and laboratory investigation. Detailed history /proper physical examination, vital signs, abdominal and pelvic ultrasound and laboratory investigation. Patient history should focus on details of the pain.

This includes information on the onset, character, duration and location of pain as well as the presence of radiation of pain. A detailed social history should also be obtained to determine if there is any significant history of tobacco, alcohol or illicit drug use as such behaviors can be a source of the patient's symptoms as well as complicate the patient's hospital course. Detailed gynecologic history, including the date of the last menses, the presence of any vaginal bleeding or discharge and any history of unprotected sexual activity or intercourse.

Examination of the abdomen should comprise four sequential Components: 1.

Inspection 2. Palpation 3.Auscultation & 4.Percussion.

The exam should include all areas of the abdomen and flanks. All patients send for CBC, blood urea, serum creatinine, LFT , RBS & USG of the abdomen. According to the result of history, physical examination, laboratory and radiological investigation, acute abdominal condition divided into obstetric and non-obstetric causes.

Results

Table 1: Age distribution of obstetric and non-obstetric cases

Age group (years)	Ectopic pregnancy	No.of Abruptio placenta	Hellp syndrome	Acute Append.	Acute Cholecyt.	Twisted ovarian cyst	Total
21-30	13	4	1	10	2	2	32
31-40	15	6	3	5	6	5	40
41-50	7	5	4	5	4	3	28
Total	35	15	8	20	12	10	100

In our study the most common obstetric cause was ectopic pregnancy, and the non-obstetric cause was acute appendicitis. In the age group (21-30 years); ectopic pregnancy was present in about 13 patients (13%) followed by abruption placenta which was seen in about 5 patient (5%). In the age group (31-40 years) ectopic pregnancy was revealed in about 15 patient (15%), followed by acute appendicitis (10%). While the age group (41-50 years) revealed that the most common cause was ectopic pregnancy which revealed about 7 patient (7%), followed by abruption placentae and acute appendicitis with 5 patients each.

Table 2: Distribution of obstetric and non-obstetric causes according to the trimesters

Age group (years)	Ectopic pregnancy	No.of Abruptio placenta	HELLP Syndrome	Acute Append.	Acute Cholecyt.	Twisted ovarian cyst	Total
First trimester	35	0	0	12	8	6	61
Second trimester	0	3	2	6	2	4	17
Third trimester	0	12	6	2	2	0	22
Total	35	15	8	20	12	10	100

The result as shown in table (2) of obstetric and non-obstetric causes according to the trimesters report that ectopic pregnancy was the first cause of acute abdomen in the first trimester which revealed about 35 patient (35%) followed by acute appendicitis which reported about 12 patient, (12%) followed by acute cholecystitis which reported about 8 patient (8%) then came twisted ovarian tumour with 6 patients.

In the second trimester our study showed that acute appendicitis was the most common cause which revealed about 6 patient, (6%) followed by twisted ovarian tumour which revealed about 4 patient (4%) and abruption placentae which revealed about 3 patient (3%). In the third trimester our study showed that abruption placentae was the most common cause in about 12 patients (12%) followed by HELLP Syndrome which revealed about 6 patient (6%).

Discussion

Many women present with abdominal pain or discomfort during pregnancy. Anatomical and physiological changes may account for round ligament strain, symphysis pubis diasthesis and musculoskeletal disorders. Pregnancy also may alter the clinical presentation of serious intra-abdominal conditions like acute appendicitis and pancreatitis. Failure or delay in diagnosis of these potentially life-threatening conditions may increase maternal and perinatal morbidity and mortality. Emergency surgery is indicated for acute abdomen, as in the non-pregnant state. Pregnancy poses a challenge to the diagnosis or management of the acute abdomen.Although a surgical procedure during pregnancy carries the risk of fetal loss in preterm delivery or dysmaturity of the fetus, when acute abdomen is suspected, an aggressive approach is recommended as delay in diagnosis increases the risk of complications in both mother and fetus, with maternal or fetal death being most feared. [11]

Sonography remains the first line of imaging in pregnant patients presenting with acute abdomen. Patient triage or additional imaging may be obtained on the basis of the US findings.5 In patients with abdominal symptoms the indication either for CT or MR depends on the presumed disease. Every abdominal CT during pregnancy should include an estimation of radiation dose, but when required, low-dose CT of the abdomen and pelvis can be performed with minimal risk. [12] Magnetic resonance imaging (MRI) is preferable to computerized tomography (CT) scanning during pregnancy to avoid ionizing radiation, but gadolinium administration should be avoided during the first trimester. [13,14]

Laparoscopy appears to be well tolerated in pregnancy, but larger multicenter prospective studies are required to make better recommendations concerning its use. This technique has been used for the resolution of acute abdominal surgical conditions in the first and second trimesters of pregnancy for years. There are few case reports, however, regarding its use in rare presentations of the acute abdomen later in pregnancy. [15]

The incidence of ectopic pregnancy was (35%). while the incidence in other studies was (10%) This study shows that the incidence of acute appendicitis was (20%), while the incidence in other studies (30%). The incidence of twisted ovarian cyst in this study was (10%) while in other studies was (5%). Other study shows that the risk factor for ectopic pregnancy include prior ectopic pregnancy [16,17], advanced maternal age. [18] And placental abruption occur in about 15% cases while in other studies it occurred in 1of 80 deliveries [19] risk factor include advanced maternal age an incidence similar to that of acute appendicitis. [20] About one quarter of adnexal torsion occur during pregnancy, [21] because of the greater laxity of the tissue supporting the ovaries and oviducts during pregnancy. [22]

The cause of acute abdominal pain during pregnancy is often difficult to establish because of the presence of multiple confounding factors. Diagnostic imaging with US, the first-line diagnostic test in pregnant women, is limited because of the altered body habitus, the small field of view, and the presence of interfering overlying structures. [23]

MR imaging is usually used when US is inconclusive and represents an excellent modality for imaging abdominal pain in pregnancy, providing a systematic evaluation of the entire abdomen and pelvis with a high diagnostic accuracy.

Conclusion

The pregnant woman with an acute abdomen is more challenging to image than any other patient population. The most common cause of acute abdomen in pregnancy is ectopic pregnancy followed by acute appendicitis.

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