ABDOMINAL PREGNANCY;
A DIAGNOSTIC DILEMA

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ABSTRACT... Abdominal pregnancy is a rare complication with maternal and even higher perinatal mortality. **Objective:** To alert physicians and sonologists about features of abdominal pregnancy. To promote awareness about this potentially lethal condition. Study Design: Observational case series. **Period:** 2000 to 2007. **Setting:** Department of Gynecology & Obstetrics, Allied Hospital, Faisalabad. **Material & Methods:** This study was conducted at department of Gynecology & Obstetrics, Allied Hospital, Faisalabad. Eight cases were done during the period 2000 to 2007. There demographic features including age, gestational age, ultrasound findings, operative findings and outcome were noticed. **Results:** The mean age was 30.125 years (range 23-38). The recorded mean gestational age was 20.62 (range 10-37 wks). Out of 8 cases, 6 patients are more than 25 years age. Four patients (50%) were primi gravida. Maximum parity was of 3. Our 50% of patients were having either one or two abortions. The abdominal pregnancy presents in variable fashion with acute abdominal pain (100%), fainting attacks (25%), shock (25%) and rarely with PIH, fetal distress and loss of fetal movements. Abdominal ultrasound was helpful in diagnosis but not conclusive always. The fetal diagnosis was confirmed per operatively. On laparotomy the placenta was attached to different parts of abdomen as following. Abdominal pregnancy is potentially fetal for mother and fetus. The maternal mortality is 12.5% (1/8). The fetus had 100% Mortality (8/8). **Conclusions:** Abdominal pregnancy is a rare occurrence but is challenging diagnostically and therapeutically. Awareness of this condition is very important in reducing the associated morbidity and mortality.

Key words: Ectopic pregnancy, abdominal pregnancy, extra uterine pregnancy.

INTRODUCTION

Ectopic and extra uterine pregnancy refers to implantation of blastocyst or fertilized ovum outside the uterine cavity. The commonest sites of such pregnancies are fallopian tubes and the least frequent being the ovary and abdominal cavity[1]. About 2% of all pregnancies are ectopic and more than 95% of ectopic gestations occur within the Fallopian tubes[2]. Abdominal pregnancy, where implantation occurs within the peritoneal cavity is quite uncommon and accounts for 1 - 4%[3]. Presentation of primary abdominal pregnancy before 12 weeks mimics an ectopic pregnancy[4]. Diagnosis is confirmed by presence of normal fallopian tubes, ovaries and absence of any utero-placental fistula/ uterine perforation[5]. In the review of literature the described sites of primary abdominal pregnancy are pouch of Douglas, uterine fundus, posterior uterine wall, liver, spleen, lesser sac, diaphragm and omentum[2]. Secondary abdominal pregnancy occurs as a result of tubal, ovarian or uterine rupture and attachment of conceptus and viable placenta to peritoneal surfaces, pouch of Douglas and adnexa. Most abdominal pregnancies are secondary which usually manifest after 12 weeks of gestation which present with abdominal pain, painful fetal movements, excessive nausea and vomiting[5].

Sonographic features suggestive of abdominal pregnancy include empty uterus, absence of myometrium around the fetus, oligohydromnios, abnormal fetal lie and poorly defined placenta[6,7]. Maternal and perinatal mortality associated with abdominal pregnancy range from 0.5% to 18% and 40% to 95%, respectively[8].

MATERIAL & METHODS

This study was conducted at department of Gynaecology & Obstetrics, Allied Hospital, Faisalabad. Eight cases were done during the period 2000 to 2007. There demographic features including age, gestational age, ultrasound findings, operative findings and outcome was noticed.

Patients with ectopic pregnancy in adenexa on operation were excluded from this study.

RESULT

Out of 8 cases 6 patients were more than 25 years age. 4 patients (50%) were primigravida. Maximum parity was of 3. Our 50% of patients were having either one or two

abortions. Maternal mortality was present in one patient (12.5%). No fetus could survive even the fetus at term. Only one case was operated as diagnosed abdominal pregnancy.

