

*East African Medical Journal Vol. 92 No. 5 May 2015*

#### UTERINE RUPTURE IN A PRIMIGRAVIDA WITH MULLERIAN ANOMALY AT 27 WEEKS GESTATION

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#### SUMMARY

**Mullerian anomalies are rare and are often associated with infertility, chronic pelvic pain and pregnancy wastage. This is a case report of a primigravida at 27 weeks gestation, who presented in shock. Intra-operatively, a mullerian anomaly with a ruptured left horn was found and excised. She made remarkable recovery and was discharged home. Uterine anomalies should be ruled out in the evaluation of pregnancy wastage. When present, management should be individualized based on the clinical history, presentation, anatomical aberration and the patient's future fertility desire.**

#### INTRODUCTION

Mullerian anomalies are a rare cause of obstetric haemorrhage, and may present a challenge in its management. Routine ultrasounds during the antenatal period will seldom pick up the diagnosis, and the anomaly may only be identified during laparotomy. While the pregnancy may be successfully carried to term, in women with mullerian anomalies, pregnancy wastage has been found to be common. Management of such patients presents a delicate balance to save both the mother and foetus and correct the anomaly .

#### CASE REPORT

We present a case of a 25 year old primigravida at 27 weeks gestation who presented to the Kenyatta National Hospital (KNH) as a referral from a health centre. Her first visit to the antenatal clinic was at seven weeks gestation, followed by a total of six monthly visits. Her antenatal profile was normal. During antenatal clinics, foetal heart sounds were difficult to auscultate with a pinard stethoscope and the patient had 2D obstetric ultrasound scan to ascertain fetal well-being. No uterine anomalies were noted on the ultrasound and foetal development was noted to be normal.

On the day of admission, she presented at the health centre with lower abdominal pain, sweating

and general body weakness. On examination, she was noted to be sick looking, restless, pale and had cold extremities. She subsequently lost consciousness and was resuscitated and immediately referred to KNH. On arrival at KNH, she was responsive but complained of abdominal tenderness and gave no history of interference with the pregnancy. Clinically she was sick looking, weak, very pale, with a thready pulse and cold extremities. Blood pressure was 78/61 mmHg and the pulse rate 105 beats / minute. She had generalised abdominal tenderness with guarding on palpation. No vaginal bleeding was noted. A diagnosis of acute abdomen secondary to ruptured uterus and hypovolaemic shock was made and the patient was prepared for an emergency exploratory laparotomy. On speculum examination , she was noted to have one cervix.

Intra-operatively she was noted to have a bicornuate uterus, with a ruptured left uterine horn measuring 15 cm by 10 cm (Figure 1) with a female still birth weighing 1160 g expelled into the peritoneal cavity. A failed repair of the left uterine horn was attempted followed by complete excision (Figure 2). The right uterine horn was non gravid and measured 8 cm by 5 cm. Haemoperitoneum of 3000 ML was suctioned. The defect after excision of the left horn, that is, on the right uterine horn was successfully repaired and haemostasis achieved (Figure 3). The patient was transfused with four units of whole blood and one unit of fresh frozen

plasma. She was transferred to Intensive Care Unit and on the second post-operative day was discharged to the general wards. She recovered well and was discharged home on haematinics and antibiotics on the fourth post-operative day. On her sixth week post-operative review, the wound was well healed, no abdominal tenderness, uterus was well involuted

and she had no per vaginal discharge or bleeding noted. The patient was counselled on the need of contraception, to observe an inter-delivery interval of two years, pre-conception care, early antenatal care and elective Caesarean section as the safest mode of her next delivery.

