# Spontaneous Rupture of Gravid Horn of Bicornuate Uterus at Term - A Case Report

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**SUMMARY**

Uterine structural abnormalities are known causes of recurrent pregnancy losses occurring especially within the second trimester. However, recent reports show that the rate of pregnancy losses caused by uterine anomalies may not be as high as previously feared. We report a case of a 28 year old secondigravida with uterus bicornis unicollis who had spontaneous rupture of one of the uteri in pregnancy, had excision of one horn of the double uterus and was able to carry a subsequent pregnancy to term and achieve a live birth. The literature on double uterus was also reviewed.

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**CASE HISTORY**

Mrs. O.N. a 28 year old booked, $G2P^{1+0}$ housewife was rushed to our hospital at 39 weeks of gestation with a history of severe generalized abdominal pain and weakness of about four hours prior to presentation. The husband was reluctant to bring her to the hospital until she collapsed. She was not regular with her antenatal care attendance. The index pregnancy was marked with persistent abdominal pain which started in her 2nd trimester for which ultrasound scan was ordered. However, this was not done. She had achieved a previous vaginal delivery with a live male baby, 2years prior to this pregnancy.

At presentation, the patient was pale, with cold and clammy extremities, unrecordable blood pressure and fast thready pulse. The abdomen was very tender and irregularly shaped with easily palpable fetal parts and the fetal heart sounds could not be heard. Vaginal assessment revealed scanty vaginal bleeding and closed cervical os that was uneffaced and firm in consistency. The station of the presenting part was high.

A tentative diagnosis of spontaneous rupture of the gravid uterus was made. She was resuscitated with 2 liters of normal saline and two units of fresh whole blood and immediate laparatomy was done. Findings at laparatomy showed massive haemoperitoneum, a fresh stillbirth lying freely in the peritoneal cavity (weight= 3.5kg), ragged uterine tissues with placenta lying freely in the peritoneal cavity. Patient was bleeding freely from the edges of the ruptured uterus and no other bleeding surface demonstrable. The lower segment was identified with a u-shaped junction with 14 weeks sized uterus (Bicornis unicollis uterus). The edges of the ruptured uterus were excised and what remained was approximated to achieve haemostasis leaving only the unruptured non gravid uterus intact. She received 2 more units of blood and did well post operatively. Before she was discharged, the need for a well supervised antenatal care in future pregnancies was stressed and she agreed.

Twelve weeks after, hysterosalpingogram done showed a normal cervix and uterus with only one demonstrable fallopian tube. Her subsequent pregnancy was successfully carried to term. There were multiple hospital admissions for recurrent abdominal pains, and was eventually delivered of a live baby by elective Caesarean section at 37 completed weeks.

**DISCUSSION**

The uterus is formed during embryogenesis by the fusion of the two paramesonephric ducts (also called mullerian ducts). This process usually fuses the two mullerian ducts into a single uterine body. Lack of fusion of these mullerian ducts can lead to various types of malformations of the female genital tract.

Uterus bicornis unicollis (bicornuate uterus), which is a common type seen represents an uterine malformation where the uterus is present as a paired organ resulting from the failure of the embryogenetic fusion of part of the mullerian ducts. As a result there is a double uterus with a single cervix and vagina. Each uterus has a single horn linked to the ipsilateral fallopian tube that faces its ovary.

When there is non fusion of the entire mullerian duct, uterus didelphys results. In a didelphic uterus, there is the duplication of the entire mullerian system resulting in uterus with double horns, double cervix and usually associated with a double vagina. The causes for this failure of the mullerian duct to fuse are not yet known. Associated defects may affect the vagina, the renal system, and less commonly, the skeleton. The other forms of uterine malformations include arcuate uterus and septate uterus. The frequency of occurrence of these malformations is difficult to establish as most cases are asymptomatic. However, it has been estimated to occur in 1/3,000 women.[1] Although majority of the women with these conditions may be

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asymptomatic and unaware of having a double uterus, a study by Heinonen[2] showed that certain gynaecological conditions such as dysmenorrhea and dyspareunia are common among them. Establishing the diagnosis of uterine abnormalities is challenging. However, investigations are usually prompted when reproductive problems such as recurrent midtrimester abortions are encountered. If there is attendant duplication of the vagina and cervix, pelvic examination usually will reveal these. Helpful techniques to investigate uterine anomalies include transvaginal ultrasonography and sonohysterography, hysterosalpingography, MRI, and hysteroscopy. More recently 3-D ultrasonography has been advocated as an excellent non-invasive method to evaluate these malformations.[3] Often more than one method of investigation is necessary to accurately diagnose the condition.

Correct diagnosis is crucial as treatment for the various conditions is very different and in any case should involve a qualified reproductive endocrinologist. In the resource poor countries, employing these diagnostic modalities may not be feasible as our patient could not afford to do an abdominal ultrasound. This patient achieved a normal vaginal delivery in her first pregnancy, but in the 2nd pregnancy, the nidation took place in the less developed uterine horn and antenatal diagnosis was not made due to the problem of poverty and ignorance on the side of the patient. An antenatal ultrasound could have made this diagnosis and an elective Caesarean section done at 37 completed weeks.

In pregnancy, patients with a double uterus need special attention as premature birth and malpresentations are common. Vaginal birth is feasible as shown in our case( the first delivery) but Cesarean section rate may be as high as 82% as reported by Heinonen.[2] Rarely, twin gestation can occur in double uterus in which each horn of the uterus carries a pregnancy separately leading to live delivery. A recent case was reported by Reinfelder *et al*[4] in America where the twin pregnancy was carried to 34 weeks of gestation and delivered through caesarean section.

Despite the association of obstetric problems with double uterus, various authors have reported favourable reproductive outcome among these women. In Finland, Heinonens found that 8 (15.7%) out of 51 women with double uterus attempting pregnancy had primary infertility of nonuterine causes while 49 (96.0%) of them were able to produce 115 pregnancies with a live birth rate of 72%, abortion rate of 27% and preterm delivery rate of 12%. Our patient like others, achieved live births. However, these women should be monitored closely in pregnancy to improve on the pregnancy outcome.

## CONCLUSION

Uterine abnormalities, though rare can be encountered in pregnancy. There is need to build capacity for making an antenatal diagnosis in order to ensure appropriate management.

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