

**ORIGINAL RESEARCH**

# Assessment of acute abdominal condition in pregnancy

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**ABSTRACT**

**Background:** An acute abdomen refers to the sudden onset of severe abdominal pain requiring urgent medical evaluation and often surgical intervention. The present study was conducted to assess acute abdominal condition in pregnancy. **Materials & Methods:** 58 pregnant women in different trimester who presented to the emergency department with acute abdominal pain were included. Obstetric and non-obstetric causes of acute abdominal condition was recorded. **Results:** Out of 4 cases of ectopic pregnancy, maximum was seen in age group 10-20 years (2). Out of 26 cases of abruptio placenta, age group 10-20 years had 9, 20-30 years had 6, 30-40 years had 5 and 40-50 years had 6 cases. Acute appendicitis was seen in 6, 4, 3 and 1, Acute cholecystitis in 2, 2, 2 and 1, HELLP Syndrome in 1, 1, 2 and 0, twisted ovarian cyst in 1, 1, 0 and 1 patient in age group 10-20 years, 20-30 years, 30-40 years and 40-50 years respectively. The maximum cases were seen in 1<sup>st</sup> trimester (25) followed by 3<sup>rd</sup> (20) and 2<sup>nd</sup> (13). Maximum cases of Abruptio placenta (14) were seen in 1<sup>st</sup> trimester, acute appendicitis in 1<sup>st</sup>, acute cholecystitis in 2<sup>nd</sup>, HELLP Syndrome in 2<sup>nd</sup> and twisted ovarian cyst in 2<sup>nd</sup> trimester. The difference was significant (P < 0.05). **Conclusion:** Abruptio placenta, followed by acute appendicitis, is one of the main causes of acute abdomen during pregnancy.

**Keywords:** acute abdomen, Acute appendicitis, Abruptio placenta

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**INTRODUCTION**

An acute abdomen refers to the sudden onset of severe abdominal pain requiring urgent medical evaluation and often surgical intervention. It is a symptom rather than a diagnosis and can be caused by a variety of underlying conditions.<sup>1</sup> Although this is debatable, tocolytics are supposed to soothe the uterus from the trauma of an acute abdomen while conservative treatment or surgery is being performed. One of the most frequent causes of emergency room visits is abdominal pain. A small percentage of patients will be classified with a "acute abdomen due to serious intra-abdominal pathology necessitating emergency intervention,"<sup>2</sup> despite the fact that the majority of patients' symptoms are benign and self-limiting. When a patient presents with acute abdominal pain, a prompt workup is required to identify the most likely source of the patient's symptoms and assess the need for emergency operational intervention.<sup>3</sup> The patient's clinical status should then be optimized before starting the most suitable therapy. The patient's medical history and physical examination should be obtained as thoroughly as possible as part of the workup, and

laboratory and radiologic investigations should then be used sparingly.<sup>4</sup>

Physicians may face diagnostic difficulties while evaluating patients with acute abdominal pain because these patients may exhibit unusual symptoms that make it difficult to recognize patterns, which are often used to inform treatment decisions.<sup>5</sup> These unusual presentations could contribute to the more than 25% of cases of abdominal pain that are classified as "nonspecific" or "undifferentiated."<sup>6</sup> The present study was conducted to assess acute abdominal condition in pregnancy.

**MATERIALS & METHODS**

The present study was conducted on 58 pregnant women in different trimester who presented to the emergency department with acute abdominal pain. All were informed regarding the study and their written consent was obtained.

