Tanzania Journal of Health Research
Volume 25, Issue 4, October 2024
https://dx.doi.org/10.4314/thrb.v25i4.19

Missed Advanced Abdominal Pregnancy: A Case Report

[1]Mwajabu Mmbaga, [1]Edwin Mashola, [1]Abdi Msangi, [2]Kijakazi Mashoto, [3]Mercy Chiduo*

[1]Department of Obstetrics and Gynecology, Tanga Regional Referral Hospital, Tanga
[2]National Institute for Medical Research, Dar es Salaam
[3]National Institute for Medical Research, Tanga

Abstract
Early diagnosis of an abdominal pregnancy is difficult since it is associated with a wide range of signs and symptoms. However, ultrasound is the most effective method for diagnosing an abdominal ectopic pregnancy. We present a case of advanced abdominal ectopic pregnancy, which progressed to the second trimester and ended up with fetal death. Despite having repeated ultrasound scanning, the diagnosis was missed. This case report emphasizes the need for a high index of suspicion and correlation of the patient's signs and symptoms with ultrasound findings to make an early diagnosis of abdominal ectopic pregnancy.

Keywords: Abdominal pregnancy, ectopic pregnancy, fetal death, Ultrasound, Tanga, Tanzania

Introduction

Abdominal pregnancy refers to a pregnancy that has implanted in the peritoneal cavity, external to the uterine cavity and fallopian tubes(Tegene *et al.*, 2022). Abdominal pregnancy is the rarest and the most severe type of extrauterine pregnancy, and it accounts for 1 to 1.4 per cent of all ectopic pregnancies. Early diagnosis of an abdominal pregnancy is difficult since it is associated with a wide range of signs and symptoms. (Tegene, Mohammed and Amana, 2022). Risk factors for abdominal pregnancy include tubal damage, pelvic inflammatory disease, endometriosis, assisted reproductive techniques, and multiparity.(Maas and Slabber, 1976; Ludwig *et al.*, 1999).

Advanced abdominal pregnancy (AAP) is an abdominal pregnancy after 20 weeks of gestation caused by the implantation of an abnormal placenta; it can cause severe maternal postpartum haemorrhage and coagulopathy, which could lead to death in severe cases.(Sharma *et al.*, 2012). Accordingly, the maternal mortality rate is approximately seven times higher in abdominal pregnancies compared with that in other ectopic pregnancies.(Kassam, 2007). The patient with AAP may present with a history of recurrent abdominal discomfort, painful fetal movement beneath the abdominal wall, the presence of fetal movements high in the upper abdomen, cessation of fetal movement, a closed and uneffaced cervix, or the failure of oxytocin to stimulate the gestational mass.

Ultrasound is the most effective method for diagnosing an abdominal ectopic pregnancy. (Tegene et al., 2022). However, studies have shown that the accurate diagnosis of abdominal pregnancy before surgery is very low, about 29%, and the accuracy increases with an increase in gestation age.(Chen *et al.*, 2023). Transvaginal ultrasound remains the first-line tool for diagnosing abdominal pregnancy. (Cohen *et al.*, 1985). The classic ultrasound finding is the absence of myometrial tissue between the maternal bladder and the pregnancy(Varma et al., 2003). In these cases, an empty uterus is usually visualized.

* **Corresponding Author,** Dr. Mercy G. Chiduo, chiduomercy@gmail.com

https://dx.doi.org/10.4314/thrb.v25i4.19

Other findings include a poor definition of the placenta, oligohydramnios and unusual fetal lie, which can be misinterpreted as intrauterine if the ultrasonographer does not evaluate the myometrium.(Yagil *et al.*, 2007).

We present a case of advanced abdominal ectopic pregnancy, which progressed to the second trimester and ended up with fetal death. The diagnosis of abdominal pregnancy was missed despite having repeated ultrasound scanning. We obtained permission to publish this case study from Bombo Hospital authority, and the patient consented.

Case Report

A 35-year-old Tanzanian woman with two healthy children, gravida 3, para 2. The first child was born in 2014 through Cesarean Section (CS). However, four years later, she experienced a Spontaneous Vaginal Delivery (SVD) for her second child, who was born in 2018.

The history of her Last Menstrual Period (LMP) indicated that she had 32^{+5} weeks of pregnancy. She weighed 59kgs, and her fundal height was 20 weeks when she made the first antenatal clinic (ANC) visit at 23 weeks in a nearby health centre. During the second ANC visit at 32 weeks, they slightly increased weight (60kgs), and the fundal height was 22 weeks. During both visits, she felt fetal movements, and her blood pressure was 120/80mmHg. No ultrasound was done during the two antenatal visits.

On the day of admission at the District Referral Hospital (DRH) (30th December 2022), the patient was complaining of abdominal pain; her blood pressure was 100/80 mmHg, and her temperature was 36.5°C. On examination, the patient was pale with a previous CS scar, and fundal height was 26 weeks. According to the ultrasound findings, the gestation age was 25 weeks, but there was no fetal movement. The diagnosis at the DRH was Intra-abdominal pregnancy. On 31st December 2022, the patient was referred to a Regional Referral Hospital (RRH) for specialized care and management.

