Acute abdomen during pregnancy in Baghdad Teaching Hospital (2008-2009)

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Abstract

BackgroundThe diagnosis and important aspects in treating acute abdomen during pregnancy tend to be delayed due to the peculiar physiological features of pregnancy and the restrictions imposed on imaging diagnostic techniques such as x-ray and CT.

Aim of the study To identify the most common causes of acute abdomen during pregnancy and identifying the approaches for early diagnosis and to take a correct decision for surgery and assigning the complications that may occur during and/or after surgery for the mother and the fetus.

Patients and Methods This is a prospective study that involves data obtained from 91 pregnant patients admitted in the surgical wards in Baghdad teaching hospital during the period from January 2008 to December 2009 .All mandated surgical intervention.

ResultsTotal surgical admission in Baghdad Teaching Hospital in 2008-2009 was 13485, total number of cases operated onas acute abdomen was 3374 and the total cases of acute abdomen operated on during pregnancy were 91 cases. The most common cause of acute abdomen during pregnancy is acute appendicitis which represents 70.3%.The most common age group of acute abdomen during pregnancy is between 25-29 years .The most common gestational age is the second trimester.The most common complaint of acute abdomen during pregnancy is right lower abdominal pain.The fetal condition was normal in 91.7% of total cases operated.

ConclusionAcute abdomen during pregnancy represents a small proportion of the total cases of acute abdomen.It mostly presents during the second trimester and mostly caused by acute appendicitis. With proper management, the maternal and fetal outcome is good.

Key words: Acute abdomen; Pregnancy; Baghdad Teaching Hospital.

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Introduction

Acute abdomen is a general term for "acute abdominal diseases accompanied primarily by sudden abdominal pain for which a decision to perform emergency surgery must be made in a very short time, causes of acute abdomen in pregnancy include ectopic pregnancy, torsion of an ovarian cyst, ovarian bleeding and pelvic inflammation, however, it may also be caused by such illnesses as acute appendicitis, ileus and cholecystitis, the specific physiological changes of the mother and possible influences on the fetus have to be taken into consideration in the treatment of acute abdomen in pregnancy.[1,2,3]

Because of the pregnancy, restrictions are imposed on imaging diagnostic techniques such as x-ray and CT, due to these considerations and restrictions, delay in the diagnosis and treatment could lead to serious consequenceson both the mother and fetus. [3, 4, 5]

Normal physiologicalvariations in pregnancy may require correction before surgery, particularly restoration of intravascular volume and electrolyte abnormalities. Hypovolemic shock may respond to simple maneuvers, such as placing the pregnant patient in the left lateral decubitus position to avoid obstruction of venous return through the inferior vena cava that is caused by uterine compression, this maneuver can also help to restore uterine perfusion.[6]

Fetal monitoring should be performed, in conjunction with an obstetrician, whenever an acute surgical condition is suspected and fetal heart tones are detectable. [6]

Acute appendicitis is the most common cause of acute abdomen in pregnancy, occurring in approximately 1 in 1500 pregnancies [7].Most cases occur during the first two trimesters. The symptoms and signs of acute appendicitis are similar to those in nonpregnant patients.[8]Later in pregnancy, the appendix may no longer be in contact with parietal peritoneum, which can alter the pain pattern and could result in delayed diagnosis[9].Ultimately, the decision to operate should be made on clinical grounds, just as in nonpregnant state[7].

Biliary tract diseases represent the second most common gastrointestinal disorder that requires surgery during pregnancy, pregnancy predisposes to gallstone formation because of increased bile lithogenicity and decreased gallbladder contractility caused by the effects of estrogen.Gallstones occur in approximately 3% of pregnant women, but most patients are asymptomatic [7,8].Recently, surgery as a primary treatment has been used widelyjustified by reduced use of medications, recurrence ratesduring pregnancy of 44-92 depending on the trimester of presentation,shorter hospital stay and minimizing the development of potentially life threatening complications like perforation, sepsis and peritonitis which are all indications for surgical treatment.

The recommendation is to perform laparoscopic cholecystectomy in the first, second and early in the third trimester, if indicated because the procedure is safe for both the mother and fetus [10].

Bowel obstruction is the third most common cause of acute abdomen in pregnancy,occurring in 1 in 1500-1600 pregnancies. Adhesions are the most common cause, but volvulus is a prominent cause during pregnancy. The therapeutic algorithm is the same asfor nonpregnantwomen [10].

Other less common causes of acute abdomen during pregnancy include complicated ovarian cyst, complicated uterine fibroids and rare causes [11].

Aim of the study

To identify the most common causes of acute abdomen during pregnancy and identifying the approaches for early diagnosis and to take a correct decision for surgery and assigning the complications that may occur during and/or after surgery forthe mother and the fetus.

