

Abdominal pregnancy presenting as a missed abortion at 16 weeks' gestation

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We report on an abdominal pregnancy that presented as a missed abortion at 16 weeks' gestation and review the literature on the management of abdominal pregnancy. The clinical presentation of abdominal pregnancy varies, and the diagnosis depends on a high index of suspicion. Ultrasonography is useful for early diagnosis of the condition. The management depends on the gestation at presentation; for advanced abdominal pregnancy, surgical intervention is recommended. The treatment of the placenta is a matter of controversy. In general, expectant management is suggested. When the placenta is left behind, the use of prophylactic methotrexate is not advocated. An awareness of abdominal pregnancy is very important for reducing associated morbidity and mortality.

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Introduction

Abdominal pregnancy is a rare event but is associated with significant morbidity and mortality. The incidence varies widely with geographical location, degree of antenatal attendance, level of medical care, and socio-economic status.¹ It is believed that abdominal pregnancy is more common in developing countries, probably because of the high frequency of pelvic inflammatory disease in these areas.² The mortality risk from abdominal pregnancy is 7.7-fold that of tubal pregnancy and 90-fold that of intrauterine pregnancy.^{3,4} The incidence of abdominal pregnancy is 1 in 10 000 live births.⁵ Maternal morbidity may be due to bleeding, infection, toxæmia, anaemia, disseminated intravascular coagulation, pulmonary embolism, or the formation of a fistula between the amniotic sac and intestine caused by penetration of foetal bone.^{6,7} The exact pathogenesis of abdominal pregnancy is not known, but most abdominal pregnancies may result from tubal or ovarian pregnancies, because abdominal and tubal ectopic pregnancies share similar aetiological factors.⁸ For advanced extra-uterine pregnancies,

there is a 10% to 25% chance of a live-birth.⁹ However, 20% to 40% of live-births will be malformed and only 50% will survive for longer than 1 week.¹⁰ Furthermore, foetal malformation, such as torticollis, facial asymmetry, malformation of limbs, flattening of the head, and malformation of the thorax, may occur because of severe oligohydramnios in an extra-uterine environment.

The diagnosis of abdominal pregnancy requires a high index of suspicion. Clinical history, physical examination, and laboratory and ultrasonographic features are all non-specific. Allibone et al⁴ have highlighted some ultrasonographic features of abdominal pregnancy: no uterine wall is visible between the maternal bladder and the foetus, the placenta is located outside the uterus, foetal parts are close to the maternal abdominal wall, the foetus lies abnormally, and no amniotic fluid is present between the placenta and foetus.

We report on an abdominal pregnancy that presented as a missed abortion at 16 weeks' gestation and we review the current literature on the management of abdominal pregnancy.

Case report

A 28-year-old woman presented at 16 weeks' gestation to the Department of Obstetrics and Gynaecology at the Pamela Youde Nethersole Eastern Hospital in March 1999, because the foetal cardiac pulse could

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not be detected at the antenatal clinic. She enjoyed good health and wanted the pregnancy. A pregnancy test gave positive results at about 8 weeks of amenorrhoea. Antenatal routine blood-screening tests gave normal results.

Physical examination showed that the abdomen was soft and non-tender, but the uterus was not palpable. Foetal cardiac pulsation could not be found by using the Doppler pulse detector. An ultrasound examination was thus performed to assess the foetal size and cardiac function. Ultrasonography of the abdomen and vagina showed that the uterus was empty (Fig 1). There was an ectopic gestational sac at the right adnexal area, which contained a viable foetus. The foetal biparietal diameter and femur length were measured and corresponded to the 15-week mean. The placenta was visible posteriorly in the pouch of Douglas and measured 7.7 x 9.5 x 9.4 cm. Abdominal pregnancy with a viable foetus was diagnosed. The patient was told of the poor prognosis for the foetus and the potential risks of continuing the pregnancy. The option of laparotomy and termination of the pregnancy was discussed. She agreed to the procedure.

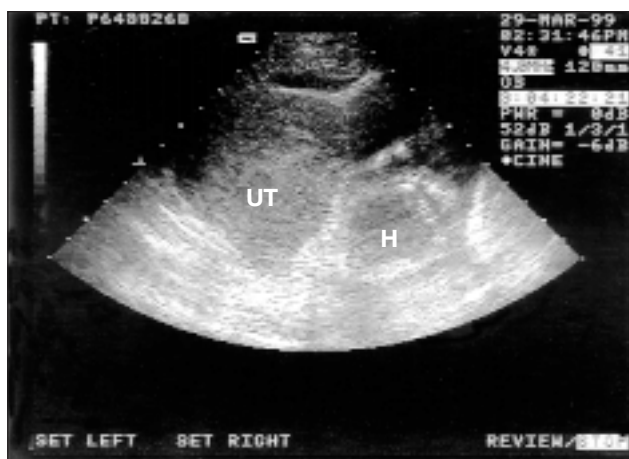


Fig 1. Transabdominal ultrasonogram showing foetal head (H) outside the empty uterus (UT)



