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(CASE REPORT)

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Rare abnormal pregnancy implantation: A case report of 39 year old G2P1 with cervical ectopic gestation

OMOTAYO Ramon Sunday [1,*], AKADIRI Olumide [1], OGUNRO Abidemi [2], ADEWALE Oluseyi [1] and SANNI Emmanuel [1]

[1] *Department of Obstetrics and Gynaecology, University of Medical Sciences Teaching Hospital, Akure, Ondo State, Nigeria.*
[2] *Department of Obstetrics and Gynaecology, Federal Medical Centre, Owo, Ondo State, Nigeria.*

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Abstract

The case is that of a 39 year old G2P 1, 1 alive who presented with recurrent bleeding per vagina following 8weeks amenorrhea, Pregnancy confirmed with urine test. She was married and no attempts at termination of pregnancy. Ultrasound scan revealed empty uterus without any adnexea mass but a gestational sac in the cervical canal with an active fetus and vascular flow on Doppler colour interrogation. A diagnosis of cervical ectopic pregnancy was made and she had medical management with initial mifepristone and then intramuscular methotrexate. A subsequent gentle evacuation of the cervical canal was done and trans-cervical catheter inserted for 2 weeks to prevent cervical adhesion. Urine Pregnancy test done after 3 weeks was negative.

Conclusion: Cervical ectopic pregnancy is one of the very rare forms of pregnancy implantation that can be associated with devastating outcome but prompt diagnosis and management help improve patient's prognosis.

Keywords: Cervical ectopic pregnancy; Mifepristone; Intramuscular methotrexate; Doppler ultrasound interrogation

1. Introduction

Variously described as the "great masquerader" and "bet noir" (black beast) of gynaecology because of its high tendency to misdiagnosis and consequent morbidity and mortality, ectopic pregnancy remains as prominent in the practice of gynaecology today as it was in 1883 when English man Lawson Tait performed the first successful operative treatment on record. However, the earliest report of ectopic pregnancy is credited to the great Arab writer Albucasis in 963AD [1**].**

A pregnancy is said to be ectopic when implantation of a fertilized ovum takes place in any tissue other than the endometrium lining the main cavity of the uterus. The commonest site of ectopic pregnancy is the ampulla of the fallopian tube, although implantation can also occur in the isthmic, interstitial or fimbrial parts of the tube, altogether accounting for over 95% of cases [2]. Other sites considered as unusual types of ectopic pregnancy include caesarean section scar pregnancy, interstitial pregnancy, cervical pregnancy, abdominal pregnancy, ovarian pregnancy, and heterotopic pregnancy (1: 30,000 pregnancies), in which both intrauterine and extra uterine pregnancies occur together [3]. There have also been various anecdotal reports of primary ectopic pregnancies involving the liver, the spleen, the thoracic diaphragm, the upper retroperitoneum and the rectum [4]. Globally, the incidence of ectopic pregnancy is on the rise. This is thought to be due to a higher incidence of pelvic infections especially in developing countries, an increase in ovulation induction, the advent of assisted reproductive techniques and an increasing uptake of tubal sterilization. In the United States the incidence of ectopic pregnancy is 1%-2% and ruptured ectopic pregnancy accounts for 2.7% of

* Corresponding author: OMOTAYO Ramon Sunday
Department of Obstetrics and Gynaecology University of Medical Sciences Teaching Hospital, Akure, Ondo State, Nigeria.

pregnancy related deaths [5]. In Nigeria however, a study carried out in Lagos reported an incidence of 1.5-2.7% of deliveries [6]. Indeed, in a recent review, Igberase et al reported that ectopic pregnancy accounted for 9.5% of gynaecological admissions in a tertiary centre in the Niger Delta [7]. Various Nigerian studies have quoted incidence ranging from 0.48% to 2.7% of deliveries [8].

Presently encountered in less than 50% of patients with ectopic pregnancy in developed countries, the Breen's triad (Breen, 1970) of amenorrhoea, abdominal pain and abnormal vaginal bleeding remains the hallmark of diagnosis in developing countries. Cervical ectopic pregnancy is diagnosed when it is established that that gestation implants primarily in the cervical canal below the level of the internal os with incidence ranging between 1in 2,500 and 1 in 18,000 [9]. The first description of cervical pregnancy dates back to 1817 in England by Sir Everard Home [10]. However, the term cervical pregnancy was first used by Rokitansky in 1860 [11]. Even uptill today, the most effective method of managemnent of cervical ectopic pregnancy is under investigation [12].

