Heterotopic pregnancy: case report of a rare clinical presentation from Wau, South Sudan

Garang Dakjur Lueth
Obstetrician and Gynaecologist, St. Daniel Comboni Catholic Hospital, Wau, South

Correspondence:
Garang Dakjur Lueth
garangdakjur@yahoo.com

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Abstract

Heterotopic pregnancy, although common with assisted reproductive technologies, is very rare in natural conceptions. A high index of suspicion can help in timely diagnosis and appropriate intervention especially in low resource settings like South Sudan. Delayed diagnosis puts the mother at risk of potentially life-threatening complications. We report the case of heterotopic pregnancy in a young female that was successfully treated.

Key Words: heterotopic pregnancy, assisted reproductive technologies, South Sudan, case report

Introduction

Heterotopic pregnancy is defined as the coexistence of a living or dead intrauterine pregnancy (singleton or multiple) and extrauterine pregnancy located anywhere (in the oviduct, ovary, uterine cornus, cervix or peritoneal cavity).[1,2] It is rare, occurring 1 in 30,000 in naturally conceived pregnancies, but is more common with assisted reproductive technologies (1 in 390).[3] This case highlights the challenges surrounding the diagnosis and management in a low resource setting.

Clinical Assessment

A 26-year old gravida 2 para 1, presented with vaginal bleeding and acute onset lower abdominal pain. Her last normal menstrual period was on 17 November 2019. Urine pregnancy test had been positive at a private clinic on the 3 February 2020. Several days before her current admission she had attended a public hospital in Juba with abdominal pain and vomiting and was treated as an outpatient.

With no improvement, she attended another private hospital where a transabdominal ultrasound scan was done and revealed an intrauterine large gestational sac with no foetal pole seen; the sac diameter was equivalent to nine weeks gestation and five days. She was diagnosed to have a blighted ovum (failed intrauterine pregnancy) and a dilatation and curettage was planned.

However, the patient refused surgery after counselling. She described the pain as severe, colicky and not radiating, associated with nausea but no vomiting, fever or abdominal distension. The bleeding was minimal and dark red in colour. Her pregnancy had resulted from natural conception and there was no history of contraception use such as progesterone only pills or intrauterine contraceptive devices. There was no history of pelvic inflammatory disease or abdominal surgery.

On initial examination she was pale and distressed, her heart rate was 113 beats/minute and blood pressure of 60/32 mmHg. The patient was intubated in theatre, given I.V fluids, whole blood and ephedrine 10 mg. The initial urine output on catheterization was 130 ml from admission at 6:35am to the operation time at 8:30 am. Her oxygen saturation was ranging from 78% to 86%. Facilities for arterial blood gases and pH were not available. The right lower quadrant of the abdomen was tender with no fluid thrill or shifting dullness. On speculum

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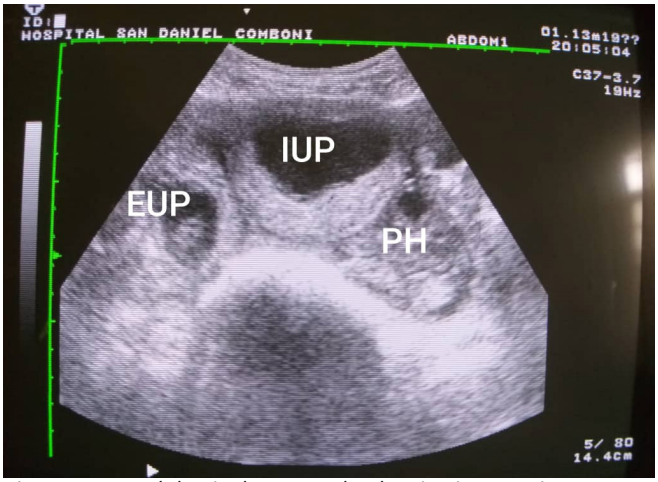

Figure 1. Transabdominal sonography showing intrauterine pregnancy (IUP), extrauterine pregnancy (EUP) with foetal pole and Pelvic Haemotoma (PH). It does not show free fluid collection in the posterior cul de sac, para-colic gutters or Morison's pouch.

