



## Bicornuate uterus with successful pregnancy after recurrent miscarriages – A case report

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### Abstract

A bicornuate uterus is a congenital anomaly of the uterus, which is due to non-fusion or incomplete fusion of the Mullerian ducts; and has been associated with poor pregnancy outcome. This report highlights the case of a 30 year old nulliparous trader with a bicornuate unicollis uterus, who had a successful pregnancy, after six consecutive miscarriages, following insertion of a cervical cerclage. She was delivered via caesarean section at a gestational age of 33 weeks due to mild abruptio placenta. This brings to the fore the need for close monitoring of such patients and the usefulness of cervical cerclage in achieving a favourable pregnancy outcome.

Key words: Bicornuate uterus, recurrent miscarriages, nullipara, cervical cerclage, abruptio placenta

### Introduction

A bicornuate uterus is a congenital anomaly of the uterus, which results from non-fusion or incomplete fusion of the Mullerian ducts.<sup>1,2,3</sup> It is one of the series of uterine abnormalities that may be encountered in women. Others include: unicornuate uterus, septate uterus, arcuate uterus, uterus didelphys and diethylstilbestrol-related anomalies.<sup>1</sup> In its severest form, the uterus may not develop at all (uterine agenesis) or be poorly developed (hypoplastic uterus). Due to its non-specific clinical manifestation, the diagnosis of a bicornuate uterus is usually made as an incidental finding in the course of investigations for infertility or recurrent miscarriages or during surgery for other conditions, such as caesarean section.<sup>1,2</sup>

As a rare developmental anomaly of the uterus, the prevalence of bicornuate uterus, like that of any other congenital uterine anomaly, is difficult to determine.<sup>4</sup> This is because some women with this anomaly, without any form of prenatal care or pregnancy complications, may carry their pregnancies to term and have a normal delivery.<sup>2,3</sup> The prevalence therefore varies according to the population of women being studied. This has been estimated to be 0.4% in the general population; 1.1% in women with infertility; 2.1% in women with miscarriages and up to 4.7% in women with a combination of miscarriage and infertility.<sup>1</sup> The diagnosis is usually made using ultrasound and other imaging tools such as hysterosalpingography, magnetic resonance imaging and saline sonohysterography.<sup>1,2,3</sup>

Below, we present the case of a 30 year old G7P0<sup>tr0</sup> trader, with a bicornuate unicollis uterus, who had cervical cerclage inserted in the course of her pregnancy but had preterm delivery via emergency caesarean section due to mild abruptio placenta at a gestational age of 33 weeks.

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### Case Report

Mrs. E.C. was a 30 year old G7P0<sup>tr6</sup> trader, who presented for booking at the antenatal clinic of Alex Ekwueme Federal University Teaching Hospital, Abakaliki, on 5<sup>th</sup> March 2024 at a gestational age of 8 weeks and 1 day. The pregnancy had been uneventful and she had no complaint. Prior to the

index pregnancy, she had presented to the gynaecology clinic of the same hospital on the basis of six episodes of recurrent miscarriages, which had occurred between the gestational ages of 8 and 13 weeks. As part of the investigations for the recurrent miscarriages, she did a hysterosalpingogram (HSG), which confirmed the presence of a bicornuate unicollis uterus.

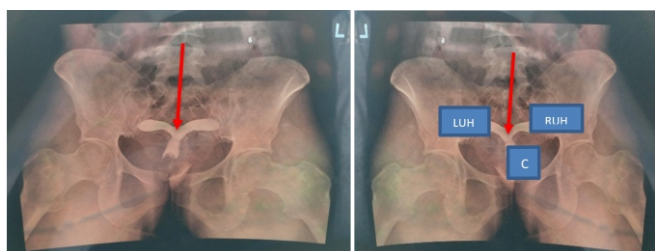


Figure 1: HSG result showing bicornuate unicollis uterus.

LUH → Left Uterine Horn; RUH → Right Uterine Horn; C → Cervix

➔ Point of incomplete fusion

During further evaluation and planning for treatment, she missed her clinic appointments for reasons she did not disclose. When she eventually presented, she was found to be pregnant and at a gestational age of 8 weeks, with an ultrasound scan result showing the pregnancy on the left uterine horn.

She was counselled on the possible outcomes of the pregnancy, bearing in mind the uterine anomaly suspected to be the cause of the previous miscarriages. She was however reassured that efforts would be made to give her the best care possible so she could have a favourable pregnancy outcome. She was then counselled on cervical cerclage insertion at a gestational age (G.A.) of 13 weeks.

She presented for the cervical cerclage procedure as scheduled, which was inserted using McDonald's method. She was discharged the next day and given one week appointment for follow-up. She continued her antenatal visits on a regular basis until the gestational age of 27 weeks when she presented with symptoms of uncomplicated malaria. She was admitted and treated following a positive malaria test; and also advised on the need to remain on admission for close monitoring.

She remained on admission where her vital signs and fetal heart sounds were monitored daily while ultrasonography for fetal growth monitoring and wellbeing was done two weekly. Abdominal contour was not uniform as it deviated more to the left where the pregnancy lodged. This became more obvious as the pregnancy progressed. The fetus gained weight in proportion to its gestational age. The placenta was fundally located, according to multiple ultrasound results. At a gestational age of 31 weeks, she complained of heaviness in the pelvis. She was then nursed in a head-down position, which resulted in the relief of her symptom.

