A Potential Gynaecological Disaster that Became Joy. A Case Of Misdiagnosed Abdominal Ectopic Pregnancy with Live Baby at Term.

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ABSTRACT

Background: The incidence of abdominal pregnancy is considerably lower than that of other forms of ectopic pregnancy and becomes life-threatening when it occurs. It has a high maternal mortality rate and foetal mortality rate; however, some abdominal ectopic pregnancies have been carried to term.

Case Presentation: We present a case of a 30-year-old G2P1+0 1alive woman who presented at our health facility at a gestational age of 37 weeks following a fall at home while taking her bath. She underwent an emergency caesarean section due to suspected placental abruptio; and transverse lie with a live foetus. However, the intra-operative findings revealed an abdominal ectopic pregnancy with a healthy female neonate. The placenta was attached to the uterine fundus and the greater omentum. An omentectomy was performed without compromising the blood supply to the bowels. Also, the loose membranous attachment to the uterine fundus was carefully excised and replaced with a suture. Both the patient and her baby girl were discharged home on the seventh day post-operation without complications. No gross congenital anomaly was detected on the baby.

Discussion: Live neonate in abdominal ectopic gestation is a rare occurrence, and a high index of suspicion with early diagnosis of abdominal ectopic pregnancy is necessary to avoid a potential maternal disaster. Fortunately, our patient had a favourable outcome despite the missed diagnosis.

Conclusion: There is a need for improved health resource allocation with training and retraining of radiologists and non-radiology professionals involved in obstetric ultrasound to avoid misdiagnosis, as it occurred in this case.

Keywords: Abdominal pregnancy, Ectopic, Radiological misdiagnosis, Gynaecological disaster.

INTRODUCTION

Ectopic pregnancy is generally defined as a pregnancy located outside the uterus. Abdominal ectopic pregnancy is a rare, life-threatening condition that occurs when the pregnancy implants in the peritoneal cavity. The incidence of abdominal pregnancy varies between 1: 10000 pregnancies and 1: 30000 pregnancies in the literature. Abdominal pregnancy represents approximately 1.4% of all ectopic pregnancies and is linked to high maternal and perinatal morbidity and mortality, with the occurrence of live foetuses being extremely rare. Maternal mortality can range from 0.5% to 18%, while the perinatal mortality rate is between 40% and 95%. The risk of dying from abdominal pregnancy is 7 to 8 times higher than that for tubal ectopic pregnancy, and it is 90 times greater than that for intrauterine pregnancies.

Abdominal pregnancy can implant on the uterine serosa and omentum. Other areas of implantation include the Pouch of Douglas, bowel, mesentery, mesosalpinx, peritoneum of the abdominal and pelvic wall, liver, spleen, diaphragm, and Gerota's fascia of the kidney, which may complicate delivery if not anticipated.

The diagnosis of abdominal ectopic pregnancy can be challenging, as patients usually present late with non-specific symptoms, and ultrasound evaluations can easily miss the diagnosis, especially in low-resource settings where there is a lack of trained personnel.

CASE SUMMARY

A 30-year-old unbooked Gravida 2 Para 1 + 0 (1 alive) woman who was referred from a primary health facility on account of transverse lie at term (37 weeks) but presented with lower abdominal pain at a gestational age of 37 weeks following a fall in her bathroom while taking a bath. There was no injury to

other parts of her body or bleeding per vaginum. The essential finding was mild lower abdominal tenderness upon examination and a palpable foetus at transverse lie. She had an urgent obstetric ultrasound scan, which showed a live foetus in a transverse lie, reduced liquor, and intra-placental haemorrhage.

She was subsequently prepared for an emergency caesarean section with two units of whole blood, which were grouped and cross-matched for her. The surgery was performed under spinal anaesthesia, and the findings during the operation revealed a live female baby in the peritoneal cavity in a transverse position, with the foetal head directed towards the right iliac fossa, covered with placental membranes and reduced amniotic fluid.

The placental (membranous part) was attached to the greater omentum, which covered the right fallopian tube and the uterine fundus, with the blood supply coming from the right ovarian vessels and the gastroomental vessels; hence, there was no need for methotrexate use in this patient because it was easily sheared off. About 150 ml of intraplacental blood was collected. The right ovary and the right fallopian tube were covered by adhesions, presumed to be the site of the tubal rupture that resulted in the abdominal ectopic gestation. In contrast, the left ovary and the left fallopian tube were visible.