2. Material and methods

2.1. Case report

The patient was a 39 year old Gravida 2 Para 1, 1 alive who presented at the gynaecological emergency room with 1 week history of recurrent bleeding per vagina following 8weeks amenorrhea. She has done a urine pregnancy test which was positive. Bleeding was initially minimal but later increased in quantity becoming unbearable necessitating presentation. There was mild lower abdominal pains but no abdominal distension. No history of dizziness or fainting attacks. She was married and no attempts at termination of pregnancy. no history of allergy to any drug. Urgent Packed cell volume done was 25%. Ultrasound scan revealed empty uterus without any adnexea mass but a gestational sac in the cervical canal with an active fetus and vascular flow on Doppler ultrasound colour interrogation. (Fig 1a & 1b) Serum Beta-HCG assay was 36,260 miu/ml (Ref: 100-100,000miu/ml for pregnancy).

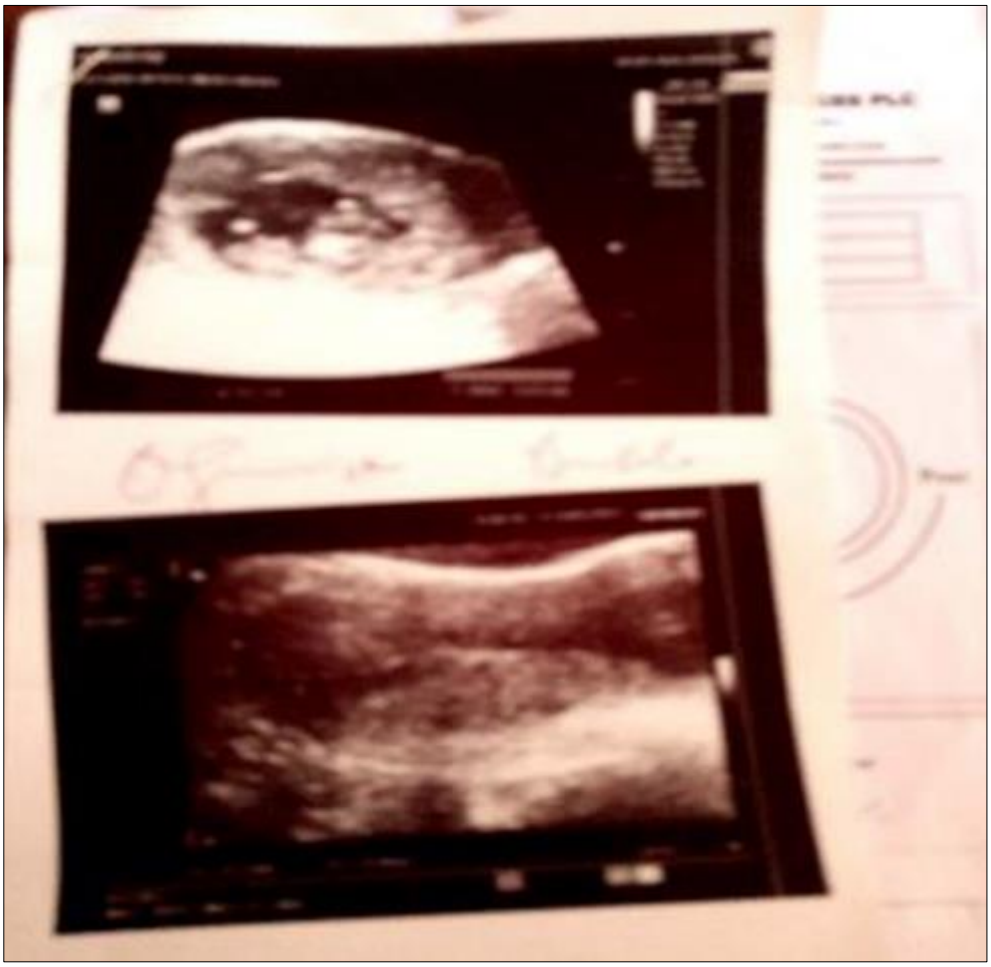
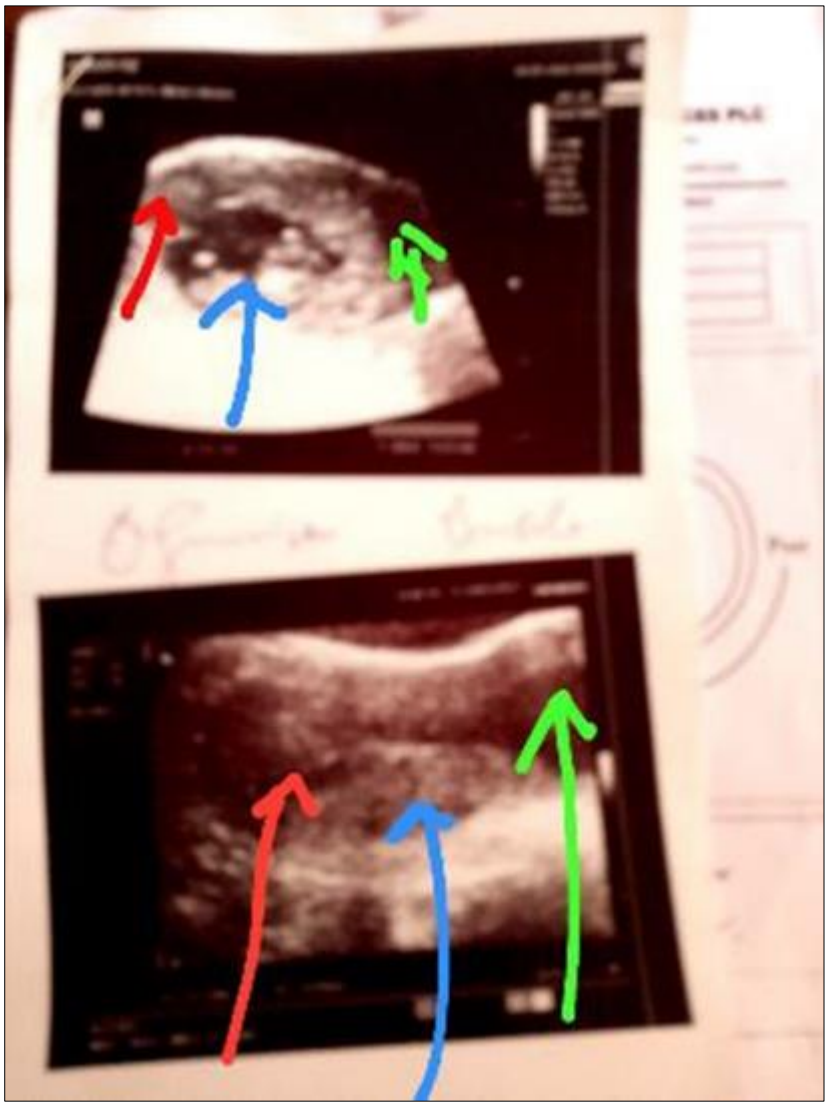


