Abdominal Pregnancy: A Cause Of Failed Induction Of Labour

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ABSTRACT
Background: Induction of labour is a common mode of management of intrauterine fetal deaths, and the process usually involves ripening of the cervix by traditional methods of intracervical Foley's catheter insertion or the use of prostaglandin preparations intravaginally. Such methods are usually very effective independently. The objective of this case report is to call the attention of practising obstetricians to the possibility of an abdominal pregnancy as a cause of failure to ripen the cervix and that careful re-evaluation and use of ultrasound scan can improve diagnostic acumen with favorable outcome of management in such cases.

Methods: The case file of the patient was thoroughly reviewed. A literature search on the subject of abdominal pregnancy using local and international journals and relevant textbooks was done to document the current status of the management of such cases.

Results: A 29-year-old Gravida 4 para 3+0 (2 alive) presented at an estimated gestational age of 32 weeks with loss of fetal movement, which was suggestive of fetal death and was referred as such from a private hospital. A process of induction of labour was commenced; to ripen the cervix with intracervical Foleys catheter and misoprostol tablet and stimulate uterine contraction, but this was not successful due to failure of the cervix to ripen. This prompted further review of the patient with the aim of excluding the possibility of an abdominal ectopic pregnancy. A repeat ultrasound scan was done and this confirmed a diagnosis of abdominal pregnancy. The patient had laparotomy done to deliver a dead fetus and the placenta was removed with the right tube and ovary as they were deeply embedded in the placental mass. The definitive diagnosis was that of a secondary abdominal pregnancy. She made a satisfactory postoperative recovery and was discharged home.

Conclusion: A high index of suspicion is needed to make a first time diagnosis of abdominal pregnancy. With timely diagnosis and appropriate management, the prognosis in most cases is favourable.

INTRODUCTION

The case being presented was managed at the Department of Obstetrics and Gyneacology, Olabisi Onabanjo University Teaching Hospital, Sagamu. This was a case that was unsuspectingly that of an abdominal pregnancy that presented with an "intrauterine fetal death" at a gestational age of 32 weeks based on the referral letter brought by the patient from a private hospital. Her presentation was not supportive of an abdominal pregnancy and she was therefore proposed to be managed as a case of normal pregnancy that suffered an intrauterine fetal death. The clue to the final diagnosis of the patient was provided by the failure to ripen the cervix for the purpose of induction of labour by conventional methods known to be effective for such purpose i.e. intracervical passage of Foley's catheter and the use of intravaginal misoprostol tablets.

Abdominal pregnancy is a rare form of ectopic pregnancy with high maternal (2-20%)[1,2], and fetal mortality (up to 75%)[1,2]. The frequency is directly related to the frequency of ectopic gestation in a population[1]. The incidence cannot be precisely ascertained[2]. Altrash et al[3] reported a prevalence of 1:9174 live births and 1:109 ectopic gestations in the United States of America. Dixon and Stewart reported ten cases occurring in the West Indies[2]. In Hong Kong and Jamaica, the ratio of

advanced to early extra uterine abdominal pregnancy has been found to be about 1:30, but the true incidence is probably less than this[4]. It is more commonly seen in patients of low socioeconomic status and in developing countries especially in the tropics as a result of high incidence of pelvic inflammatory disease associated with intimal damage, impaired ciliary function, kinking and distortion of the tubes[1], and in those with a history of infertility. Abdominal implantation accounts for up to 20% fatalities attributed to ectopic gestation in the United States of America[5]. Maternal mortality due to massive heamorrhage has been estimated as 5.1/1000 abdominal pregnancies[3]. Diagnosis require a high index of suspicion, the condition can be effectively managed with surgery with minimal complications.

CASE REPORT

Mrs. A B A was a 29year old G4 Para 3[+0] (2 alive) trader, Christian by religion and of the Yoruba tribe. She was unbooked. The last menstrual period was not known.

The patient was referred from a private hospital on account of ultrasound diagnosis of intrauterine fetal death with breech presentation.

The patient booked for antenatal care at a primary health care centre at a gestational age of approximately 22 weeks. She had two doses of tetanus toxoid immunization during the pregnancy. She was placed on routine haematinics. She had two ultrasound scans done before presentation; the first was about 4 weeks prior to presentation, which was reported to be essentially normal. The second scan was done after she stopped feeling fetal movements one week later. Loss of fetal movements was noticed 3 weeks prior to presentation. There was no history of fever, dysuria, vaginal discharge, vaginal bleeding or drainage of liquor.

