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A Multidisciplinary Approach in Successful Pregnancy in patient having Bicornuate Uterus with Uterine fibroid: A Single Case Report

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ABSTRACT:

Uterine malformation refers to abnormal fusion of the mesonephric duct (Mullerian duct) during fetal life, resulting in numerous congenital uterine malformations like septate uterus, unicornuate uterus, and bicornuate uterus. Fertility and the evolution of pregnancy depend on the type of uterine anomaly.Many of them are asymptomatic, but it is important to consider this diagnosis in recurrent miscarriages, preterm labor, malpresentation, and Intrauterine growth restriction. The Incidence of uterine malformation is estimated to be 3-5% and the bicornuate uterus is estimated to be 0.1%-0.6%. The bicornuate uterus is a congenital abnormality where the uterus has two separate cavities or horns instead of one larger cavity.According to the American Society of Reproductive Medicine's classification of Mullerian duct anomalies, a bicornuate uterus is an extremely uncommon congenital anomaly of the uterus that belongs to class 4. It is linked to several obstetric complications, including growth restrictions, recurrent abortions, and malpresentation. However, careful prenatal monitoring is necessary for normal pregnancy in a bicornuate uterus, and surgical unification may be required depending on the individual.It can increase the risk of certain pregnancy complications such as miscarriage,preterm birth& breech presentation.A 27-year-old Primigravida, at 14 wk+5 days of gestationcame to the OPD with the complaint of pain in the lower abdomen from 2 months.However, she was diagnosed with a bicornuate uterus with uterine fibroid (about 3.8×3.0×3.6cm) in the presence of pregnancy, based on ultrasound findings.

KEYWORDS: Bicornuate uterus, Fibroid uterus, Mullerian duct anomalies, Pregnancy.

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INTRODUCTION:

A female's reproductive organ develops normally through a succession of complex processes that include Müllerian system differentiation, migration, fusion, and canalization[1] .Uterine abnormalities can be hereditary or acquired, and they usually cause menstruation problems, pelvic discomfort, infertility, or early pregnancy loss[2].Congenital uterine abnormalities are caused by the aberrant creation, fusion, or resorption of Müllerian ducts during fetal

development[3].Uterine malformation are estimated 3% to 5% in the general population[4].One of these anomalies is known as bicornuate uterus, which is produced by improper fusion of the Mullerian ducts. This disease may be identified before or during pregnancy. The clinical signs are non-specific making diagnosis challenging in areas with a limited technological infrastructure. Many of them stay asymptomatic, and the diagnosis is established by chance during an examination for another purpose. Thus, it is not uncommon to detect a bicornuate uterus after a first pregnancy check-up, or during a vaginal or cesarean birth.According to a study that included both infertile and fertile women, the most common types of abnormalities were septate (35%), bicornuate (26%), arcuate (18%), unicornuate (10%), didelphys (8%), and agenesis (3%)[5].The bicornuate uterus can be classified into two types: bicornis bicollis uterus and bicornis unicollis uterus, which are distinguished by a division above the external cervical os[6]. The bicornuate uterus is responsible for around 10% of mullerian abnormalities.These women have a higher risk of miscarriage (25%), premature delivery (15%-25%), and cervical insufficiency (38%)[7]. Other possible effects include poor fetal development, malpresentation, and abnormal placental and ectopic pregnancies.However, although less frequent, some pregnancies can be brought to term Nevertheless, it seems necessary to raise the patient's awareness of the possible outcomes of this condition by obstetricians. It is necessary to establish a prenatal diagnosis to ensure proper care and prevent complications[8].

CASE REPORT:

This is a case of a 27-year-oldprimigravida, Hindu by religion and homemaker by occupation came to the OPD of Ajmal Khan Tibbiya College & Hospital,A.M.U. Aligarh with Fifteen weeks of amenorrhea and lower abdominal pain for 2 months. Her age at menarche is 13 years and her past menstrual history was normal,LMP was 17/12/2023 & EDD will be on 22/9/2024 She has been sexually active with the same partner for the last 5 years,but not conceived. There was no history of hospitalization. Also, there was no history of surgical or medical illness. On physical examination, she was conscious, cooperative, and oriented to time, place, and person. She had an average build. Her weight was 52 kg, and her height was 158 cm. Her respiratory rate was 15 cycles per minute.Vitals were normal;BP-120/80mmHg,PR-88/min She had no history of diabetes mellitus,hypertension,thyroid abnormality, and Rh incompatibility& no history of blood transfusion.On Examination she was looking pale, and afebrile,no pedal edema.The abdominal analysis showed a 14 -16-week uterus size with tenderness following the gestation period.

