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(CASE REPORT)

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Uterine didelphys: A Case report of successful term pregnancies in each endometrial cavity

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Abstract

Background: Uterine didelphys is a rare congenital anomaly that may increase the risk of pregnancy loss and adverse perinatal outcome. There is limited knowledge of specific increased risk related to uterine didelphys. Uterine didelphys occurs in approximately 1 in 3000 women and accounts for 8 -10% of all mullerian duct anomalies (MDAs).

Aim: To present this rare congenital clinical condition and offer management modality experience from the Rivers State University Teaching Hospital (RSUTH).

Case report: Mrs. MC was a 33 year old booked G3 Para 1^{+1} (alive), previous caesarean section, who presented for antenatal care.

Her index pregnancy was complicated by premature uterine contractions and ante – partum haemorrhage at 29 weeks and 30 weeks gestation respectively which were managed successfully. Obstetric ultrasound scan revealed a second uterine cavity with separate endometrial plate in keeping with uterine didelphys. She subsequently had an elective repeat caesarean section at 38 weeks gestation for transverse lie and uterine anomaly. Findings were a gravid left uterus and an empty right uterus with a lower segment scar. The left uterus contained a live male neonate in transverse lie with a birth weight of 3.5 kg and good Apgar scores.

The baby was successfully managed for neonatal Jaundice. The mother developed postpartum haemorrhage which was successfully managed. The mother and baby were discharged on the 5th and 12th post-operative day respectively in good clinical state. The mother was given appointment to the family planning clinic.

Conclusion: We presented a patient with a rare congenital clinical condition – uterine didelphys who conceived spontaneously. She had a previous successful pregnancy on the right uterus followed by a spontaneous miscarriage and successfully carried the index pregnancy on the left uterus to term and was delivered by an elective repeat caesarean section with good fetal and maternal outcome.

Keywords: Uterine didelphys; Successfully; Term pregnancy; Nigeria

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1. Introduction

Uterine didelphys is a rare congenital anomaly that may increase the risk of pregnancy loss and adverse perinatal outcomes.[1] Uterine didelphys occurs in approximately I in 3000 women and accounts for 8-10% of all mullerian duct anomalies (MDAs).[1,2] MDAs are congenital defects of the female genital system that arise from abnormal embryological development of the mullerian ducts.[2]

Didelphys uterus also known as 'double uterus' is one of the least common amongst MDAs.[2]

These abnormalities can result from failure of development fusion, canalization or reabsorption, which normally occurs between 6 and 22 weeks in utero.[1-2,4-6] Most sources estimate an incidence of these abnormalities to be from 0.5 to 5.0% in the general population.[1-3]

Researchers have shown that uterine didelphys is associated with poorer pregnancy outcome such as increased chances of spontaneous abortion, premature labour, antepatum haemorrhage, abnormal placentations, abnormal lies/presentations and increased caesarean delivery/still birth rate compared to a normal uterus .[1,7-10]

It is important to note that the outcomes vary among different types of uterine anomalies. [1-4] Unicornuate and didelphys uterus have term delivery rate of approximately 45%.[1-4] Researchers have revealed that majority of women who present with uterine didelphys are asymptomatic but a few present with dysparaeumia or longitudinal vaginal septum.[1,3]

However, in rare cases genital neoplasms, hematocolpos, hematometrocolpos, and renal abnormalities are reported in association with didelphys uterus.[1,2]

The classification of uterine anomalies are of 4 basic types based on development.

- Complete or partial failure of mullerian duct (agenesis) e.g unicornuate uterus with a rudimentary horn
- Failure of duct to canalize e.g unicormate without a rudimentary horn.
- Incomplete fusion of the mullerian ducts (biconuate or di-delphys uterus)
- Incomplete reabsorption of uterus septum example septate or arcuate uterus.1

The most recent and widely used classification systems for the different types of mullerian duct abnormalities were created by Bultrantras Gibbons;[1] and the American fertility society.[4] There are different modalities for correct diagnosis of uterine didelphys which may be invasive or non invasive.[1-2] The invasive ones are hysteroscopy, hysterosalpingography and laparoscopy.[1-2] The drawback of these modalities are subjective to the clinician[4] rather than strict diagnostic criteria.[1-3] A 2D ultra sound is usually the first type of investigation done however; it is inadequate in differentiating between the sub types of MDAs.[2] Magnetic resonance imaging also is as accurate and valuable in diagnosing MDA, as hysterosalpingography, hysteroscopy and laparoscopy are.[2-4]

In this case report, we highlight a primiparous woman with a previous caesarean section and previous history of uterine didelphys who successfully conceived, carried her pregnancy to term and delivered via elective repeat caesarean section with a good feto-maternal outcome.

