

ABDOMINAL PREGNANCY

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ABSTRACT

Background and Objectives: A case of advanced abdominal pregnancy, diagnosed at 30 weeks gestation by ultrasonography is presented. A 25 year old, G2P0+1 presented at 30 weeks of gestation with abdominal pain. Abdominal pregnancy was diagnosed by ultrasound scan. It was a primary abdominal pregnancy, confirmed by Studdiford criteria.

Methods: Laparotomy was carried out, baby was lying transversely with head on left side and placenta adherent to posterior uterine wall, bowel loops and anterior abdominal wall. The baby was taken out and Placenta was left insitu.

Results: The patient started fever on 5th post operative day which was settled with change of antibiotic. On 40th post operative day signs of abdominal distension developed. 2nd look laparotomy was performed, placenta was removed. Patient condition was satisfactory at the time of discharge.

Conclusion: Ultrasound examination is the usual diagnostic procedure of choice to diagnose abdominal pregnancy. In addition magnetic resonance imaging can be useful to localize the placenta preoperatively.

Key words: Abdominal Pregnancy, Placenta, Infection.

INTRODUCTION

An abdominal pregnancy can be regarded as a form of an ectopic pregnancy where fetus is growing and developing outside the uterus in abdominal cavity not in fallopian tube, ovary or broad ligament.^{1,2}

Advanced abdominal pregnancy is defined as a pregnancy of over 20 weeks gestation with a fetus living or showing signs of have lived once and developed.^{2,3} Extrauterine abdominal pregnancy beyond 20 weeks gestation and with a viable fetus is a rare condition, with an estimated prevalence of one out of 8099 hospital deliveries,¹ it can have catastrophic and serious consequences for mother and fetus. The maternal mortality rate is estimated to be about 5 per 1,000 cases, about seven times the rate for ectopic in general, and about 90 times the rate for a normal pregnancy.³ Survival of the newborn is also affected with a perinatal mortality rate of 40% to 95%.¹

Abdominal pregnancy is classified into two types. Primary abdominal pregnancy refers to a pregnancy where implantation of the fertilized ovum occurs directly in the abdominal cavity. In such cases, the fallopian tubes and ovaries are intact. There were only 24 cases of primary abdominal pregnancy reported up to 2007.³ In contrast, secondary abdominal pregnancy accounts for most cases of advanced extrauterine pregnancy. It occurs following an extrauterine tubal preg-

nancy that ruptures and gets re-implanted within the abdomen.⁴ Under these circumstances, there is evidence of tubal or ovarian damage. It is interesting to note that patients with an extrauterine abdominal pregnancy typically have persistent abdominal and/or gastrointestinal symptoms during their pregnancy.⁴ Management can be medical, surgical or conservative. One of the management is laparotomy with varying complications including poor perinatal outcome and increased maternal and perinatal morbidity and mortality. Accurate localization of the placenta preoperatively can reduce blood loss during surgery by avoiding incision into the placenta.

The rate of ectopic pregnancy is increasing although the rate of maternal mortality has decreased to 0.2 per 100 ectopic pregnancies. The rate of ectopic pregnancy is about 1 to 2% of that of live births in developed countries, though it is as high as 4% in pregnancies involving assisted reproductive technology.⁵ Incidence of ectopic pregnancy is more common in developing countries due to pelvic inflammatory disease (PID) and untreated pelvic infection. Two third of maternal deaths from ectopic pregnancy are associated with substandard care. Women who are less likely to seek medical help have worst prognosis.

CASE PRESENTATION

A 25 year old woman, married for past 2 years G2P0+1. At 30 weeks gestation, she presented on 29th December 2013 to the Emergency Department Gynaecology and Obstetrics Sir Ganga Ram Hospital Lahore. Her chief complaint was pain abdomen for the last two days with history of aggravation for last 24 hours. She had history of one 1st trimester miscarriage followed by D&C one year ago. She also gave history of Tuberculosis one and half year back for which she took ATT for 9 months and completed it 6 months back. This pregnancy was a planned spontaneous conception. She remained un-booked in this pregnancy except an ultrasound scan done by some general practitioner at 23 weeks and diagnosed her to be carrying an abdominal pregnancy. The 2nd ultrasound scan was done at 30 weeks and the patient was referred to Sir Ganga Ram Hospital Lahore.