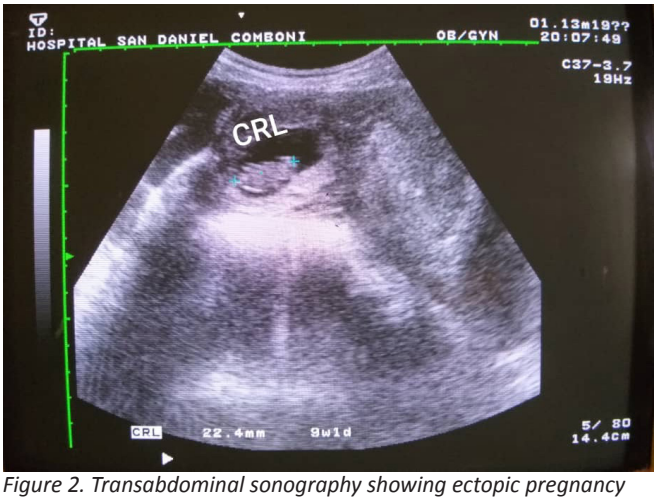

Figure 2. Transabdominal sonography showing ectopic pregnancy with Crown- rump Length (CRL) of 22.4 mm equivalent to nine weeks and one day.

examination, the cervix appeared healthy, slightly open with minimal bright red blood coming from the internal os. On vaginal examination the uterus was about ten weeks in size with cervical tenderness on palpation.

Investigations

Haemoglobin was 8.5 g/dL, (compared to 11.4 g/dL a week before). Blood group was A Rh positive and cross matching was done in anticipation of the need for a transfusion. Renal and liver functions tests, complete blood count and standard coagulation tests were not available. Bed side clotting and bleeding time were normal.

An emergency bedside abdomino-pelvic ultrasound scan (Figures 1 and 2) reported an intrauterine gestational sac of nine weeks and three days with no foetal pole seen. Another extrauterine singleton foetus with visible cardiac activity and gestational age of nine weeks and one day (by crown-rum length) was seen in the right adnexa.

The patient was given antibiotics, (intravenous ceftriaxone1g stat, intravenous metronidazole 500mg was given stat 20 minutes before surgery to reduce the risk of infection), analgesia as she was in pain (intravenous tramadol 100mg stat – which was the only analgesia available), intravenous fluids (1.5 litres of normal saline), urethral catheter was inserted and informed and written consent for exploration was given.

Intraoperative management

With the diagnosis of heterotopic pregnancy, the patient was rushed to the operation theatre for emergency surgery and resuscitation was continued in theatre. Under general anaesthesia the abdomen was opened via an infra-umbilical midline incision. One litre of blood was drained from the abdomen. There was a right tubal pregnancy (6 x 4 cm) with active bleeding from the fimbrial end of the tube was seen (Figure 3). The contralateral fallopian tube and ovary were normal with no other pelvic pathology. Right salpingectomy was done and haemostasis was secured. Dissection of the excised ectopic pregnancy revealed a well-formed foetus in a clear amniotic sac (Figure 4).

Surgical evacuation of the intrauterine pregnancy was done by dilatation and curettage (Figure 5). Unfortunately, although histopathological examination of the evacuated retained products of conception was considered, this service was not available.

Postoperative management and progress

Two units of whole blood were given and recovery was uneventful. An ultrasound scan before discharge confirmed an empty uterus with no intra-abdominal free fluid (Figure 5). She was reassured of her fertility, advised on the risk of a further heterotopic pregnancy and early attendance for antenatal care was emphasised.

Reproductive outcome after ectopic pregnancy usually is evaluated by determining tubal patency by hysterosalpingograph (HSG) to determine the subsequent intrauterine pregnancy rate, and the recurrent ectopic pregnancy rate. Pregnancy rates are similar (79%), in patients treated by either salpingostomy or salpingectomy provided that there is no pathology in the contralateral tube.