2. Case Report

Mrs. MC was a 32 year old ICT staff of a private firm, G_3P1^{+1} who presented for antenatal booking at a gestational age of 27 weeks. The pregnancy was desired and had been uneventful prior to booking. Her booking parameters were a blood pressure of 120/70 mmHg; weight of 93 kg; packed cell volume was 30%; blood group was B rhesus 'D' positive; haemoglobin genotype was AA; she was sero-negative for hepatitis B,C and HIV I, II; VDRL test was non-reactive; urinalysis was negative for protein and glucose. An obstetric ultrasound scan done at 33 weeks gestation revealed a singleton active fetus in transverse lie. The estimated fetal weight was 2.3 kg. The placenta was antero-fundal and her liquor volume was adequate. A second uterine cavity with a separate endometrial plate suggestive of uterine didelphys was noted. The cervical os was closed.

Her previous pregnancies were in 2016 and 2018. In 2016, she had an uneventful pregnancy, carried to term and delivered via elective caesarean section for placenta praevia and uterine anomaly. The outcome was a live male 3.8 kg infant who is alive and well. She was noted to have a double uterus with the baby carried in the right uterus while the

left uterus was empty. Her second confinement was in 2018 and she suffered a spontaneous miscarriage at 12 weeks gestation.

She was a twin who was married to a banker in a monogamous setting. Her twin sister was asthmatic. She had no other family history of systemic illnesses. She took alcoholic beverages sparingly but had no history of tobacco usage.

In the index pregnancy, she developed premature contractions at 29 weeks gestation, Ante-partum Haemorrhage at 30 weeks gestation and premature uterine contractions again at 33 weeks gestation. All episodes were managed conservatively on bed rest and tocolysis.

She was offered an elective repeat caesarean section at 38 weeks gestation for traverse lie and uterine anomaly. Findings were a gravid left uterus and an empty right uterus. Both uteri had a fallopian tube and an ovary attached laterally and the uteri extended into a cervix with an omental loop in between them. The right uterus had a lower segment scar. The bladder was normal. The left uterus contained a live male infant in transverse lie who weighed 3.5 kg with Apgar scores of 7 in one minute and 9 in 5 minutes. The placenta was fundal and estimated blood loss was 500 mls. The baby had no gross anomaly and developed neonatal jaundice on the 2nd day which was successfully managed on phototherapy and he was discharged home in satisfactory clinical state on the 12th day.