On Examination her pulse was 110 bpm. BP 110/70 mmHg. Respiratory rate 18/mint. Abdominal circumference 98 cm. On abdomen examination symphysis fundal height was 26 cm. Fetal parts were easily palpable, abdomen was tender, fetal heart sounds were not audible.

At the time of admission lab reports revealed her HB 10 Grams/dl. TLC 14.8/microlit. Platelet count 554×10^9 /ul. BSL 96 mg/dl. RFT – Blood Urea 32 mg/dl and Creatinine 0.9 mg/dl. LFTs, Billirubin 0.7 mg/dl. SGPT 50 IU. Coagulation profile – PT 13 sec, APTT 31 sec (within normal range). Hepatitis B&C negative. Beta HCG 46376.39 IU, patient was followed by serial Beta HCG. Ultrasound scan revealed abdominal pregnancy with transverse lie, fetal head in right hypochondrium. Fetal cardiac activity was present. BPD 7, FL 5.4, FAC 25. Gestational age 29/30 weeks. EBW 1.3 KG. Placenta was homogenous in appearance and in globules adherent to upper and posterior uterine aspects. Some appear adherent to pelvic bowel loops. Uterus however appears empty, both ovaries normal looking. No ascetic fluid in abdominal cavity seen. Rest of abdominal viscera were normal.

Her laprotomy was done by midline incision. The paritoneal cavity was reached, placenta was just below peritoneum. Baby was delivered alive with APGAR SCORE 2/10, handed to Paediatrician. Cord was clamped and was ligated at two points and then cut. Gentle inspection of placenta showed it to be adherent to bowel loops and uterus posteriorly. Placenta was left in situ. Baby followed-up with paediatrician, had multiple anomalies of limbs and face, did not survive and expired after one hour of delivery. Ist dose of Inj. Methotrexate 50 mg I/M was given on 2nd post op day, repeated after one week as 2nd Beta HCG report came 26747 IU. Serial Doppler Scans were done weekly. On 1st scan placental size was 16 × 16 cm, after one week 14 cm, and at one month of delivery remained 11 cm. blood supply to the placenta had almost stopped.

Table 1: Dosage of Injection Methotrexate.

Date	Inj. Methotrexate
1-1-2014	50 mg, I/M
7-1-2014	50 mg, I/M
21-1-2014	50 mg, I/M

Table 2: Levels of Serial Beta HCG.

Date	Beta HCG/IU
7-1-2014	46376.39/IU
14-1-2014	26747.20/IU
21-1-2014	1123.35/IU
28-1-2014	101.80/IU
04-2-2014	49/IU

Serial Beta HCG and Inj. Methotrexate according to date and dose are shown in Table 1 and 2.

On 5th post operative day patient started having pyrexia. After physician consultation all investigations including urine and blood culture were sent, her antibiotic was changed from 3rd generation cephalosporin to 4th generation inj. meronem one gram i/v bid, the fever settled within 24 hours. All investigation were within normal limit, only platelet count remained high, 6040×10^9 /ul. In collaboration with physician inj. clexane 60 mg subcutaneous started post operatively and continued for 10 days. Skin stitches were removed on 10th post operative day, slight oozing from stitches was seen, which was settled.

Patient complained of pain abdomen off and on, nausea with occasional vomiting. In collaboration with surgeon decision was made to reopen the patient as patient developed signs of intestinal obstruction post operatively. 2nd look laparotomy was done after 40 days of 1st laparotomy. Placenta was removed, no bleeding or damage to any organ was seen, abdomen was closed in layers, stitches were removed on 7th post operative day. On discharge general condition was satisfactory. Patient followed up was done after 6 weeks, scan done was normal. All baseline investigations were within normal limits. No complaint was reported.

