

Ectopic pregnancy in the fallopian tube of the rudimentary horn of uterus unicornis

Rukiyat Adeola Abdus-salam^{1,2}, Rasheedat O Adeoti²

¹College of Medicine, University of Ibadan, Oyo, Nigeria

²Adeoyo Maternity Teaching Hospital, Ibadan, Oyo state, Nigeria

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ABSTRACT

Ectopic gestation may occur in the fallopian tubes, cervix, ovary or the abdominal cavity. It results from abnormal implantation of the embryo at sites other than the endometrial cavity of the uterus. Congenital anomalies of the fallopian tubes and uterus may predispose to abnormal implantation of the embryo at other sites hence an ectopic gestation results.

We describe a rare case of a 30 year old woman with ruptured ectopic gestation located in the fallopian tube of the rudimentary horn of a uterus unicornis. She was evaluated, resuscitated and had a successful surgical intervention.

Keywords: ectopic pregnancy, rudimentary horn, unicornuate uterus, anomaly, uterine unicornis

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INTRODUCTION

Ectopic pregnancy (EP) is a pregnancy following implantation of a fertilized ovum in other sites outside the uterine cavity.^{1,2} The potential sites of an ectopic pregnancy include the fallopian tube, cervix, uterine cornua, broad ligament, ovary, abdominal cavity and rarely the rudimentary horn of an abnormal uterus.¹

A unicornuate uterus (UU) with a rudimentary horn results from abnormal development of the uterus from the mullerian duct system. Anomalies lead to internal and external structural defects of the uterus; thus predisposing the patient to infertility, recurrent pregnancy loss, EP, preterm labour, premature births, among others.³

We describe the clinical presentation and management of ruptured ectopic gestation in the fallopian tube of a rudimentary horn in a parous woman.

CASE

A 30-year old woman, G₅P₁₊₁L₁ presented with amenorrhea of 5 weeks and severe lower abdominal pain of 2 days duration. She was in agony and dehydrated with normal vitals; tender right iliac fossa and right adnexa. The pregnancy test was positive, pelvic ultrasonography revealed a 4x8cm fluid-filled tubo-ovarian mass in right adnexa containing a non-viable fetus with a crown-rump length of 7mm. A diagnosis of ruptured EP was made. The packed cell volume was 27% and normal urine analysis.

CORRESPONDENCE

Rukiyat Adeola Abdus-salam

Department of obstetrics and gynaecology,

College of Medicine, University of Ibadan/Adeoyo Maternity Teaching Hospital, Ibadan,

Oyo State, Nigeria

Telephone number: +234 803 649 2782

Email: deolaabdussalam@gmail.com; raabdussalam@comui.edu.ng

She had exploratory laparotomy; excision of rudimentary horn and right salpingo-oophorectomy. The intra-operative findings included haemoperitoneum of 500mls and some blood clots; normal bladder and bowel surfaces. A normal sized unicornuate uterus with a healthy looking left fallopian tube and ovary; and a ruptured right tubal pregnancy in the distal portion of the fallopian tube which is attached to a rudimentary horn of uterus and normal sized ovary [Figure-1-4]. The estimated blood loss was 600mls and the procedure was well tolerated. She was discharged home on the 5th post-operative day.

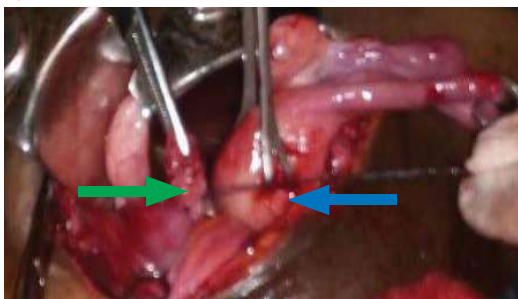


Figure-1: Right ectopic gestation in the right fallopian tube of the rudimentary horn of the uterus (green arrow) unicornuate uterus with left fallopian tube and ovary (blue arrow)

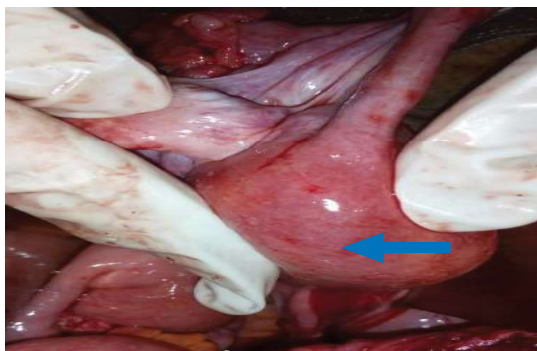


Figure-2: A unicornuate uterus with left fallopian tube and ovary demonstrating the left cornua and absent right cornua