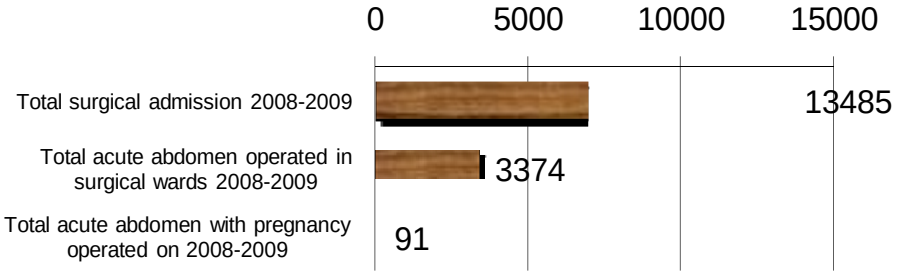
Methods

Thisstudy involves data obtained from 91 pregnant patients diagnosed as having acute abdominal conditions and admitted in the surgical wards in Baghdad Teaching Hospital in the period from January 2008 to December 2009. The age of the patients ranged from16 to 43 years. According to the gestational age 14 patients (15.4%) in the first trimester, 63(69.2%) in the second trimester and 14(15.4%) in the third trimester. The patients were assessed clinically by history and physical examination, and then blood samples were taken for hemoglobin and blood biochemistry. AbdominopelvicUltrasonographic examination was done to all the patients and it included assessing the fetal wellbeing.All the patients were operated on.

Results

The total surgical admission in Baghdad Teaching Hospital during the period from Jan.2008 to Dec. 2009 was 13485, total cases operated on as acute abdomen were 3374 and the total cases operated during pregnancy were 91 cases as shown in table (1).

Table (1) total surgical cases with acute abdomen during pregnancy



We found that the most common cause of acute abdomen during pregnancy is acute appendicitis which represents 64 cases(70.3%), followed by acute cholecystitis10 cases (11%), ruptured ectopic gestation 7cases (7.7%), complicated

uterine fibroid 6 cases (6.6) and other rare causes. As shown in table (2).

Table (2) Common causes of acute abdomen during pregnancy

Diagnosis	No	%
Acute appendicitis	64	70.3%
Acute cholecystitis	10	11.0%
Pancreatitis (necrotizing)	2	2.2%
Intestinal obstruction	2	2.2%
Ectopic pregnancy	7	7.7%
Peduncular torsion of ovarian cyst	6	6.6%

Table (3) shows that the most common age group of acute abdomen during pregnancy operated is between 25-29 years which represent 24.2% of the total cases

Table (3) Age distribution

Age (years)	No	%
<20	17	18.7%
20—24	17	18.7%
25—29	22	24.2%
30—34	11	12.1%
35—39	15	16.5%
=>40	9	9.9%

Table (4) shows that the most common gestational age is the second trimester in 69.2% of the total cases operated on 2008 -2009 due to acute abdomen during pregnancy.

Table (4) Gestational age

Gestational age	No	%
First trimester	14	15.4%
Second trimester	63	69.2%
Third trimester	14	15.4%

Table (5) shows that the most common complaint of acute abdomen during pregnancy is right lower abdominal pain which represent 46.2% of the total cases operated.

(5) Table Complaints

Complaints	No	%
Generalized abdominal pain	7	7.7%
Lower abdominal pain	7	7.7%
Right lower abdominal pain	42	46.2 %
Periumbilical pain	21	23.1 %
Vomiting and abdominal distension	14	15.4 %

Table (6) shows the fetal condition was normal in 91.7% of total cases operated and no complication in 53.8% of the total cases operated 2008-2009.

Table (6): fetal condition& Complications after surgery

Fetal condition& Complications	No	%
Aborted	7	8.3%
Normal	77	91.7%
Maternal vaginal bleeding	42	46.2%
No complication	49	53.8%

Table (7) shows that the most common incision used during surgery were right grid-iron incision which represents 69.2% of total cases operated 2008-2009.

Table (7) Types of incisions

Type of incisions	No	%
Right paramedian incision	7	7.7%
Right Grid-iron incision	63	69.2%
Mid-line laparotomy	21	23.1%

Discussion.

Our study shows that the most common disease that mandates surgery during pregnancy is acute appendicitis which represents 70.3% of all operations during pregnancy which is similar to the result in the study of Inoue, m. *et al*.[3]. , followed by acute cholecystitiswhich accounts 11%, ectopic pregnancy 7.7%, torsion of ovarian cyst 6.6% and 2.2% for pancreatitis and2.2 for intestinal obstruction.

Also our results show that acute abdomen during pregnancy occurs mainly in the age group between 25-29 which is the same results in the study of Visser BC, Glasgow RE, Mulvihill KK, et al. [5]

Regarding the gestational age the most common period is the second trimester which represent 69.2% of acute abdomen during pregnancy which is similar to the result of Visser BC, Glasgow RE, Mulvihill KK, et al.[5]

The most common complaint of acute abdomen during pregnancy is right lower abdominal pain which represents 46.2% which is similar to the result obtained from the study of AlMulhim.[12]

About the type of incision , the right Grid-iron incision represent 69.2% which is the incision of acute appendicitis this result is in agreement with the same result of Reis R A, Arena R A .[1]

Regarding complications 53.8% no complication occurs after surgery .un fortunately no previous study to compare this result with it.

Conclusion

Acute abdomen during pregnancy represents a small proportion of the total cases of acute abdomen (2.7%), it is mostly caused by acute appendicitis (70.3%) followed by acute cholecystitis (11%) and it most commonly presents during the second trimester. The highest incidence is during the third decade of life.With early diagnosis and treatment, the maternal and fetal outcome is good with low complication rate

Recommendations

1. Properassessment of pregnant patients presenting with acute abdominal pain by careful history,physical examination and appropriate investigations including ultrasound examination.
2. The use of none invasive imaging techniques like graded compression ultrasonography and magnetic resonance imaging which are safe in pregnancy.
3. Perioperative Joint collaboration with the obstetrician for assessment of premature uterine contractions and fetal distress.

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