Her first and second confinements were in 1997 and 1999 respectively; pregnancy, labour and delivery were uneventful. Both male children were alive and well.

She attained menarche at the age of 15 years. She menstruates for 5 days in a 30-day regular cycle. There was no dysmenorrhoea or menorrhagia. No history of contraceptive use. She has never had an abortion; she gave a history suggestive of pelvic inflammatory disease, which required hospital admission for treatment two years after her last confinement. She is in her second marriage, where she is the third wife of the husband.

Physical examination revealed a young woman with a tepid odour around her, she was severely pale, and afebrile to touch, not dehydrated and no pedal oedema.

Her pulse rate was 132 beats per minute, regular and of moderate volume. The blood pressure was 90/70mmHg. The first and second heart sounds were heard, no murmur. Both lung fields were clinically clear.

The abdomen was full and uniformly distended. There were no scarification marks. The symphysiofundal height was 32 cm, longitudinal lie, breech presentation; the fetal heart sound was not heard. The liver, spleen and kidneys were not palpably enlarged.

The vulva and vaginal were normal. The cervix was posterior, firm and the os closed, medium in consistency and 2cm long, the station of presenting part was 3cm above the ischial spine.

An impression of intrauterine fetal death and breech presentation was made.

She was admitted and investigations were ordered for. The packed cell volume was 20%, total white blood cell count was 4,500/mm^3 differential white blood cell count neutrophils- 84%, lymphocytes- 16%, and the platelet count was 185,000/mm^3.

Blood film examination showed macrocytes 2+, hypochromic cells 2+, while the white blood cell morphology showed neutrophilic leucocytosis with polysegmentation.

Urine was negative for protein and glucose, while urine culture yielded no growth.

Serum electrolyte, urea and creatinine were within normal limits.

Random blood sugar was 88mg/dl. Bedside clotting time was 5-10minutes. The blood group was 'A' Rh +ve and the genotype was AA.

In view of the fetal demise and possible sepsis, she was planned for cervical ripening

with Foley's catheter and oxytocin induction of labor. She was also commenced on broad-spectrum antibiotics combination of capsule ampiclox 500mg 6hourly, tablet metronidazole 400mg 8hourly and intramuscular genticin 80mg 8hourly. She was transfused with three pints of blood to correct the severe anemia.

The cervical catheter was passed and removed after 48hours of it not being expelled. In view of the catheter not being able to ripen the cervix, 100µg of misoprostol was inserted into the posterior fornix to aid in the ripening of the cervix; this too failed to ripen the cervix. The patient was subsequently commenced on oxytocin infusion with the aim of generating uterine contraction that might help in the effacement and dilatation of the cervix. She was commenced on 5iu of oxytocin and this was increased to up to 20iu of oxytocin in 500mls of 5% dextrose in water at 60 drops per minute without producing any significant uterine contraction nor appreciable difference in cervical dilatation and effacement.

The inability to ripen the cervix and failure to generate uterine contractions prompted a review of the patient with the possibility of an abdominal pregnancy being strongly entertained.

A repeat ultrasound scan was able to demonstrate a separate uterus from the dead fetus, which was seen to be lying in the peritoneal cavity. The dimensions of the uterus were 47mm anteroposteriorly and 71mm in the transverse plane. An impression of abdominal pregnancy was made and she was planned for an exploratory laparotomy.

The patient was eventually delivered of intraabdominal macerated fetus, had partial omentectomy and right adnexectomy in the process of delivering the placenta.

The essential findings at surgery were: a macerated fetus in the peritoneal cavity completely surrounded by thickened chorioamniotic membrane that was adherent to loops of small bowel, there were specks of meconium stained substance within the chorioamniotic cavity and the placenta mass was adherent to the omentum. The uterus was normal sized, with normal left tube and ovary;

the right tube and ovary were completely embedded in the mass of placenta. The estimated blood loss was 1000mls.

Postoperatively she was commenced on intravenous fluid of 5%dextrose in saline alternating with normal saline 1 litre 8hourly, intravenous ampiclox 1g 6hourly and metronidazole 500mg 8hourly; intramuscular genticin 8omg 8 hourly and pethidine 100mg 8 hourly for a total duration of 48 hours after which the ampiclox and metronidazole were changed to oral forms for another five days. The postoperative packed cell volume on the second postoperative day was 28%.

The patient made steady progress and on the 5th postoperative day the stitches were removed and she was discharged home with a packed cell volume of 30%.

DISCUSSION

Abdominal pregnancy is a rare form of ectopic pregnancy with high maternal (2-20%)[1,2], and fetal mortality (up to 75%)[1,2]. The frequency is directly related to the frequency of ectopic gestation in a population[1].