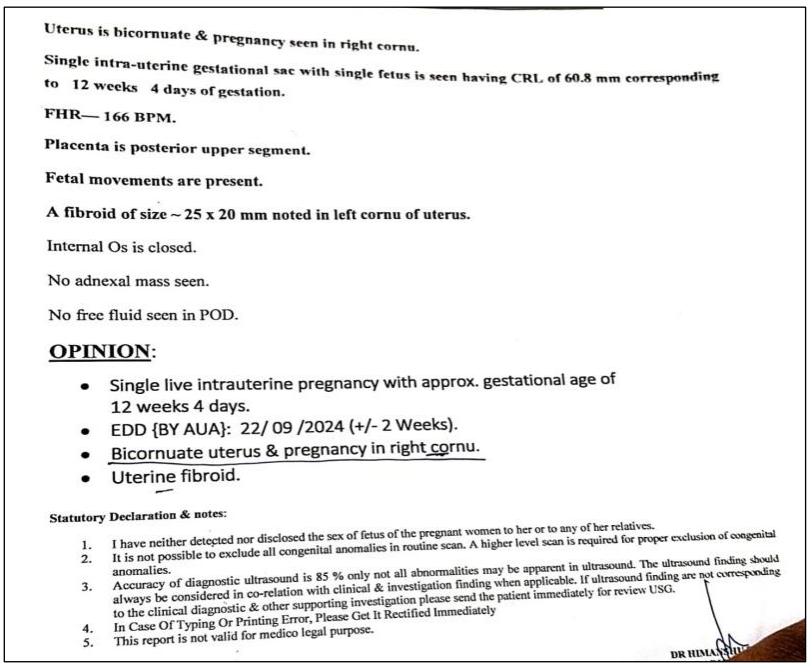
The previous obstetric scan showeda bicornuate uterus,pregnancy in the right cornu, and uterine fibroid (25×20mm) in the left cornu of the uterus & no other investigation was done.The patientwas advised for an antenatal checkup.

Obstetric ultrasonography reveals two uterine horns and one cervix. The right horn was gravid 14 weeks pregnant with a cephalic lie.BPD is 2.6 cm,FL is 1.4 cm, and cardiac activity is present. The placenta is located on the fundus and right lateral wall extending to the anterior &posterior surface of the uterus.The cervix measures about 4.4

cm in length. The left horn shows one hypoechoic ,inhomogenous ,contour-deforming,solid mass (about 3.8×3.0×3.6cm in size) in the left anterolateral portion of the lower half of the uterus.The mass appears to be a fibroid. The patient was advised to book her index (Current Ultrasonography of single live intrauterine pregnancy of 14wk+5days)

On investigations, her blood group was B positive, and her husband's was B positive. The triple test was found to be negative. On the complete blood count, hemoglobin was 9gm%. During Ante Natal Care, her OGTT and thyroid were within normal limits. She was prescribed supplements like iron, calcium, protein powder, and vitamins.

THERAPEUTIC INTERVENTION: On September 21, 2024, the patient had an LSCS. Spinal anaesthesia was used for the surgery. A boy infant weighing 2.7 kg was born on September 21, 2024, at 10:12 AM. At 10:12 AM, a male infant was removed via vertex presentation. As soon as the baby was born, he cried. The paediatrician received the clamped cord. All cotyledons and the placenta were delivered with their membranes intact. Vicryl number 1 was used to close the uterus using interlocking sutures to finish the surgery. After the procedure, the patient was moved to the ward as they were sufficiently cooperative. No intraoperative problems were reported. On the other hand, the infant weighed 2.7 kg, was male, and had APGAR scores of 8 and 9 at 1 and 5 minutes after birth, respectively. Scheduled vaccinations were administered, which included zero doses of oral polio, hepatitis, and BCG. Urine was passed on the third postoperative day following the removal of Foley's catheter. She was released on September 25, 2024. She was instructed to follow up after 15 days or to contact SOS in the event of an emergency at the time of release. She was also instructed to keep up a diet rich in iron and protein and to drink lots of water. Rest was recommended. For six months, it was recommended to breastfeed exclusively every two hours or as needed by the infant. The baby received all of his vaccinations on time. She was instructed to use sterile vulval pads and to practice good perineal cleanliness. Vitamin C, calcium, iron, and protein powder tablets were among the medications prescribed.