On August 29, 2024, at G.A. of 33 weeks and 2 days, she complained of sudden abdominal pain and minimal bleeding per vaginam. Her vital signs were stable. The abdomen was enlarged and moved with respiration. It was soft, with mild tenderness over the uterine contour. The Symphysio-fundal height was 34cm; the uterus contained a singleton in oblique lie and breech presentation, with the fetal head towards the maternal left. There were two mild uterine contractions in ten minutes. The Fetal heart rate was 168 beats per minute and regular.

An assessment of mild abruptio placenta, to rule out partial uterine rupture, was made. She was counselled on the diagnosis and the need for an emergency caesarean section to salvage the baby. The procedure was carried out under general anaesthesia, with the following findings: a female neonate that weighed 1.7kg, with APGAR scores of 4 in the first minute and 9 in the fifth minute; partially detached placenta, with a retroplacental clot of about 300ml; a bicornuate unicollis uterus with a thick septum in-between the two uterine horns; and grossly normal fallopian tubes and ovaries. The estimated blood loss was 700ml.

The baby was admitted into the neonatology unit for observation and later discharged to the mother after 24 hours. The post-operative period was uneventful. She was discharged home on the 4<sup>th</sup> post-operative day and given two weeks appointment. When she was seen two weeks later and at 6<sup>th</sup> week post-delivery, she had no complaint. The wound site had healed well. The baby looked healthy and had been immunized till date. She was counselled on contraception and referred to the family planning clinic.

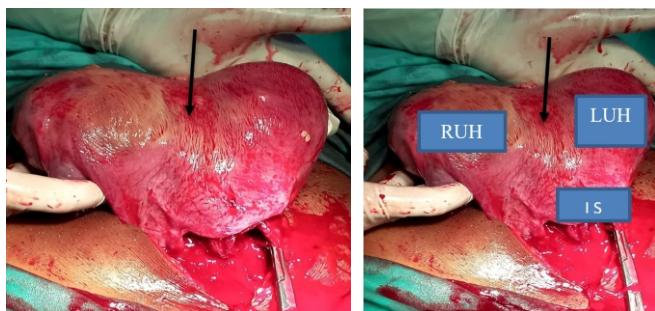


Figure 2: Uterus during surgery  
 LUH → Left Uterine Horn; RUH → Right Uterine Horn; IS → Incision Site

### Discussion

A bicornuate uterus presents typically with no symptoms outside pregnancy.<sup>2</sup> The diagnosis is often made during evaluation for infertility.<sup>2</sup> In women with no pregnancy complications or prenatal care, it may go unnoticed.<sup>2,6</sup> The same incidental findings may also be made during evaluation for menstrual abnormalities, especially in adolescents, and during surgical treatment of other pelvic conditions, including caesarean section.<sup>1,2</sup>

The first pointer to the diagnosis of bicornuate uterus in the index patient was the hysterosalpingogram done in the course of investigating her for recurrent miscarriages. The discovery pointed to bicornuate uterus as a possible cause of her miscarriages. Other complications associated with bicornuate uterus include: ectopic pregnancy, preterm delivery, preterm premature rupture of membranes, intrauterine growth restriction, placenta praevia, abruptio placenta and intrauterine fetal demise.<sup>4,7,8,9</sup> The index patient had preterm delivery due to mild abruptio placenta.

Pregnancy in a woman with a bicornuate uterus may put pressure on the cervix as it grows (due to limited intrauterine space), resulting in a higher prevalence of cervical insufficiency in women with this anomaly.<sup>10</sup> Cervical cerclage has therefore been advocated for prevention of miscarriages and preterm deliveries in women with anatomic uterine anomalies (such as a bicornuate uterus) as it exerts a counter-pressure on the cervix, thereby forcing the pregnancy to grow upwards into the uterine cavity.<sup>11,12</sup> Cervical cerclage was applied for Mrs. E. C. to prevent miscarriage in the index pregnancy;

and, for the first time, she carried a pregnancy beyond the first trimester and to viability, truncated in the third trimester by abruptio placenta.

As pregnancy in a bicornuate uterus often develops in one of the uterine horns due to the thick muscular partition between them, as seen in this case, this may predispose the uterus to rupture, as the pressure exerted by the developing pregnancy is not evenly distributed in the uterine cavity.<sup>12-14</sup> Uterine rupture may occur as early as first trimester, as in ectopic pregnancy, up to the third trimester.<sup>11,12,13</sup> Uterine rupture tends to be more common after prior successful pregnancies, which would likely have overstretched the muscles of the uterine cornu in which the previous pregnancies lodged.<sup>13,14</sup> For similar reason of limited space, such pregnancies have been associated with intrauterine growth restriction.<sup>9</sup> Bearing these complications in mind, the index patient was admitted for observation and monitoring from the late second trimester until delivery.

In conclusion, a bicornuate uterus, which is due to non-fusion or incomplete fusion of the Mullerian duct, is a rare congenital anomaly of the uterus. Pregnancy in such a uterus is high risk both for the mother and fetus due to associated complications. Proactive management in pregnancy through appropriate diagnosis, application of cervical cerclage, admission for observation when necessary, serial monitoring of fetal growth and readiness for intervention (should any complication occur), may help achieve a good fetomaternal outcome.

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