DISCUSSION

Abdominal pregnancy is a rare condition. Most Gynecologists would not encounter an abdominal pregnancy during their career. It presents special challenge to physician and is difficult to diagnose pre-operatively. Diagnosis was missed in one fourth of reported cases.^{6,7} Incidence is 1 in 10,000 live birth and 9.2 ectopic pregnancy.¹ Early diagnosis of an abdominal pregnancy is critical because catastrophic haemorrhage

can occur from separation of placenta that results in low blood pressure and can be fatal. Other causes of death in people with an abdominal pregnancy include anemia, pulmonary embolus, coagulopathy and infection.⁸

About 21% of babies born after an extrauterine abdominal pregnancy have birth defects, presumably due to compression of the fetus in the absence of the amniotic fluid buffer. Typical deformities include limb defects, facial and cranial asymmetry, joint abnormalities and central nervous malformation.⁹

Ultrasound scan is considered to be standard investigation for obtaining exact information for localization of pregnancy and its relation to surrounding organs.¹⁰ In cases where ultrasound is equivocal, MRI may be informative.^{11,12} Elevated serum alpha-fetoprotein has also been associated with abdominal pregnancy.¹³ Diagnostic laparoscopy may also be of value when there is a doubt about pregnancy location.¹⁴ In some cases, the diagnosis is not made until laparotomy is performed. Selective catheterization and subsequent embolization of fetal blood vessels were introduced in early 1980s. Most seen are secondary abdominal pregnancies. With serial beta HCG, ultrasound and MRI can differentiate between primary and secondary pregnancies. In the present case, we were able to diagnose primary abdominal pregnancy with the help of trans-abdominal ultrasound examination. (In our case both fallopian tubes and ovaries were intact, with regard to 2nd criteria we did not observe any uteroplacental fistula which met the Studdiford criteria.^{15,16} Since pregnancy was more than 20 weeks, we considered it advanced abdominal pregnancy. Risk factors for ectopic (abdominal) are the use of progesterone pill, IUCD, history of surgery (pelvic), PID (TB), Sexually transmitted diseases.¹⁷ Our patient had not used any contraception but there is history of pulmonary and pelvic tuberculosis. The clinical presentation of ectopic abdominal pregnancy can differ from that of tubal pregnancy. Although there may be great variability in symptoms, severe abdominal pain in 2nd trimester specially lower abdomen is one of the most consistent finding. Ultrasound is the usual diagnostic procedure of choice but findings are sometimes questionable. They are dependent on examiner experience and quality of ultrasound equipment.¹⁷ TVS is superior to abdominal scan in evaluation of ectopic pregnancy, since it allows a better view of adnexa and uterine cavity.¹⁸ MRI provide additional information for patient who needed precise diagnosis.^{11,12} After the diagnosis of abdominal pregnancy become definite, it is essential to localize placenta, MRI may help in surgical planning by evaluating the extent of mesenteric and uterine involvement. Non contrast MRI using T2 ignited imaging is a sensitive, specific and accurate method for evaluating ectopic pregnancy.¹⁹ We were unable to use in our case as it was an emergency case and fetomaternal condition was unstable.

ion was unstable.

Removal of the placenta is less difficult in early pregnancy, due to being less vascular and smaller in size. Removal of placenta in advanced pregnancy when it is large and more invasive is difficult. Life threatening haemorrhage can occur. Complete removal of placenta should only be done when blood supply to placenta can be identified. If placenta is not removed, it has been estimated that placenta remain functional for 50 days after laprotomy and delivery of the baby. Total regression is complete in 4 months.⁵ Complications may include ileus, peritonitis, abscess formation, prolonged hospital stay, and fever. Future fertility does not appear to be adversely effected and is good.¹⁸ Potential treatment consist of surgery with termination of pregnancy via laparoscopy or laprotomy. Use of injection Methotrexate, vascular embolization or combination of these is a common practice. Conservative management can also be used if the following criteria are met.

1. There are no congenital abnormalities seen in baby.
2. Fetus is alive.
3. Hospitalization in a well equipped well staffed maternity unit.
4. Careful fetomaternal monitoring.
5. Placental implantation away from the liver and spleen. Decision is made according to clinical situation. Generally treatment plan is made after diagnosis.

In **conclusion** ultrasound scan and MRI can be useful to demonstrate relationship between placenta and invasive area in order to be prepared preoperatively for the possible massive blood loss.

Author's Contribution

Diagnosis, surgery and postoperative management was done by F. B. Manuscript was prepared by R. N. and S. Z. The study was supervised by F. Z.

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