Fig 2. Incision of the ectopic gestation sac

The operation was performed under general anaesthesia. A subumbilical vertical skin incision was made. The diagnosis of abdominal pregnancy was confirmed. A gestational sac was seen protruding from the pouch of Douglas. Active foetal movement could be seen through the membranes at the time of incision (Fig 2). The placenta was implanted behind the uterus. There was mild adhesion between the large bowel, appendix, and the gestational sac. The fallopian tubes and ovaries were not visible because of extensive pelvic adhesion. The gestational sac was incised, the foetus was delivered, and the cord was clamped and ligated. The placenta was left in situ, and a course of prophylactic co-amoxiclav was given.

The patient remained well after the operation. The preoperative β -human chorionic gonadotrophin (HCG) level was 82 821 IU/L, decreasing to 38 638 IU/L on the fifth day after operation. She was mildly anaemic and the clotting profile was normal in the post-operative period. Initially, she was upset about the foetal loss and was counselled by a clinical psychologist. She was discharged home on day 7. Subsequent out-patient follow-up 4 weeks later showed that the β -HCG level had decreased to 128 IU/L. An ultrasound examination showed that the placenta had shrunk slightly to 6.3 x 7.3 x 6.6 cm. The patient remained asymptomatic and the β -HCG level returned to normal (<5 mIU/mL) 4 months after the operation. The placental remnant showed no significant reduction in size since 4 weeks after the operation.

Discussion

Although Allibone et al⁴ have provided guidelines for the use of ultrasonography to diagnose abdominal pregnancy, the reported diagnostic errors in different series have ranged from 50% to 90%.¹¹ In this case of abdominal pregnancy, we were able to demonstrate that the gestational sac was outside the uterus with the use of transvaginal ultrasound examination. It is usually easier to appreciate the abdominal pregnancy at the end of the first trimester or early in the second trimester, when the pelvic organs are best visualised.³

The maternal mortality rate varies from 2% to 30%, and it can be reduced by early diagnosis and timely intervention.¹² Perinatal mortality for abdominal pregnancy is high. For the management of abdominal pregnancy, factors such as maternal complications, foetal congenital abnormality, foetal viability, gestational age at presentation, and the availability of neonatal facilities should be considered. If the foetus is dead, surgical intervention is generally indicated owing to

the risk of infection and disseminated intravascular coagulation. Some clinicians, however, recommend a period of observation of 3 to 8 weeks to allow atrophy of placental vessels to occur.¹³

If the foetus is alive, laparotomy should be performed, regardless of gestational age or foetal condition.² The reason is mainly based on the unpredictability of placental separation and resultant massive haemorrhage.³ Some clinicians may adopt an individualised approach. If the pregnancy is less than 24 weeks' gestation, immediate operative intervention is indicated because of the high risk of maternal complications and the poor prognosis for the baby if the pregnancy continues. Debate has arisen, however, concerning the appropriateness of a conservative approach in situations where the patient presents after 24 weeks' gestation. Cases of the pregnancy being closely observed and surgery being delayed to allow time for the foetus to mature have been reported.¹⁴ This approach requires close surveillance when the benefits to the foetus are weighed against the potential risks to the mother, such as the sudden onset of life-threatening haemorrhage. The patient needs to be admitted to hospital, where surgical expertise, anaesthesia, and a 24-hour blood bank service are available.

The management of the placenta in an abdominal pregnancy is still a matter of debate. Partial removal of the placenta may result in massive uncontrolled haemorrhage and shock if the complete blood supply cannot be ligated. Complete removal of the placenta should be done only when the blood supply can be identified and careful ligation performed.¹⁵ In this case, the placenta was left in situ. This course of action has recommended for most cases,⁶ the cord being ligated in close proximity to the placenta. It has been estimated that the placenta can remain functional for approximately 50 days from the operation, and total regression of placental function is usually complete within 4 months.¹⁶ Complications may include ileus, peritonitis, abscess formation, prolonged hospital stay, and fever. The use of prophylactic methotrexate is not advocated when the placenta is left in situ. Rapid

and major degradation of the abdominal placental tissue can result in the accumulation of necrotic tissue, which is an ideal medium for bacterial growth and sepsis.

In conclusion, although abdominal pregnancy is a rare event, awareness of this condition is very important in reducing the associated morbidity and mortality.

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