Demographic features	
Maternal Mean age	**30.125 (23-38 years)**
Gestational Mean age	20.62 (10-37 week)
Primigravida	50% (4/8)
G2	12.5% (1/8)
G3	12.5% (1/8)
G4	12.5% (1/8)
G5	12.5% (1/8)
Clinical features	
Abdominal pain	100% (8/8)
Fainting attacks	25% (2/8)
Shock	25% (2/8)
PIH	12.5% (1/8)
Fetal distress	25% (2/8)
Ultrasound findings	
Inconclusive	12.5% (1/8)
Bicornuate uterus	37.5% (3/8)
Ectopic pregnancy	62.5% (5/8)
IUD	12.5% (1/8)
Placental attachment	
Abdomal viceral, Bowel, Omentum	37.5% (3/8)
Adenaxa	62.5% (6/8)
POD	37.5% (3/8)
Uterine body	12.5% (1/8)

BEFORE HISTORY OF EACH CASE

CASE 1

(presented in year 2000): 38 years old primigravida conceived after 18 years of marriage with no prior antenatal checkup or ultrasound report. She presented with abdominal pain, transverse lie, and fetal distress through emergency department. Immediate lower segment caesarean section was done. A male fetus of 3.5Kg with APGAR score 7/10 was delivered by giving an incision in amniotic membrane. Placenta extensively involved adnexa, omentum, gut and abdominal viscera. Unfortunately mother and fetus could not survive.

CASE 2

32 years old primi gravida at 27 weeks was admitted through OPD with ultrasound report showing bicornuate pregnancy. Repeat ultrasonogram revealed pregnancy in rudimentary horn. She remained admitted in hospital for further evaluation and investigation of severe PIH. During her stay in hospital she collapsed and was operated with placental attachment to right adnexa and having live fetus of 26-27 weeks age, who could not survive. Placenta was removed easily along with right adnexa. Postoperative period was uneventful.

CASE 3

23 years old primigravida at 15 weeks of gestation having 4 ultrasound reports, none pinpointing abdominal pregnancy. MRI was planned. Meanwhile she was operated for intra peritoneal hemorrhage. It was an abdominal pregnancy with placenta attachment to POD and left side of uterus, both tubes and ovaries were normal. Left salpingo-ophorectomy was done. Fetus and Placenta removed without difficulty. Patient was discharged in good condition.

CASE 4

25 years old primigravida at 21 weeks of pregnancy was admitted as a diagnosed case of abdominal pregnancy. A viable fetus with placenta attached to left adnexa was removed without any hemorrhage.

CASE 5

28 years old P_0A_2 at 18 weeks of pregnancy was admitted through emergency with ultrasound report showing

pregnancy in rudimentary horn. Departmental ultrasound revealed pregnancy in left rudimentary horn with large amount of fluid in peritoneal cavity. Emergency laparotomy showed abdominal pregnancy. 2 to 3 liter blood clots were present. Placenta was attached to left tube and ovary. Left adnexa was removed. Patients remained well during hospital stay.

CASE 6

27 years old P_0A_1 at 23 weeks pregnancy was admitted intrauterine demise and chronic liver disease. Mechanical and medical methods were tried for induction of labor but all failed. Hysterectomy was planned. On opening peritoneal cavity it revealed secondary abdominal pregnancy with extensive placental attachment to omentum and left adnexa. Placenta was removed successfully along with left adnexa. Patient left hospital in good condition.

CASE 7

35 years old P_2A_1 at 10^{+4} weeks gestation with diagnosis of ectopic pregnancy. On laparotomy it was primary abdominal pregnancy with placenta attached to Pouch of Douglas and omentum along with normal tubes and ovaries. It appears to be a primary abdominal pregnancy about 2 litters blood was present in peritoneal cavity. Placenta was removed without much difficulty. Later patient left for home uneventfully.

CASE 8

33 years old P_0A_3 at 13 weeks, admitted as pregnancy in right rudimentary horn. Laparotomy showed secondary abdominal pregnancy with placenta attached to right tube ovary and Pouch of Douglas. Placenta was removed in toto. Bleeding site was packed for 24 hours. Methotraxate was given. Patient remained uneventful.

DISCUSSION

Abdominal pregnancy is a rare form of ectopic pregnancy but lethal to both mother and fetus and associated with high morbidity and mortality[9].

In this series of 8 cases 4 were primigravida and 6 were above the age of 25 years. 4 out of 8 were having 1 or 2 previous abortions. Out of 8, two were primary (as shown in case 3 & 7) and 6 secondary abdominal pregnancies, the history and clinical findings in these cases are often confusing. Usual patient's presentation were frequent complaints of recurrent abdominal pain, vomiting and painful fetal movements.