Data such as name, age, etc. was recorded. Obstetric and non-obstetric causes of acute abdominal condition was recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

## RESULTS

**Table I Distribution of patients**

Causes	10-20 years	20-30 years	30-40 years	40-50 years
Ectopic pregnancy	2	1	0	1
Abruptio placenta	9	6	5	6
Acute appendicitis	6	4	3	1
Acute cholecystitis	2	2	2	1
Hellp Syndrome	1	1	2	0
Twisted ovarian cyst	1	1	0	1
Total	21	15	12	10

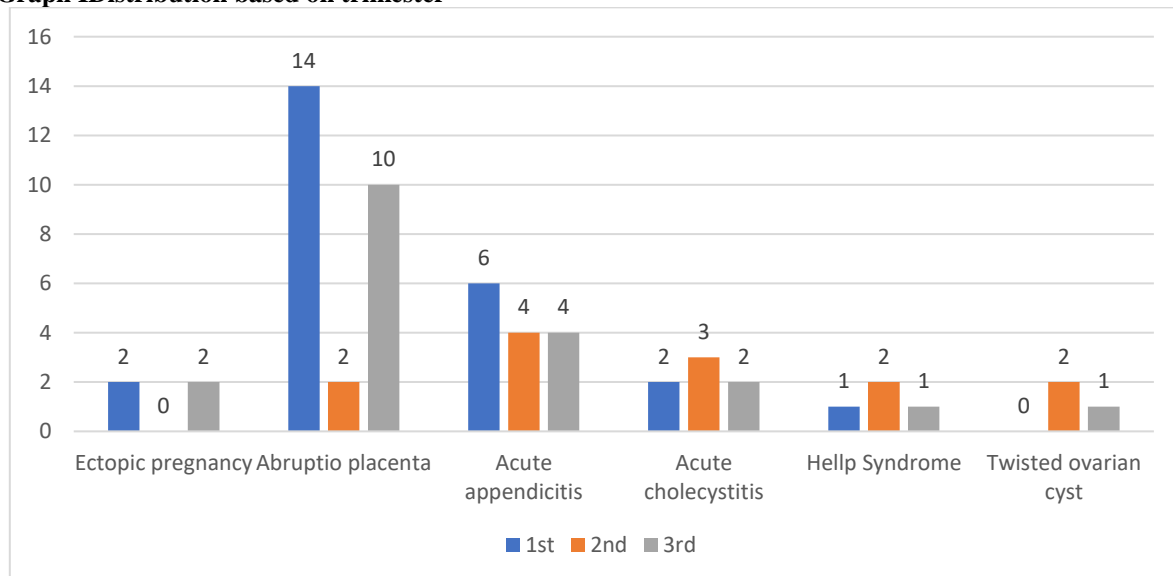
Table I shows that out of 4 cases of ectopic pregnancy, maximum was seen in age group 10-20 years (2). Out of 26 cases of abruptio placenta, age group 10-20 years had 9, 20-30 years had 6, 30-40 years had 5 and 40-50 years had 6 cases. Acute appendicitis was seen in 6, 4, 3 and 1, Acute cholecystitis in 2, 2, 2 and 1, Hellp Syndrome in 1, 1, 2 and 0, twisted ovarian cyst in 1, 1, 0 and 1 patient in age group 10-20 years, 20-30 years, 30-40 years and 40-50 years respectively.

**Table II Distribution based on trimester**

Causes	1st	2nd	3rd	P value
Ectopic pregnancy	2	0	2	1
Abruptio placenta	14	2	10	0.82
Acute appendicitis	6	4	4	0.91
Acute cholecystitis	2	3	2	0.94
Hellp Syndrome	1	2	1	0.88
Twisted ovarian cyst	0	2	1	0.97
Total	25	13	20	

Table II shows that maximum cases were seen in 1<sup>st</sup> trimester (25) followed by 3<sup>rd</sup> (20) and 2<sup>nd</sup> (13). Maximum cases of Abruptio placenta (14) were seen in 1<sup>st</sup> trimester, acute appendicitis in 1<sup>st</sup>, acute cholecystitis in 2<sup>nd</sup>, Hellp Syndrome in 2<sup>nd</sup> and twisted ovarian cyst in 2<sup>nd</sup> trimester. The difference was significant ( $P < 0.05$ ).