On arrival at the RRH, she was conscious, not pale, and the Blood pressure was 107/67mmHg with a pulse rate of 96b/min. During the abdominal examination, the patient had generalized abdominal tenderness; palpation did not detect any fetal parts, fundal height was 26 cm, and a fetoscope did not hear Fetal heart rate. Per vaginal examination, the patient had a closed cervix with spot bleeding. A full blood picture (FBP) investigation revealed a haemoglobin level of 11.3g/dl and a Hematocrit of 34.6%. Obstetric ultrasound reported a single fetus, adequate liquor, no fetal movement, no cardiac activities, and a gestation age of 26 weeks plus two days, and the diagnosis of missed abortion was made.

The medical evaluation was done, and induction was decided following the presence of a previous SC scar and the diagnosis of IUFD. Labour was induced 72 hours post admission, using an intracervical catheter, and later, four doses of misoprostol 25 were added. The induction review revealed no progress; thus, during the fourth day post-admission, a decision was made to prepare the patient for exploratory abdominal surgery. During the procedure, the surgeon noted that the placenta was attached to the uterine scar (Fig 1), confirming intra-abdominal pregnancy. Additionally, uterine wound dehiscence was found.

Opening the gestational sac revealed a dead fetus with fully developed body parts. The weight of the dead fetus was 400 grams. After the removal of the placenta from the uterine scar, the uterus was repaired, and the abdomen was washed with normal saline and closed in layers. Apart from monitoring vital signs, the patient was given intravenous Ampliclox, Gentamycin and Metronidazole for 72 hours, followed by oral Ampliclox and Metronidazole for five days. The patient was on Pethidine for 24 hours, followed by Diclofenac for 72 hours. The patient was discharged 72 hours after the surgery. Seven days after surgery, the patient was allowed to continue with follow-up visits to her hometown.

https://dx.doi.org/10.4314/thrb.v25i4.19

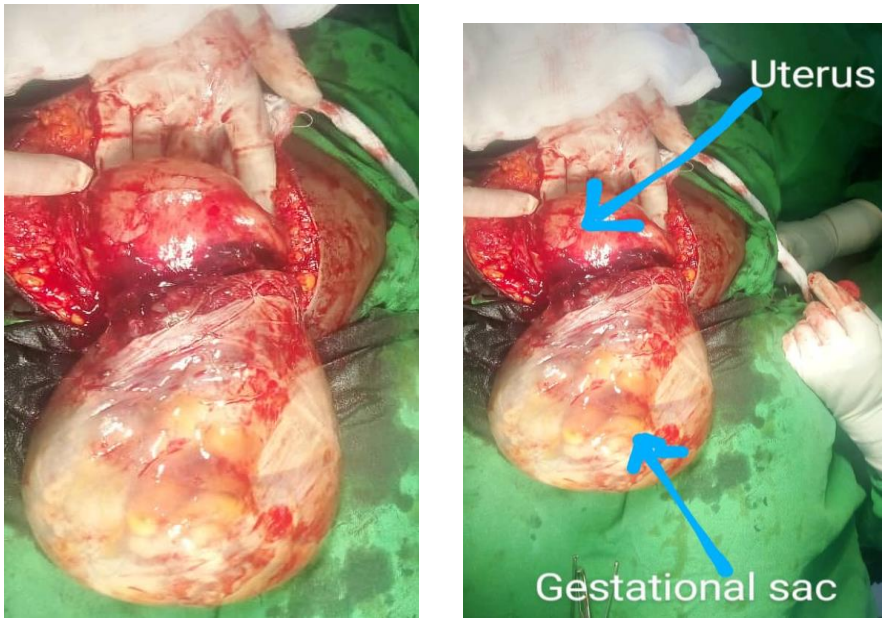

Fig. 1. Gestation sac and placenta attached to the uterine scar.

Discussion

Although ultrasound is the most effective method for the diagnosis of abdominal pregnancy, this case of advanced abdominal pregnancy (26 weeks by ultrasound and 36 weeks by dates) was missed by ultrasound examination. Diagnosis and management of advanced abdominal pregnancy is still a challenge in today's medical world. However, the high index of suspicion aided with imaging studies can help in the timely diagnosis of this rare obstetrical occurrence, thereby preventing the associated life-threatening complications. Our patient's chief complaint was lower abdominal pain, and she had a scar following CS performed in 2014. Severe lower abdominal pain is one of the most consistent findings of abdominal pregnancy(Nama *et al.*, 2007) Moreover, one of the risks of abdominal pregnancy is a history of surgery.(Nunyalulendho and Einterz, 2008).