Figure 1a Picture of the initial Ultrasound Scan of patient at presentation



Red arrow indicating uterine body; Blue arrow indicating the cervical canal with live fetus; Green arrow indicating the urinary bladder

Figure 1b Picture of initial Utrasound Scan with annotation of the various parts of the picture

Other investigation results were

- Serology: Retroviral screening- Negative
- Hepatitis B screening- Negative
- Hepatitis C Screening- Negative

Full Blood Count (FBC):

White cell count $15x10^5$/ul.

- Myelocytes= ++; Macrocytes= +
- Neutrophils= 81; Microcytes =++
- Lymphocytes = 19; Anisocytes= +
- Monocytes= 00; Poikilicytes= ++
- Basophils= 00; Hypochromasia= ++
- Eosinophils= 00

Liver Function Test (LFT):

- Alanine Transaminase (ALT) 08 u/L
- Asphatate Transaminase (AST) 13 u/L
- Alkaline Phosphatate (ALP) 55 u/L
- Albumin (Alb) 19 g/L
- Total Protein 49 g/L
- Total Bilirubin (TBil) 12.4 micromol/L
- Direct Bilirubin (DBil) 10.2 micromol/L

A serum electrolyte urea and creatinine was done to assess the renal function which revealed Sodium ion=141mmol, Potassium ion=3.3mmmol, Bicarbonate=28mmol, Chloride=96mmol, Creatinine 70mmol, urea=1.1mmol

A diagnosis of cervical ectopic pregnancy was made. She had initial resuscitative care with intravenous fluid, antibiotics and blood transfusion. She then had medical management with initial mifepristone followed by an intramuscular methotrexate of 50mg statum.

A repeat scan done 1 week after the medical therapy revealed a fairly round gestational sac in the cervical canal with demonstrable fetal echo Crown Rump Length (CRL)=37.7mm, Gestational Age (GA)=10weeks 3days but without cardiac activity and no demonstrable vascular flow on doppler interrogation. Both adnexea are free, no fluid in Pouch of Douglas and no cyst. [Fig 2]

A subsequent gentle evacuation of the cervical canal was done where products of conception were evacuated with significantly reduced bleeding of less than 50mls. A trans-cervical catheter inserted for 1 week to prevent cervical adhesion. Urine Pregnancy test done after 3 weeks after evacuation was negative.