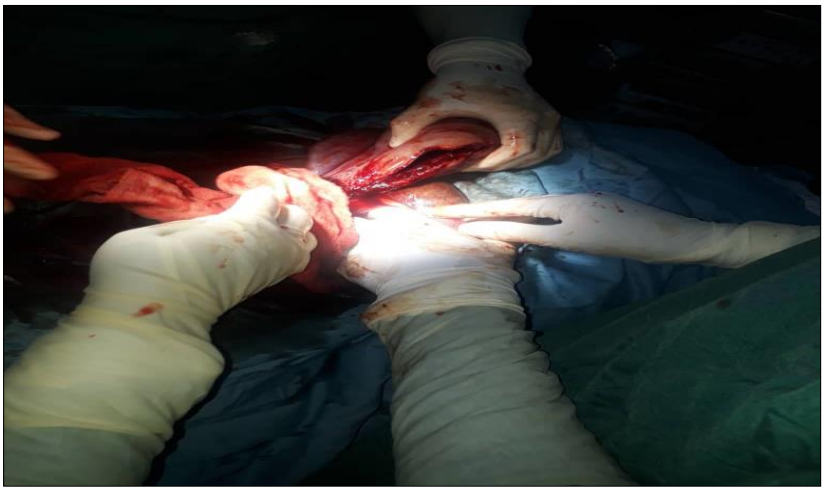

Figure 1 Caesarean Section Incision

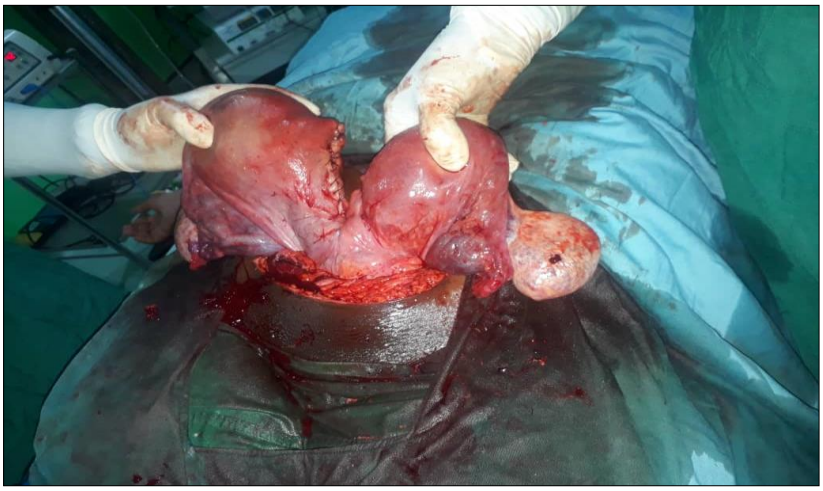

Figure 2 Uterine Didelphys with Fallopian tube and ovary attached to each endometrial cavity

Figure 3 Uterine Didelphys

Figure 4 Repaired uterine incision

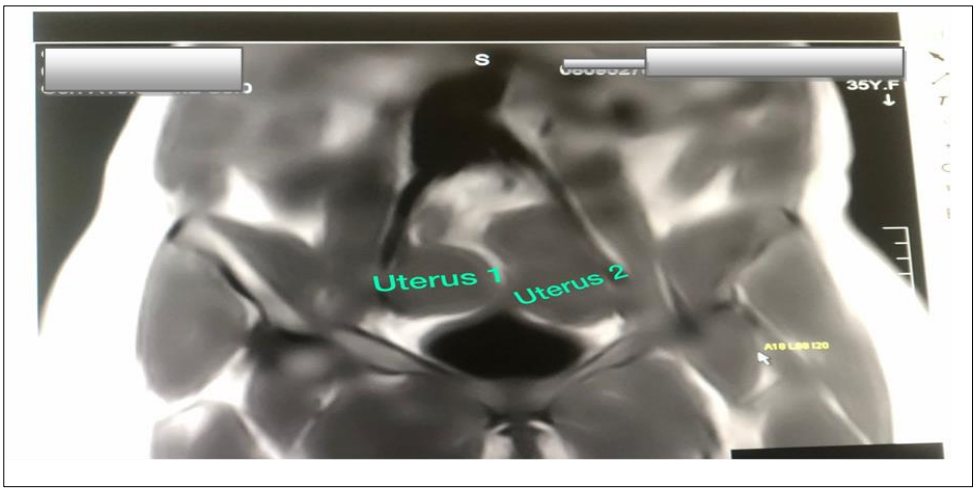

Figure 5 Post- partum MRI

Post operatively, she received prophylactic antibiotics and analgesics. She had primary post-partum haemorrhage in the immediate post-operative period which was managed with oxytocin infusion she also received intravenous 5% dextrose saline for the 1st 24 hours and thereafter commenced on graded oral sips and progressed to fluid and normal diet. Her subsequent post-operative period was uneventful. She was discharged home on the 5th post-operative day in satisfactory clinical condition. She was seen in the post-natal clinic after 6 weeks and was in satisfactory clinical condition. The surgical site was healed. She was given an appointment to the family planning clinic.

An abdomino-pelvic MRI scan done one year after revealed uterine didelphys, bilateral polycystic kidneys and mild bilateral renal insults.