Figure-3: Unicornuate uterus with left fallopian tube and ovary



Figure-4: Excised right tubal ectopic gestation, ovary and rudimentary horn of the uterus

COMMENT

The patient was unaware of her uterine anomaly and the presence of a UU had not been previously diagnosed by ultrasound despite a previous successful pregnancy. The patient received antenatal care of the first pregnancy at the same health facility with no suspicion of a UU during routine antenatal ultrasound scans evaluation of the pregnancy. The pregnancy was uneventful; she had a spontaneous onset of labour and vaginal delivery of a live female neonate at term in the first pregnancy. It is not surprising that a UU may present late or remain undiagnosed as seen in this case. Ectopic pregnancy is the commonest primary complaint in unicornuate uterus and some of the cases of UU diagnosed for the first time at hysterectomy for other indications.³

Globally, EP occurs in about 3-4% of all pregnancies.¹ The risk factors for EP include pelvic inflammatory disease, intrauterine contraceptive device, smoking, assisted reproductive technique pregnancies, tubal blockage/damage, Salpingitis isthmica nodosa, previous ectopic pregnancies, endometriosis, developmental anomaly of the uterus and fallopian tubes; and overdevelopment of the ovum and external migration.^{1,4,5}

A documented risk factor for EP is a developmental anomaly of the uterus and fallopian tube.¹ Developmental abnormalities of the urogenital system are not uncommon; uterine abnormalities may result from failure of development of the Mullerian ducts, failure of fusion or recanalization of the Mullerian ducts.^{1,2} The extent of failure of the fusion varies and may present as arcuate, uterine didelphys, uterus bicornis, septate uterus and uterus

unicornis; UU accounts for about 10% of the uterine abnormalities.^{1,2,6-8}

The rudimentary horn of the uterus may or may not communicate with the UU. UU with a non-communicating rudimentary horn was reported in 83% of cases by Heinonen PK³ and 92% by Jayasinghe et al.⁹ Rudimentary horn of the uterus is commoner on the right than the left; Heinonen reported 62%.³

The condition may be asymptomatic or present with infertility,^{3,10} cryptomenorrhea in the rudimentary horn, haematometria, mid-trimester recurrent pregnancy loss, sudden-onset lower abdominal pain.⁶ Pregnancy may be located at different part of anomalous uterus and present with malpresentation, abnormal lie, premature rupture of membranes, preterm labour/birth, intrauterine growth restriction, intrauterine fetal death, rupture of a rudimentary horn in late pregnancy; may be incidentally diagnosed during ultrasound; failed induction and Cesarean delivery may occur.^{3,11,12}

Pregnancy in the rudimentary horn of the uterus has been reported by several authors in the literature and may be associated with ectopic pregnancy, miscarriage, uterine rupture or even a live baby.¹³⁻¹⁶ Goncalves et al reported incidental finding of a third trimester pregnancy (34 weeks) in a rudimentary horn at caesarean section for a fetal malpresentation.¹⁶ According to Jayasinghe et al in a review, non-communicating rudimentary horn accounted for 92% of the cases of uterine anomaly and many of the

cases present from the third decade of life with acute obstetric rupture of the uterus.⁹ This patient presented in the third decade of life with ruptured ectopic pregnancy in the fallopian tube of a rudimentary horn of the uterus. Late presentation of these cases may be contributed by the fact that the endometrium of the rudimentary horn is less responsive to cyclical hormonal changes; therefore the endometrial mucosa does not correspond to the cyclical phase of the endometrium of the unicornuate uterus.¹⁷

Hystero-salpingography used in uterine imaging in infertility evaluation is limited in the assessment of external structural anomalies of the uterus.¹⁸ In evaluating a patient with congenital anomaly of the uterus, a 2D ultrasound imaging is the first line imaging technique, Transvaginal ultrasound with a diagnostic accuracy of 59.1% or trans-abdominal with a lower diagnostic accuracy.⁷ A 3-Dimensional ultrasound has a high diagnostic accuracy similar to MRI in identifying a congenital uterine anomaly.¹⁹

The treatment options include exploratory laparotomy and removal of the rudimentary horn of the uterus and fallopian tube¹² as was done in this patient or laparoscopic excision.^{20,21}

CONCLUSION

Uterine anomaly may go unnoticed unless there is obstetric emergency and the problem may be revealed incidentally. Diagnostic accuracy and clinical anticipation is required.

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