There are basically two recognizable types of abdominal pregnancy; primary and secondary, but it is almost as a result of secondary implantation of a primary tubal pregnancy[1,6,7].

The criteria for a primary abdominal pregnancy are the following; the tubes and ovaries should be normal and can be well defined, there should be no evidence of uteroplacental fistula, the pregnancy is related exclusively to the peritoneal surface early enough to eliminate the possibility of secondary implantation after a primary nidation elsewhere[6].

A secondary abdominal pregnancy, by definition usually occurs after tubal abortion or rupture, with subsequent implantation of the conceptus on a nearby peritoneal surface[6]. The case presented is most likely a secondary abdominal pregnancy.

The diagnosis of abdominal pregnancy in this case was almost missed and therefore the diagnosis at every stage of pregnancy requires a high index of suspicion. In early pregnancy,

there is sometimes a history that may be suggestive of ectopic pregnancy[1]. Abdominal pain is noticed in about 80% of the cases and varies from mild discomfort to severe and unbearable pain and there is often abdominal tenderness. Vaginal bleeding may also be seen in early pregnancy in about 30% of cases[6]. There was no access to this patient during pregnancy and therefore the absence or presence of such symptoms could not be ascertained, however the patient did not give any history of such.

The condition may be suspected in the face of persistent abnormal fetal lie, easily palpated fetal parts and the uterus, which may be appreciably large, may be felt separate from the fetus[1,2,6]. Fetal movements may be painful or absent as a result of fetal death; this patient was referred on account of intrauterine fetal death. Vaginal examination often reveals a closed, uneffaced cervix, which occasionally may be displaced anteriorly[6]. Of all these, absence of palpable uterine contractions to oxytocin stimulation or to induction of labour by prostaglandin is one of the most helpful clinical clues to the diagnosis[1,8].

Ancillary investigations to assist in making diagnosis include ultrasonography, maternal serum alpha-fetoprotein which may be grossly elevated without any evidence of fetal anomaly or maternal explanation, plain radiograph of the abdomen, and nuclear magnetic resonance imaging where available[1,2,6]. The centre where this patient was managed does not have facilities for the measurement of alpha-fetoprotein nor magnetic resonance imaging. However the role of ultrasound as an important tool in the diagnosis of this condition needs to be highlighted for the purpose of resource poor setting, where most of these cases are likely to present. In particular, ultrasound will show that the fetal head is located outside the uterus, failure to demonstrate the uterine wall between the fetus and the urinary bladder; oligohydramnious and no clear outline of the gestational sac around the fetus are additional clues to its possibility[1,6].

Definitive management is ultimately exploratory laparotomy and delivery of the fetus with specific management of the placenta depending on its attachment[4,6]. The gestational age and viability of the fetus at the time of diagnosis will further modify the management.

If the fetus is non-viable i.e. before 24 weeks, either dead or alive, immediate surgery is performed to deliver the fetus for fear of rupture and fatal intraabdominal haemorrhage. The risk of dying from abdominal pregnancy is 7.7 times greater from tubal ectopic pregnancy[2,3]. However, if the fetus is viable i.e. after 24 weeks, conservative management may be instituted to allow the fetus to mature further. This must be done in a hospital environment where the patient can be closely monitored, with immediate access to blood transfusion facility and immediate surgery[6,7,9,10].

The patient had the right adnexa removed in order to be able to effectively deal with the placenta. This was associated with a blood loss of one litre, which was readily replaced. However it has been advocated that in some cases the placenta should be left because of the risk of uncontrollable haemorrhage[1,9,10]. In the instance that the blood supply of the placenta can be safely secured, removal of the placenta completely usually results in uncomplicated postoperative recovery. If the placenta could not be removed, the cord is cut short and left in-situ[1,2,9,10], methotrexate can then be injected into the cord stump to aid autolysis of the placenta over time[1,2] or ligation of the placenta blood supply and removal of the pelvic organ upon which the placenta has implanted e.g. hysterectomy, omentectomy, or salpingo-oophorectomy[6]. The placenta when left can predispose to infection, adhesions, obstruction and coagulopathy[1].

CONCLUSION
In conclusion, failure of induction process either to ripen the cervix or to stimulate uterine contraction should prompt a further review of such a patient with the possibility of an abdominal pregnancy as a cause. Further management of such cases is best conducted in a hospital where there is adequate blood transfusion facility and the skill for laparotomy.

Prevention of the condition is possible

through adequate information on the prevention
of sexually transmitted diseases and effective