The baby was extracted from the abdominal cavity, and she was handed over to the midwife for immediate care and thorough evaluation. Birth weight was 2.7 kg with a good APGAR Score. Verbal consent was obtained from her before photographs were taken, and later, written informed consent was obtained for publication when she was stable in the ward. The patient had an omentectomy, and the placental attachment to the uterine fundus was double clamped and was carefully excised and replaced with vicryl 2 sutures. Haemostasis was secured, and the anterior abdominal wall was closed in layers. The estimated blood loss was 500mls. There was no foetal anomaly noticed. She was transferred to the recovery room and subsequently to the postnatal ward, where she had an uneventful recovery.

Her vital signs were closely monitored until she was stable. She was placed on intravenous antibiotics (ceftriaxone 1gm 12hourly, metronidazole 500mg 8 hourly) and analgesics (pentazocine 30mg 8 hourly, paracetamol 1gm 8 hourly), all for 48 hours, before converting them to oral. While maintaining nil per oris for about 24 hours, she received dextrose-containing intravenous fluid before commencing graded oral sips. Her urethral catheter was removed when she was 24 hours post-surgery and she was encouraged to ambulate immediately. The patient was counselled on family planning and subsequently used the IUCD.

Her last confinement was three years prior to this delivery, during which she had a live male neonate born via spontaneous vaginal delivery in a mission home. The baby was reported to have cried well at birth.

MANAGEMENT DIFFERENCES

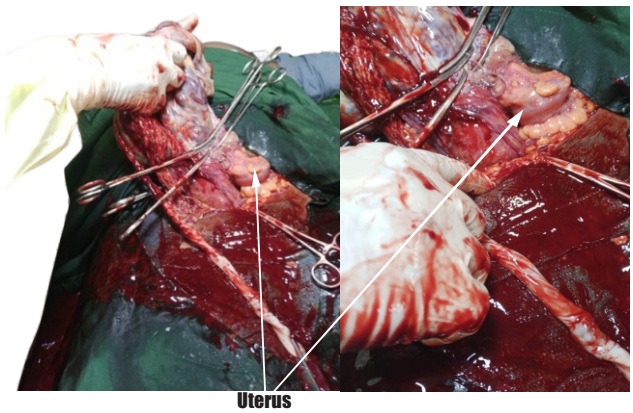
NORMAL CAESAREAN SECTION	THIS CAESAREAN SECTION
Oxytocic use to prevent uterine atony	No oxytocic use as it was an extrauterine foetus
The presence of lochia requires monitoring.	Nil lochia
Use of perennial pad	Nil perennial pad use

PECULIARITIES WITH THIS PATIENT

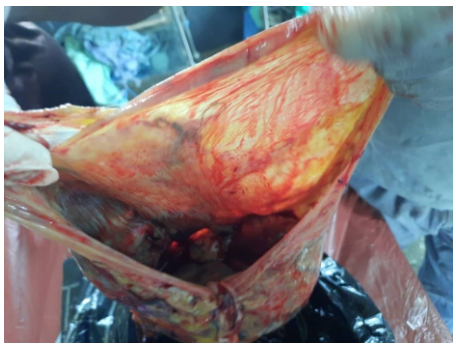
Abdominal ectopic pregnancy requires additional specialities such as urologists and general surgeons, which were not invited because it was not anticipated.

The abdomen was only minimally explored as the placental bed was visible and easily separable due to the membranous attachment of the placenta.

This didn't require methotrexate because the placenta was easily separated.



The placenta is attached to the uterine fundus and the omentum.



he thick placental membrane that covers the baby.

DISCUSSION

An ectopic pregnancy occurs when a pregnancy is located outside the normally positioned endometrial cavity, whereas in abdominal ectopic pregnancy, a fertilised ovum is implanted in the abdominal cavity. Ectopic pregnancy is reported in 1-2% of all pregnancies, with the majority being tubal ectopic

pregnancies, which account for about 92-97%. The incidence of abdominal ectopic gestation ranges between 1:10000 to 1:30000 pregnancies[1,2].