Discussion

The diagnosis of a heterotopic pregnancy is difficult especially in a low resource setting like South Sudan. The major features (which our patient demonstrated) are abdominal pain (83%), vaginal bleeding (50%) and shock (13%).[1,4] Transvaginal ultrasound, although it is not routinely practiced in South Sudan, is the key to diagnosing heterotopic pregnancy. However, it has a low sensitivity with the diagnosis often missed.[5] A delayed diagnosis can have serious consequences as in our case.

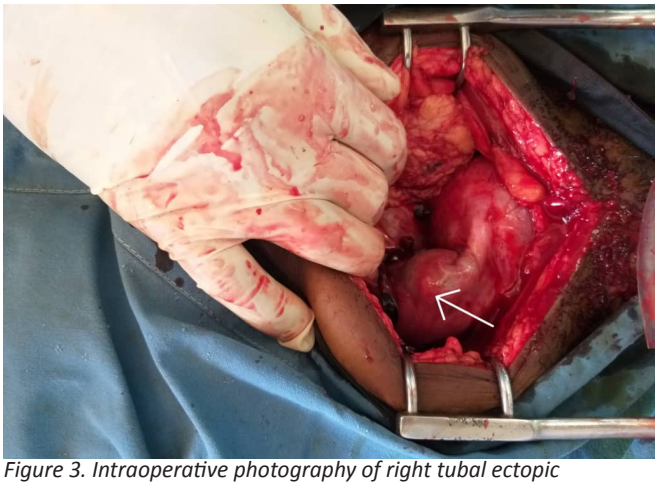

Figure 3. Intraoperative photography of right tubal ectopic pregnancy, see white arrow. (Credit Mr John Leo).

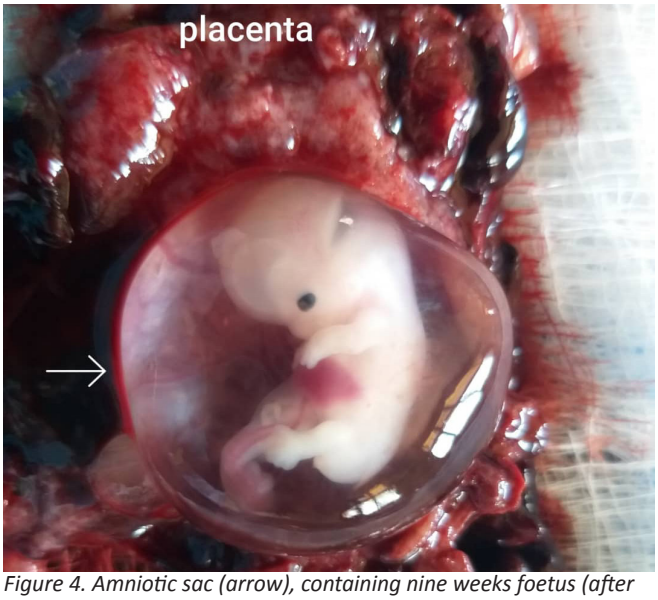

Figure 4. Amniotic sac (arrow), containing nine weeks foetus (after dissection of the excised right tubal ectopic pregnancy).

Usually, the management of heterotopic pregnancy is complicated requiring emergency surgery.[2, 3] Earlier diagnosis may minimize the need for surgical management as well as decrease the risk to the patient.[6] If early diagnosed, other options like medical management can be done to avoid surgery and its complications. Surgical management was the only option in this particular case (because of deranged vital signs, having extrauterine pregnancy with visible cardiac activity). Medical management is not feasible in South Sudan, however in some situations early recognition allows for possible medical management using a drug like methotrexate and the woman can attend early and be followed up to make sure she is no longer pregnant.

Conclusion

1. While the incidence of heterotopic pregnancy is extremely low in natural conceptions the morbidity associated with a missed diagnosis is significant.

Figure 5. Intraoperative photograph showing surgical evacuation of the intrauterine pregnancy (Credit Mr John Leo).

2. Clinicians should have a high index of suspicion for heterotopic pregnancy among patients presenting with abdominal pain.
3. Careful clinical examination and complete pelvic ultrasonography in all pregnant patients with abdominal pain can help minimize the chances of missing a heterotopic pregnancy.

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