Most often it is difficult to differentiate between primary & secondary. Because small fraction of the reported cases meets the three criteria for primary abdominal pregnancy stated in 1942 by Studdiford[10]. Normal tubes and ovaries, absence of uteroperitoneal fistula, pregnancy confines exclusively to the peritoneal surface and diagnosis is made earlier. Fortunately we were able to differentiate 2 primary abdominal pregnancies as tubes, ovaries and uterus were absolutely normal and laparotomy was done earlier. Most secondary abdominal pregnancies were located in left lower abdomen. Our findings were comparable to Reels and Lewis[11] who came across 10 abdominal pregnancies in 7½ years and 6 of them were found in left lower abdomen, showing the tendency of developing secondary abdominal pregnancy in this area. In only two cases there was 2-3 liters of blood present in peritoneal cavity but none had massive hemorrhage. Suggested diagnostic methods include real time ultrasound, plain abdominal radiography and nuclear magnetic resonance imaging. Diagnosis of advanced abdominal pregnancy using these imaging techniques (even when available) may be difficult in the absence of increased suspicion[12]. The diagnostic error for the last 50 years has been reported to be approximately 40-90%[10]. Ultrasound, which is well recognized primary imaging technique in obstetrics, even in ideal conditions sonographic diagnosis of abdominal pregnancy is missed in half of the cases[6,13]. We had 7 out 8 undiagnosed cases prior to laparotomy. This diagnostic error can be overcome if the diagnostic features were kept in mind by the sonologists, GP and obstetrician. Regarding clinical features persistent pain was the commonest symptom as mentioned by Mohammad[14] and Iffene[15]. The same was true in our cases. So these may not be overlooked by clinician. Maternal mortality is 7.7 times higher than tubal ectopic pregnancy and 90 times higher than the intrauterine[16]. Documented maternal mortality is 0.5 to 18% and varies from 2% to 30%, and it can be reduced by early diagnosis and timely

intervention[8]. Maternal mortality in our series is 12.5%. Reasons for this mortality were that patient was unbooked who did not have any prior antenatal checkup what so ever. Further more she had acute abdominal pain with transverse lie. It necessitated immediate caesarian section. Moreover it was first appearance of such a case in a department. We tried to separate the placenta leading to torrential hemorrhage. One of the challenging problems during laparotomy for abdominal pregnancy is risk of massive hemorrhage when attempts are made to remove the placenta[17]. If complete separation of placenta is not feasible, it should be left in situ and treated by Methotraxate therapy[18]. Separation of placenta was possible in 87.5% of our cases. Once abdominal pregnancy is diagnosed, universally accepted view is to terminate pregnancy to decrease maternal mortality and congenital fetal abnormalities[19]. Abdominal pregnancy with dead fetus, as in our case 6, surgical intervention is generally indicated because of the risk of infection and disseminated intra vascular coagulation[8]. Some clinicians, however, recommend a period of observation of 3 to 8 weeks to allow atrophy of the placental vessels to occur[20].

The perinatal mortality is 85% to 95%[21] because of increased occurrence of congenital anomalies and fetal

Summary of 08 cases of abdominal pregnancy

Age	Parity	Duration of gestation	Emergency or OPD admission	Clinical features	USG findings	Intraoperative Findings	Outcome
38	Primi gravida	Term	Emergency as fetal distress	Abdominal pain, transverse lie, fetal distress	No USG finding	Abdominal pregnancy	Mother & fetus did no survive
32	Primi gravida	27 wks	OPD admission	Abdominal pain and PIH	Pregnancy in rudimentary horn & bicornuate uterus	Abdominal pregnancy	Fetus did not survive
23	Primi gravida	15 wks	OPD admission	Abdominal pain, nausea and vomiting	Ectopic and bicornuate pregannncy	Primary Abdominal pregnancy	Mother outcome uneventful
25	Primi gravida	21 wks	OPD admission	Abdominal pain, fainting attacks, vomiting and painful fetal movements	Abdominal pregnancy	Abdominal pregnancy	Mother outcome uneventful
28	P_0A_2	18 wks	Emergency	Abdominal pain & shock	Bicornuate pregnancy	Abdominal pregnancy	Mother outcome uneventful
27	P_0A_1	23 wks	OPD admission	Abdominal pain, loss of fetal movements	Intrauterine fetal demise	Abdominal pregnancy	Mother outcome uneventful
35	P_2A1	10+4 wks	OPD admission	Abdominal pain, fainting attacks	Ectopic pregnancy	Primary Abdominal pregnancy	Mother outcome uneventful
33	P_3A_1	13 wks	OPD admission	Abdominal pain	Ectopic pregnancy/Cornual pregnancy	Abdominal pregnancy	Mother outcome uneventful

deformities resulting from intra abdominal pressure which is not counter balanced by protected effect of amniotic fluid and intrauterine enviornment[22]. Because of the high fetal mortality little has been reported about the neonate, but the deformities observed include facial asymmetry, torticollis, plagiocephaly, joint contractures and talipes[22]. In our case perinatal mortality in 2nd and early 3rd trimester is self explanatory while in term fetus observed deformities were torticollis, deformed head, and joint contractres.

CONCLUSIONS

Abdominal pregnancy is a rare occurrence but is challenging diagnostically and therapeutically. Awareness of this condition is very important in reducing the associated morbidity and mortality.

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