

A Case of Recurrent Abdominal Pregnancy of Covert Origin

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Abstract: *Abdominal pregnancies account for 1 percent of ectopic pregnancies and can be life threatening. Because of the variable locations in abdomen, abdominal pregnancies are associated with a wide range of signs and symptoms and thus, a high index of suspicion is important for their timely diagnosis. We share our experience of a unique case of recurrent abdominal pregnancy of covert origin and its diagnostic and management challenges.*

Keywords: Abdominal Pregnancy, recurrent, ectopic pregnancy, laparotomy, haemoperitoneum

1. Case

A 23 year old woman gravida 3, para 0 was referred to emergency section of gynaecology department with complaints of amenorrhoea for 5 months, abdominal pain and loss of fetal movements for 4 days.

At the referral source, patient was evaluated and her investigations revealed severe anemia (haemoglobin 6.9 gm/dl) and ultrasound suggestive of enlarged bulky uterus, a dead fetus of 18 weeks gestation in abdominal cavity with placental implantation on abdominal viscera (Figure 1) and moderate amount of free fluid in abdomen. Patient had history of previous two exploratory laparotomies done for abdominal pregnancies. Patient also had history of pulmonary tuberculosis in her adolescence.

On admission, patient was pale, pulse rate was 102 per minute and blood pressure was 100/62 mmHg. Guarding and tenderness was present all over the abdomen. On per speculum examination cervix and vagina were healthy with no bleeding. On bimanual examination, exact uterine size could not be made out due to guarding. Ultrasound had similar findings as before. After arranging blood products, patient was taken up for emergency laparotomy with a diagnosis of ruptured abdominal pregnancy with haemoperitoneum. Abdomen was opened by vertical midline incision. Per operatively, 950 ml of sero-haemorrhagic abdominal fluid was aspirated and an ensac fetus identified in abdominal cavity (Figure 2) and delivered. Placenta was found adherent to surrounding abdominal viscera (Figure 3). Necrosed placental bits were removed by blunt and sharp dissection but adherent placental segments left in situ (Figure 4). Haemostasis achieved by multiple haemostatic sutures. Uterus and tubes could not be identified as they were buried under dense omental and bowel adhesions. 3 units of packed red blood cells transfused intraoperatively. In view of incomplete placental removal, injection methotrexate was given on post operative day 1 to hasten placental involution.

Post operative period was uneventful and patient was discharged in a stable condition on post operative day 5.

Patient was followed up with serial β hcg and ultrasound. β hcg normalised in 3 months. Follow up ultrasound showed resolving multiloculated collection encasing uterus in pelvis. Subsequently, she underwent diagnostic hysteroscopy that revealed a picture of Asherman syndrome. She had a normal cervical canal, tubular endometrial cavity with pale, fibrosed endometrium and bilateral ostia obscured under adhesions.



Figure 1: Placenta attached to the surrounding viscera



Figure 2: Gestational sac after opening the abdomen



Figure 3: Dead fetus with placenta adherent to abdominal viscera



Figure 4: Dead fetus with partially removed placenta

2. Discussion

Ectopic pregnancies are estimated to occur in 1- 2 % of the pregnancies.^[1,2] Over 90 % are located in the fallopian tube, while the remainder implant in locations such as the abdomen, caesarean scar, cervix and ovary.^[3] Abdominal pregnancies account for approximately 1% of the ectopic pregnancies.^[4]

In abdominal pregnancy, pregnancy is implanted in the peritoneal cavity, external to the uterine cavity and fallopian tubes. These pregnancies are of two types: primary and secondary. Primary abdominal pregnancies are those where a fertilized egg directly implants on the pelvic peritoneum and is diagnosed by Studdiford criteria^[5]:

- 1) Normal tubes and ovaries with no evidence of recent or remote injury,
- 2) An absence of any evidence of a utero-peritoneal fistula, and
- 3) The presence of a pregnancy related exclusively to the peritoneal surface and early enough to eliminate the possibility of secondary implantation following a primary nidation in the tube.

In contrast, secondary abdominal pregnancy is defined as reimplantation of a ruptured pregnancy, most commonly tubal, in the peritoneal cavity.

Risk factors for abdominal pregnancy include tubal damage, pelvic inflammatory disease, endometriosis, assisted reproductive techniques, and multiparity^[6,7]. Out of the risk factors, pelvic inflammatory diseases, if extensive can produce dense adhesions obscuring the surgical approach to pelvis and thus, can pose difficulty in delineating the origin of abdominal pregnancy whether primary or secondary. Studdiford criteria can't be applied in such cases for abdominal pregnancy classification. In this case too, pelvic inflammation and dense adhesions caused by Mycobacterium tuberculosis and previous two abdominal pregnancies had walled off pelvis. The obscured surgical approach to pelvis and late presentation at 18 weeks made it impossible to comment on origin of abdominal pregnancy.