**Figure 1**

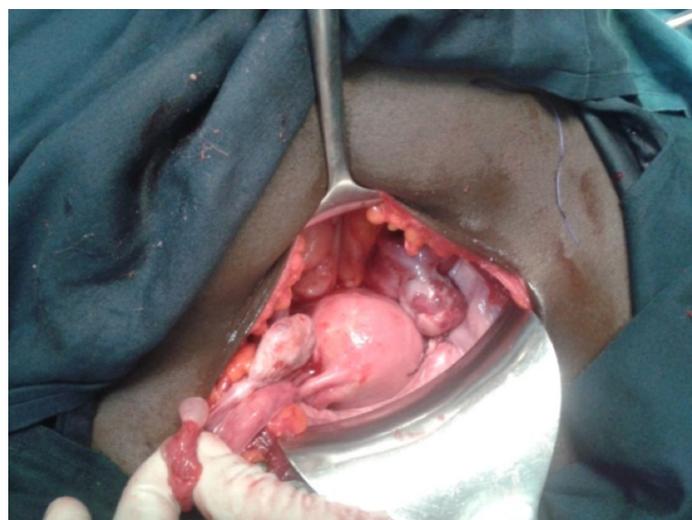
*Left uterine horn with posterior rupture. Right horn is non-gravid and normal*



**Figure 2**

*Excised left uterine horn with attempted repair of posterior wall rupture*



**Figure 3***Right uterine horn repaired. Note normal ovaries bilaterally***DISCUSSION**

The case presented had uterine rupture at 27 weeks gestation. Uterine rupture is a life threatening event and in primigravidas, it generally occurs in a malformed uterus. The incidence of pregnancy in rudimentary horn is rare, about one in 40,000 pregnancies. A high index of suspicion is necessary in a primigravida presenting with uterine rupture to make this diagnosis.

The uterus develops from fusion of the paramesonephric ducts from the eighth week of foetal life, and the most cranial part of the paramesonephric ducts forms the fallopian tubes. Congenital mullerian anomalies result from failure of proper fusion of the paramesonephric ducts or in abnormal development of one of the ducts. The patient in this case was found to be bicornuate with posterior uterine wall rupture on the left horn and a normal left fallopian tube. The right horn of the uterus was non gravid with a normal right fallopian tube. She was found to have a single cervix.

Congenital uterine anomalies usually present with pregnancy wastage, infertility, menstrual abnormalities and pelvic pain. A systematic review done showed an increased association between uterine anomalies and pre-term labour. Bicornuate uterus has been associated with higher rates of caesarian sections (78.5%) when compared to women with a normal uterus due to malpresentation, malposition and prematurity. Uterine rupture in women with mullerian anomalies is more common in the second trimester (90%), due to thinning of the myometrium and increased foetal size with associated foetal and maternal morbidity and mortality. It is difficult to diagnose mullerian anomalies with 2D ultrasonography in pregnancy with a sensitivity of

33.3%. 2D ultrasonography is the most common and affordable in developing countries like Kenya. The patient had 2D ultrasonography done during her antenatal but the mullerian anomaly was not detected. Recommendations made outside pregnancy include ideally hysteroscopic assessment or 3D imaging, especially amongst those presenting with recurrent pregnancy losses.

Management of mullerian anomalies is individualised to the clinical presentation, anatomical characteristic and the patient's desire. The primary management of a ruptured pregnancy in a patient with a mullerian anomaly is surgical removal of the horn. This is in order to avoid risk of rupture in subsequent pregnancies which may be associated with increased maternal morbidity. Methotrexate has been used successfully to medically terminate a pregnancy at 20 weeks in a patient with mullerian anomaly to prevent rupture if discovered in a non pregnant lady, surgical correction can be offered depending on the type of mullerian abnormality encountered.

The patient in this case was managed by having an emergency laparotomy with excision of the extensively ruptured left horn and repair of the residual defect on the right horn. She was subsequently discharged under strict follow up especially in subsequent pregnancies.

In conclusion, this case report illustrates that with mullerian anomalies, there is need to be cautious to alarming pregnancy catastrophes during the second trimester and that a high index of suspicion is warranted for early diagnosis and thus prompt intervention. Routine 2D ultrasonography during pregnancy may fail to diagnose a mullerian anomaly due to its poor sensitivity.

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