Ultrasound remains the first-line tool for diagnosing abdominal pregnancy.(Ankum *et al.*, 1996). The Ultrasound will show an empty uterus, absence of amniotic fluid between placenta and fetus, absence of myometrium between bladder and gestation and abnormalities with fetal parts close to the abdominal wall.(Ludwig *et al.*, 1999),(Nama *et al.*, 2007),(Nunyalulendho and Einterz, 2008). Sonographic diagnosis is missed in half of the cases.(Ludwig *et al.*, 1999). In most cases, the diagnosis is made at the time of surgery. Inadequate experience, inadequate vigilance, failure to correlate symptoms and clinical findings, and a low index of suspicion may have led to misdiagnosis. However, the repeated ultrasound did not help in the diagnosis of abdominal pregnancy, which in the current case led to the induction of labour. Care providers' response to a failed induced labour was in line with the recommendation for open laparotomy once abdominal pregnancy is diagnosed or suspected.(Cohen *et al.*, 1985). The patient was swiftly prepared for surgery, which confirmed the diagnosis and the life of the mother.

Studies have reported that an abdominal pregnancy has a higher incidence of fetal malformations and perinatal mortality.(Sharma *et al.*, 2012). A study which reviewed 39 cases of abdominal pregnancy reported that only two fetuses survived the reviewed cases.(Garzon *et al.*, 2018). Non-survival of the fetus in abdominal pregnancies may be related to the unstable blood supply to the placenta in the abdominal cavity and fetal stress deformity. (Rohilla *et al.*, 2018). In our case, there was no fetal malformation; however, stillbirth was observed.

 https://dx.doi.org/10.4314/thrb.v25i4.19

Conclusion

This advanced abdominal pregnancy was missed apart from repeated ultrasound examinations of the patient at the District and Regional referral hospitals. Proper articulation of a high index of suspicion and a better understanding and interpretation of clinical and imaging findings and experience are required to prevent the negative consequences of abdominal pregnancy. Both obstetricians and radiologists should improve their skills to diagnose these cases in time so they do not reach such an advanced stage where management may become difficult. Therefore, in-house training is recommended for medical practitioners to further improve their skills in sonography.

Author contributions

MM contributed to the conception and design of the case study and drafted and revised the Case report. EM and AM critically revised the manuscript. KM contributed to the design of the case study and the writing and critical revision of the care report. MGC contributed to the conception and design of the case study and critically revised the case report. All authors read and approved the final report.

References

Ankum, W. M. *et al.* (1996). 'Risk factors for ectopic pregnancy: a meta-analysis', *Fertility and Sterility*, 65(6), pp. 1093–1099.

Chen, Y. *et al.* (2023). 'Abdominal pregnancy: a case report and review of 17 cases', *Archives of Gynecology and Obstetrics*, 307(1), pp. 263–274.

Cohen, J. M. *et al.* (1985). 'MR imaging of a viable full-term abdominal pregnancy', *American journal of roentgenology*, 145(2), pp. 407–408.

Garzon, S. *et al.* (2018). 'Primary hepatic pregnancy: report of a case treated with laparoscopic approach and review of the literature', *Fertility and Sterility*, 110(5), pp. 925–931.

Kassam, M. (2007). 'Abdominal pain in pregnancy', *High Risk pregnancy: Management option. London: WB Saunders*, pp. 996–997.

Ludwig, M. *et al.* (1999). 'Case report: the forgotten child—a case of heterotopic, intra-abdominal and intrauterine pregnancy carried to term', *Human Reproduction*, 14(5), pp. 1372–1374.

Maas, D. A. and Slabber, C. F. (1976). 'Diagnosis and treatment of advanced extra-uterine pregnancy', *Obstetrical & Gynecological Survey*, 31(7), pp. 541–542.

Nama, V. *et al.* (2007). 'Secondary abdominal appendicular ectopic pregnancy', *Journal of Minimally Invasive Gynecology*, 14(4), pp. 516–517.

Nunyalulendho, D. N. and Einterz, E. M. (2008). 'Advanced abdominal pregnancy: case report and review of 163 cases reported since 1946', *Rural and Remote Health*, 8(4), pp. 1–8.

Rohilla, M. *et al.* (2018). 'Advanced abdominal pregnancy: a search for consensus. Review of literature along with case report', *Archives of Gynecology and Obstetrics*, 298, pp. 1–8.

Sharma, R. *et al.* (2012). 'Advanced live intra-abdominal pregnancy with good fetomaternal outcome: A case report', *International Journal of Case Reports and Images (IJCRI)*, 3(11), pp. 5–7.

Tegene, D. *et al.* (2022). 'Laparotomy for advanced abdominal ectopic pregnancy', *Case Reports in Obstetrics and Gynecology*, 2022.

Tegene, D., Mohammed, K. and Amana, K. (2022). 'The prevalence of post-term pregnancy and its associated factors at Adama Hospital Medical College, Adama, Ethiopia', *Ethiopian Journal of Reproductive Health*, 14(01), p. 9.

Varma, R., Mascarenhas, L. and James, D. (2003). 'Successful outcome of advanced abdominal pregnancy with exclusive omental insertion', *Ultrasound in Obstetrics and Gynecology: The Official Journal of the International Society of Ultrasound in Obstetrics and Gynecology*, 21(2), pp. 192–194.

Yagil, Y. *et al.* (2007). 'Splenic pregnancy: the role of abdominal imaging', *Journal of Ultrasound in Medicine*, 26(11), pp. 1629–1632.