This case of abdominal pregnancy of covert origin is unique, as abdominal pregnancy occurred for third consecutive time. Just a few cases of recurrent abdominal pregnancy have been reported till date. Although, the reason for recurrence could not be out made in this case because of inability to visualise uterus and adnexa per-operatively.

Potential sites of pregnancy implantation include the omentum, pelvic sidewall, broad ligament, posterior cul-de-sac, abdominal organs (eg, spleen, bowel, liver), large pelvic vessels, diaphragm, and the uterine serosa.^[8,9,10,11] In our case, the placenta was implanted over bowel and mesentery.

Because of the variable locations in abdomen, abdominal pregnancy is associated with a wide range of signs and symptoms. When the pregnancy implants on bowel, nausea and vomiting may be prominent symptoms. Vaginal bleeding

is less frequent than in tubal ectopic pregnancies; however, vaginal bleeding may occur since the endometrium still responds to changes in pregnancy hormones^[11]. Some women present with an acute abdomen and shock due to severe intra-abdominal hemorrhage from placental separation or rupture of maternal blood vessels or viscera^[4,9,11,12]. In rare cases, the pregnancy may be diagnosed after a failed induction due to lack of myometrial response to oxytocin stimulation^[13]. Bowel obstruction and formation of fistulae are other rare presentations. This case also presented with pain abdomen and intra-abdominal haemorrhage. The course of placental separation was insidious and lead to haemoperitoneum of 950 ml with detached necrosed placental segments and foci adherent to bowel over 5 days.

A high index of suspicion is important for making a diagnosis of abdominal pregnancy and in contrast to tubal ectopic pregnancies, abdominal pregnancies may go undetected until an advanced gestational age. Clinically, this diagnosis can be suspected if the fetal parts are easily palpated and the fetal lie is abnormal^[14]. But more than 50% of cases are missed antenatally, ultrasound remains the main method of diagnosis^[15]. The classic ultrasound finding is the absence of myometrial tissue between the maternal bladder and the pregnancy^[8]. An empty uterus may be visualized. Other findings suggestive of the diagnosis include unusual fetal lie, poor definition of the placenta, and oligohydramnios. The case presented here also had two antenatal visits but the diagnosis was missed although opportunity of timely detection by means of diagnostic modalities like ultrasound was never there as the patient didn't get any ultrasound done till she was asymptomatic.

If the abdominal pregnancy is diagnosed at an early gestational age (first trimester), operative laparoscopy is an option^[16,17]. Preoperative selective arterial embolization may help prevent hemorrhage during attempts to remove the placenta^[18,19]. In contrast to the tubal ectopic pregnancies, primary methotrexate therapy of early gestations has had minimal success^[20]. This may be due to the more advanced gestational age at which these pregnancies are discovered.

Abdominal pregnancies, even when advanced, are interrupted at diagnosis, as the potential for delivery of a healthy infant is poor and the risk of maternal complications is high. If the diagnosis is made late in pregnancy, a viable infant may be delivered via laparotomy. Expectant management to gain fetal maturity has been attempted and has been successful in a few cases^[21]. This is not a recommended strategy, but if this is attempted, very close maternal monitoring is essential.

The mainstay of treatment of advanced abdominal pregnancy is surgery, but the optimal approach has not been determined. The fetus can be delivered easily; the key issue is how to manage the placenta. There is evidence supporting options to remove the placenta or leave in situ and there is no consensus regarding which option is superior. This case here supports the surgical management involving leaving the adherent placental bits in order to avoid torrential bleeding from placental

separation and further methotrexate administration to hasten the involution of adherent retained placental bits.

3. Conclusion

In abdominal pregnancies, Studdiform criteria is applied to diagnose if the pregnancy implantation in abdominal cavity is of primary or secondary in origin. In the presented case, the history of pelvic inflammatory disease (one of the risk factors for abdominal pregnancies), previous abdominal pregnancies and surgeries obscured the surgical approach to pelvis. Studdiform criteria could not be applied and thus, origin of pregnancy and cause for recurrence remained covert.

This case of abdominal pregnancy with covert origin is unique, as abdominal pregnancy occurred for third consecutive time. Just a few cases of recurrent abdominal pregnancy have been reported till date.

Diagnosis and management is challenging in cases of abdominal pregnancy. Although every case has to be individualized, this case here supports the surgical management involving leaving the adherent placental bits in order to avoid torrential bleeding from placental separation and further methotrexate administration to hasten the involution of retained placental bits.

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