Uterus is bicornuate & pregnancy seen in right cornu.

Single intra-uterine gestational sac with single fetus is seen having CRL of 60.8 mm corresponding to 12 weeks 4 days of gestation.

FHR— 166 BPM.

Placenta is posterior upper segment.

Fetal movements are present.

A fibroid of size ~ 25 x 20 mm noted in left cornu of uterus.

Internal Os is closed.

No adnexal mass seen.

No free fluid seen in POD.

OPINION:

- Single live intrauterine pregnancy with approx. gestational age of 12 weeks 4 days.
- EDD {BY AUA}: 22/ 09 /2024 (+/- 2 Weeks).
- Bicornuate uterus & pregnancy in right cornu.
- Uterine fibroid.

Statutory Declaration & notes:

1. I have neither detected nor disclosed the sex of fetus of the pregnant women to her or to any of her relatives.
2. It is not possible to exclude all congenital anomalies in routine scan. A higher level scan is required for proper exclusion of congenital anomalies.
3. Accuracy of diagnostic ultrasound is 85 % only not all abnormalities may be apparent in ultrasound. The ultrasound finding should always be considered in co-relation with clinical & investigation finding when applicable. If ultrasound finding are not corresponding to the clinical diagnostic & other supporting investigation please send the patient immediately for review USG.
4. In Case Of Typing Or Printing Error, Please Get It Rectified Immediately
5. This report is not valid for medico legal purpose.

DR HIMA

Figure-1: USG report of pregnancy at the antenatal clinic(first visit)

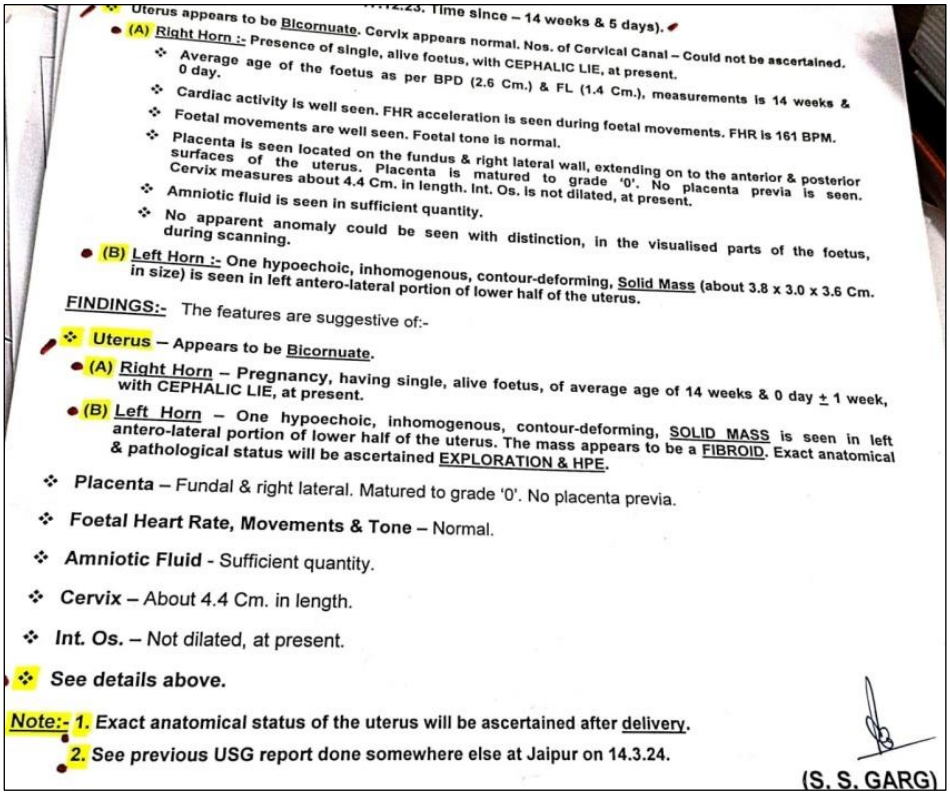


Figure-2: (Ultrasonography showing single live intrauterine pregnancy of 12wks+4 days with bicornuate uterus with uterine fibroid in right cornu).