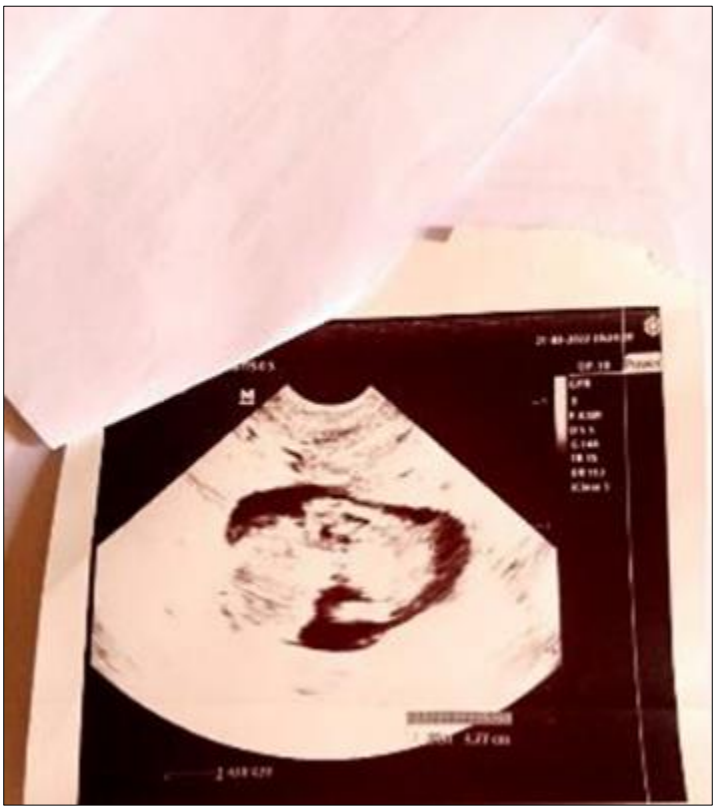


Figure 2 Picture of ultrasound scan after mifepristone and methotrexate administration

3. Discussion

Cervical ectopic pregnancy (CEP) is a rare condition with an incidence of less than 0.1% of all ectopic pregnancies [12] and with estimated incidence of 1 in 1,000 to 1 in 95,000 [13,14]. It is reportedly the rarest form of ectopic pregnancy

[15] Published reports suggest a rising percentage of CEP in recent years due to increasing rates of pregnancies conceived by Artificial Reproductive Technique (ART) [16].

The age of the patient was 39years similar to the age of occurrence in other case reports. The patient was seen at gestational age of 8 weeks because of bleeding per vagina. Cervical ectopic pregnancy has been reported to last only 7–10 weeks [17] a significant cervical ectopic gestation diagnostic feature in this case was the empty uterus with presence of the intact gestational sac with fetal pole and cardiac activity which suggests that the cervical canal was the primary site of implantation. Live fetus in a cervical ectopic pregnancy has been reported in many other similar cases [18]. There was also confirmation of blood flow around the gestational sac on colour doppler interrogation supporting the fact that the fetus was alive [19]. Usually, ultrasound features of ectopic pregnancy used as criteria in establishing diagnosis include absence of intrauterine pregnancy, presence of gestational sac below the level of the internal cervical os, absence of a sliding sign, presence of flowing blood around the gestational sac detected by Doppler [20]. Sliding sign describes the upward movement of the gestational sac towards uterine cavity on gentle compression by the transvaginal probe. Because the fetus was alive, we had to give a statum dose of mifepristone. It is a usual practice to stop cardiac acidity in ectopic pregnancies with live fetuses before conservative management. Evacuating the contents in cervical cavity can be achieved by use of misoprostol [21]. A decision was made to insert an intra-cervical foleys catheter and inflated to serve as tamponade after the evacuation in other to further reduced the possible of bleeding after the procedure

Other reported modalities of management include combination of bilateral uterine artery embolization BUAE with intramuscular Methotrexate injection, [22] and also combination of high cervical cerclage insertion, curretage and intra cervical balloon tamponade [23].

4. Conclusion

Cervical ectopic pregnancy is a rare form of ectopic pregnancy that is associated with more bleeding, morbidity and mortality potentials. One of many options of management is the use of Mifepristone and methotrexate as medical agents followed by evacuation of the products in the cervical canal. Timely diagnosis and intervention is crucial in order to avoid hysterectomy, preserve fertility and avoid mortality.

Compliance with ethical standards

Acknowledgments

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Disclosure of conflict of interest

There is no conflict of interest on the part of any of the authors.

Statement of informed consent

Informed consent was obtained from the patient who agrees to this publication for the purpose of advancement of knowledge.

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