**Graph I Distribution based on trimester**



## DISCUSSION

An acute abdomen during pregnancy presents a unique difficulty for diagnosis and treatment. Acute abdominal pain during pregnancy can also be caused by non-pregnancy-related reasons as well as obstetric variables.<sup>7</sup> The diagnosis of acute abdomen during pregnancy can be difficult because of the shifting clinical presentations caused by the anatomical and physiological changes of pregnancy as well as the reluctance to use certain radiological procedures for

fear of harming the fetus.<sup>8</sup> Both the mother and the fetus may suffer if identification and treatment are delayed. Pregnant women experiencing acute abdominal pain should be regarded as an emergency and should receive rapid medical attention from a multidisciplinary team.<sup>9</sup> The severity of the problem makes the engagement of a general surgeon, obstetrician and gynecologist, maternal-fetal expert, and radiologist necessary. This is the path to a far better outcome than would otherwise be achievable.

According to the previously mentioned definition, a pregnant patient who presents with an acute abdomen should be treated somewhat differently from a non-pregnant patient.<sup>10</sup>The present study was conducted to assess acute abdominal condition in pregnancy.

We found that out of 4 cases of ectopic pregnancy, maximum was seen in age group 10-20 years (2). Out of 26 cases of abruptio placenta, age group 10-20 years had 9, 20-30 years had 6, 30-40 years had 5 and 40-50 years had 6 cases. Acute appendicitis was seen in 6, 4, 3 and 1, Acute cholecystitis in 2, 2, 2 and 1, HELLP Syndrome in 1, 1, 2 and 0, twisted ovarian cyst in 1, 1, 0 and 1 patient in age group 10-20 years, 20-30 years, 30-40 years and 40-50 years respectively. Oto et al<sup>11</sup> assessed the performance of MR imaging in the evaluation and triage of pregnant patients presenting with acute abdominal or pelvic pain. A total of 118 pregnant patients were included. MR findings were inconclusive in 2 patients and were positive for acute appendicitis in 11 patients (n = 9 confirmed by surgery, n = 2 improved without surgery). One patient with inconclusive MR had surgically confirmed appendicitis; the other patient with inconclusive MR had surgically confirmed adnexal torsion. Other surgical/interventional diagnoses suggested by MR imaging were adnexal torsion (n = 4), abscess (n = 4), acute cholecystitis (n = 1), and gastric volvulus (n = 1). Two patients with MR diagnosis of torsion improved without surgery. One patient with MR diagnosis of abscess had biliary cystadenoma at surgery. The rest of the MR diagnoses above were confirmed surgically or interventionally. MR imaging was normal in 67 patients and demonstrated medically treatable etiology in 28 patients: adnexal lesions (n = 9), urinary pathology (n = 6), cholelithiasis (n = 4), degenerating fibroid (n = 3), DVT (n = 2), hernia (n = 1), colitis (n = 1), thick terminal ileum (n = 1), rectus hematoma (n = 1). Three of these patients had negative surgical exploration and one had adnexal mass excision during pregnancy. Other patients were discharged with medical treatment. The sensitivity, specificity, accuracy, positive predictive values (ppv), and negative predictive values (npv) of MR imaging for acute appendicitis, and surgical/ interventionally diagnoses were 90.0% vs. 88.9%, 98.1% vs. 95.0%, 97.5% vs. 94.1%, 81.8% vs. 76.2%, 99.1% vs. 97.9%, respectively.

maximum cases were seen in 1<sup>st</sup> trimester (25) followed by 3<sup>rd</sup> (20) and 2<sup>nd</sup> (13). Maximum cases of Abruptio placenta (14) were seen in 1<sup>st</sup> trimester, acute appendicitis in 1<sup>st</sup>, acute cholecystitis in 2<sup>nd</sup>, HELLP Syndrome in 2<sup>nd</sup> and twisted ovarian cyst in 2<sup>nd</sup> trimester. Galncet al<sup>12</sup> reviewed the role of sonography in evaluation of acute abdomen during pregnancy. Illustrative cases were collected from gravid patients who presented with signs and symptoms suspicious for acute abdomen and subsequently underwent sonography. This presentation shows sonographic findings of various maternal complications that can present with acute abdominal

pain in pregnant patients. 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 sonographic findings.

The shortcoming of the study is small sample size.

## CONCLUSION

Authors found that Abruptio placenta, followed by acute appendicitis, is one of the main causes of acute abdomen during pregnancy.

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