DISCUSSION:

Congenital uterine abnormalities are rather common and frequently asymptomatic. Women with uterine abnormalities have poorer reproductive results and lower pregnancy rates than women with a normal uterus. Uterine abnormalities are linked to an increase in malpresentation, early labor, abnormal presentation with dystocia, and the need for a cesarean section[9].The bicornuate uterus was traditionally assumed to be linked to infertility. However, recent research demonstrated that fertility in women with a bicornuate uterus is unaffected, although gestational capacity is compromised due to the increased incidence of spontaneous abortions and premature births[10].A bicornuate uterus, produced by improper fusion of the Mullerian ducts, can be identified before or during pregnancy. The bicornuate uterus does not cause decreased fertility, although it may be connected with unfavorable pregnancy outcomes[11].Studies have demonstrated that uterine rupture may occur during pregnancy due to a thin wall and the inability of the deformed uterus to grow like a normal one[12].Early ultrasonography is a contributing approach for assessing the consequences of an abnormal uterus during pregnancy[12].The exact diagnosis of bicornuate uterus and other uterine abnormalities needs radiologic diagnostic modalities such as ultrasonography (US), magnetic resonance imaging (MRI),hysterosalpingograms (HSG), and saline sonohysterography[10]. Magnetic resonance imaging and ultrasound should be primarily utilized to determine the presence of a deep fundal cleft[13].Women with a bicornuate uterus may have a successful pregnancy outcome, as in this patient, but

are still at risk of obstetric complications such as fetalmalpresentation, preterm rupture of membranes, small for gestational age fetuses, recurrent pregnancy losses, preterm deliveries, intra-uterine growth restriction (IUGR), and cervical incompetence.Other potential complications include poor fetal development, malpresentation, and aberrant placental and ectopic pregnancies.However, although less common, some pregnancies can be brought to term.In this case report, ultrasound identifies the bicornuate uterus in the pregnancy.Nonetheless, it appears that obstetricians must improve patients' knowledge of the potential consequences of this illness. Prenatal diagnosis is required to ensure optimal treatment and prevent problems[10].Clinicians should have a high suspicion for uterine anomalies to detect bicornuate uterus early and avoid problem. Imaging plays an essential role in the diagnosis and management of bicornuate uterus. There are multiple modalities available for this purpose. Hysterosalpingography- This is the most seasoned and most broadly utilized method for assessment of an instance of infertility its application is additionally constrained within sight of the vaginal septum, prompting obstructive Mullerian variations from the norm. The contrast can't enter the blocked uterine cavity, in this way misclassifying two fold cavity irregularities into single cavity anomalies. ultrasound-This is the mainline imaging performed when a patient first visits the facility; it is reasonable and noninvasive with no introduction to radiation. The decision to manage a patient with the bicornuate uterus is pertinent to the presentation of the patient. A patient can present to a facility in two different ways: If a woman presents for a routine evaluation during her pregnancy gets diagnosed with a bicornuate uterus, then aggressive prenatal monitoring is indicated to prevent obstetric complications. Pay attention to the signs of preterm labor, malpresentation. The most common complication associated with the bicornuate uterus is preterm labor. pregnancy in a bicornuate uterus can also be succeeded by postpartum hemorrhage. Postpartum hemorrhage is manageable by an assortment of surgical and nonsurgical alternatives.

CONCLUSION:

With a focus on issues with vertical and lateral fusion, the reproductive potential of the deformed uterus is evaluated. Given all of the pertinent information regarding the likelihood of a healthy pregnancy in a bicornuate uterus, it is reasonable to conclude that assisted reproductive procedures are the recommended method of conception. The reproductive outcome is compromised as a result of the decreased gestational capacity. Uterine abnormalities can significantly impact pregnancy outcomes. Early identification of a bicornuate uterus and attentive care throughout pregnancy and delivery are crucial to prevent negative consequences.

Patient consent: Written informed consent for publication was obtained from the patient

Conflict of interest: The author declares that there is no conflict of interest.

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