Ectopic pregnancy was first reported in 1708 AD following an autopsy finding, and several cases have since been documented. The incidence of abdominal ectopic pregnancy, although very low compared to that of tubal ectopic gestation, has resulted in a mortality rate that is eight times higher than that of tubal ectopic pregnancy. It can be divided into early abdominal ectopic pregnancy when diagnosed before 20 weeks of gestation, and late abdominal ectopic pregnancy when diagnosed after 20 weeks of pregnancy. Abdominal ectopic pregnancy can be classified as primary ectopic pregnancy when the fertilised ovum is implanted primarily in the abdominal cavity, or secondary abdominal ectopic pregnancy when the fertilised ovum is implanted in the abdominal cavity following the rupture of tubal ectopic gestation[3].

Diagnosis of abdominal ectopic pregnancy can be extremely challenging, especially in a resource-constrained environment. Early ultrasound evaluation of pregnancy can aid in making an early diagnosis, as there may not be significant clinical findings in late gestation. However, a high index of suspicion is essential to prevent feto-maternal morbidity and mortality associated with a late diagnosis of abdominal ectopic pregnancy. Radiological studies, such as MRI and CT scans, can assist in diagnosing abdominal ectopic pregnancy in advanced pregnancies. These diagnostic modalities may not be available in resource-limited centres. In a case report review by Y Chen et al, only 29.41% of abdominal ectopic pregnancies were diagnosed before surgery[4].

The occurrence of a live fetus following abdominal ectopic pregnancy is very rare due to the high rate of congenital anomalies and the urgent intervention required for early diagnosed abdominal ectopic gestation to reduce the morbidity and mortality associated with late abdominal ectopic pregnancy[5]. The implantation sites for abdominal ectopic pregnancy can include the omentum, peritoneum of the abdominal or pelvic cavity, uterine surface, abdominal organs such as the spleen, intestine, liver, large blood vessels in the abdominal cavity, diaphragm, pouch of Douglas, and others[6]. The signs and symptoms presented by the patient may be non-specific; they depend on the site of implantation and the degree of anatomical distortion[7].

The Studdiford criteria for the diagnosis of primary abdominal ectopic pregnancy include intact both fallopian tubes and the ovaries, no retroperitoneal fistula, and the pregnancy relates to the peritoneal surface alone[8]. Friedrich and Rankin further modified the criteria by stating that it must be applied to pregnancy less than 12 weeks, which did not apply to our patient as she presented in the third trimester of pregnancy[9]. There is a higher chance that abdominal ectopic pregnancy may occur without any known risk factor for ectopic pregnancy, such as a history of Pelvic Inflammatory disease, endometriosis, previous surgeries, and in vitro fertilisation, as it was observed in this patient[10].

Ultrasound provides a 50% chance of diagnosis of advanced abdominal ectopic pregnancy. It depends on the expertise and experience of the ultrasound operator. This pitfall in ultrasound diagnosis can be due to uterine leiomyoma, which is common in the black population, and retroflexed uterus, among other factors[11,12]. Allibone, however, suggested some criteria to aid Ultrasound diagnosis which are: demonstration of a fetus in a gestational sac outside the uterus, or the depiction of an abdominal or pelvic mass identifiable as the uterus separate from the fetus, failure to see a uterine wall between the fetus and urinary bladder, recognition of a close approximation of the fetus to the maternal abdominal wall, and localisation of the placenta outside the uterine cavity[13].

Extraction of the fetus is generally less challenging compared to the removal of the placenta and the fetal membrane, which can lead to significant haemorrhage. Management options include leaving the placenta in situ with systemic administration of methotrexate to facilitate early placental resorption. The drawbacks of this approach encompass pelvic infection, bowel obstruction, fistula formation, anaemia, and haemorrhage that may necessitate abdominal re-exploration. Another option is placental removal, particularly when the placenta is loosely implanted, as observed in this case. Pre-operative interventional selective arterial embolisation can assist in reducing bleeding during placental removal. However, the availability of specialists for this procedure is not readily accessible in many centres. Additional management options include laparoscopic removal of abdominal ectopic pregnancy if diagnosed early[14,15].

In conclusion, the delivery of a healthy baby to a satisfied mother following abdominal pregnancy is exceedingly rare, as it presents both diagnostic and management dilemmas, as seen in this case.

However, a high index of suspicion is essential to avert obstetric catastrophe. Furthermore, there is a pressing need to increase budgetary provisions for

healthcare to ensure adequate manpower and equipment, which can help to reduce the incidence of misdiagnosis of abdominal ectopic pregnancy.

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