3. Discussion

Our case is that of Mrs. MC booked G2 Para1+1 (alive), previous caesarean section with uterine didelphys that conceived spontaneously. Her pregnancy was successfully managed to term at which she had an elective repeat caesarean section with good fetal and maternal outcome. The indication for the surgery was previous caesarean section and transverse lie at term. Majority of clinicians are in agreement with our line of management.[1-3] Some other clinicians will opt for a vaginal delivery if she meets up with the criteria for vaginal delivery.[1-2] It should be noted that the risk of uterine rupture during labour following VBAC is however documented to be higher in women with MDAs.[3] Vaginal birth after a caesarean section (VBAC) in a contralateral uterus has also been reported[10]. However, in our case vaginal delivery was ruled out because of an abnormal lie. Furthermore, some clinicians have successfully carried out induction of labour (IOL) for patients who are not in labour but meet the criteria for IOL even with uterine didelphys.[3]

Our patient had a previous caesarean section following a term pregnancy. Her pregnancy was uneventful in her previous pregnancy during which had an elective caesarean section for placenta praevia and uterine didelphys with good fetal and maternal outcome. She subsequently had a spontenous miscarriage before the index pregnancy. These antenatal complications of abnormal placentation and spontaneous miscarriages are expected with uterine didelphys. Her index pregnancy was complicated with preterm contractions and ante-partem haemorrage at 29 weeks and 30 weeks gestation of gestation respectively. She was successfully managed for these complications. These were in line with complications documented by scholars in previous studies.[1-4]

Other complication that may be associated with uterine didelphys are choriamniotis, sepsis and intra uterine death.[1,4] Our patients did not have these complications because she had a planned repeat caesarean section. In addition, other complication associated with uterine didelphys are placenta praevia, retained placenta, abnormal lies/presentations and post- partum heamorrhage. Our patient Mrs MC did not have placenta praevia or retained placenta. However, she had an abnormal lie for which she had an elective repeat caesarean section and a primary post –partum haemorrhage after the caesarean section which was successfully managed.[1-5]She however had placenta praevia in her previous pregnancy.

Literature has revealed that some patients with uterine didelphys may have dysmenorrhoea and dyspareunia. [2,3,6-10] This is as a result of vaginal septum.[1,2] Resection of the vaginal septum relieves the symptoms of dyspareunia.[4] Our patient did not have a vaginal septum nor dyspareunia prior to her conception.

There are different modalities for correct diagnosis of uterine didelphys which may be invasive or noninvasive.[1-2] The invasive ones are hysteroscopy, hysterosalpingography and laparoscopy.[1-2] The drawback of these modalities are they are subjective to the clinician.[4] rather than strict diagnostic criteria.[1-3] An ultra sound is usually the first type of investigation done however; it is inadequate in differentiating between the sub types of MDAs.[2] Magnetic Resonance Imaging (MRI) also is as accurate and valuable in diagnosing MDA, as hysterosalpingography, hysteroscopy and laparoscopy are.[2-4] Our patient Mrs MC had an ultra sound scan during pregnancy which revealed MDA. However, MRI was not done during pregnancy because of the danger of ionizing radiation. However, post-delivery she had an MRI which confirmed the diagnosis. A proper examination and investigation as was done in our patient is essential to exclude coexisting conditions. A patient with a vaginal septum with its attendant challenges including obstructed labour was only diagnosed in a patient with uterine didelphys after a 3rd caesarean section.[2]

4. Conclusion

Uterus didelphys is associated with a significant increase in adverse pregnancy outcomes. Close follow-up and specialized obstetrical care is imperative[1]. In this case report, we highlighted a primiparous woman with previous caesarean section, with previous history of term pregnancy in the contralateral uterus of a didelphys uterus, who

spontaneously conceived, carried her pregnancy to term on the second uterus, received specialized obstetrical care for her antenatal complications and was successfully delivered at term with a good feto-maternal outcome.

Compliance with ethical standards

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Mother, Baby and Adolescent Care Global Foundation.

Disclosure of conflict of interest

Authors have declared that there was no conflict of interest.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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