Case Report

Ultrasound: A Gold Standard for Diagnosis of Septate Uterus

Prashant Khanna, Shalini Raghuwanshi
Department of Radiodiagnosis, People's College of Medical Sciences & Research Centre, Bhopal

(Received: April, 2017) (Accepted: June, 2017)

ABSTRACT

Septate uterus is commonest congenital uterine anomaly. Its mean incidence of uterine defects in the general population and in infertile women is 4.3% . It results from partial or complete failure of resorption of utero-vaginal septum after fusion of the para -mesonephric duct. Septum can be partial septum that involves the endometrial canal but not the cervix. Septum can be complete ,if it extends to either internal or external cervical os .

A case of 25 year, female with history of amennorhea 7 months with G3P2L2 complaining of recurrent bleeding per vagina came in obstetrics department and referred for antenatal sonography (First Antenatal Scan) in radiology department is reported here. Antenatal scan in ultrasonography revealed : live fetus of 28 week 2 days with a septa separating the amniotic cavity into two cavities. Whole fetus was lying in right half of uterus with crowded fetal part, only both lower limbs of fetus along with part of umbilical cord were seen extending into the left half of uterus. The whole of amniotic fluid was seen in the left half of the uterus .Placenta was partially attached to the fetus. MRI confirmed the ultrasonography findings.

KEY WORDS: congenital, mullerian anomalies, pregnancy, septate uterus

INTRODUCTION:

Congenital uterine anomalies are commonly encountered in the general population but reproduction seems to vary according to the type of anomaly as intrauterine anomalies can lead to fatal condition like uterine rupture in pregnancy[1]. Septate uterus is a congenital uterine anomaly.The mean incidence of uterine defects in infertile women is 4.3%. It is associated with higher risk of miscarriage , premature birth and malpresentation. It is also associated with renal and skeletal abnormalities. There is risk of a spontaneous abortion , more common in 2nd trimester than in 1st trimester,but in presenting case fetus was delivered live with septa, which is a rarest entity[2].

A septate uterus is not diagnosed until patient presents with recurrent pregnancy loss. Majority of patient with septate uterus have reproductive failure , obstetrical complications and an increased incidence of recurrent miscarriages . Clinically , symptoms may range from being asymptomatic thus remaining undiagnosed , to the development of poor reproductive outcome.

Corresponding Author:
Dr. Prashant Khanna
Post Graduate Student
Department of Radiodiagnosis,
People's College of Medical College & Research Centre,
Bhopal-462037
Phone No.: +91 8223919132
E-mail: prashantkhanna893@gmail.con

CASE REPORT:

A 25 old female with amennorhea for 7 months (G3P2L2A0) presented with bleeding PV. USG followed by MRI revealed: Gravid uterus with partial septa (8-10 mm thick and 3cm length) extending from fundus dividing the uterine cavity into two halves with single live fetus with MGA 26 weeks 1day lying in right half of uterus with crowded fetal parts. Placenta was lying in the anterolateral position with medial attachment over the septa (Figure 1 & 2). Both lower limbs of fetus were extending into left half of uterus along with umblical cord (Figure3).

Antenatal scan revealed live fetus with MGA 26 weeks 1 day with LMP(MGA) 28 weeks 5 days suggest IUGR. Indication for caesarean section was IUGR and reduced AFI and Utertine Anomaly. A live fetus was delivered by caesarean section. Uterus was partially septated. The septa was measuring 3 cm in length which was seen arising from fundus of uterus.

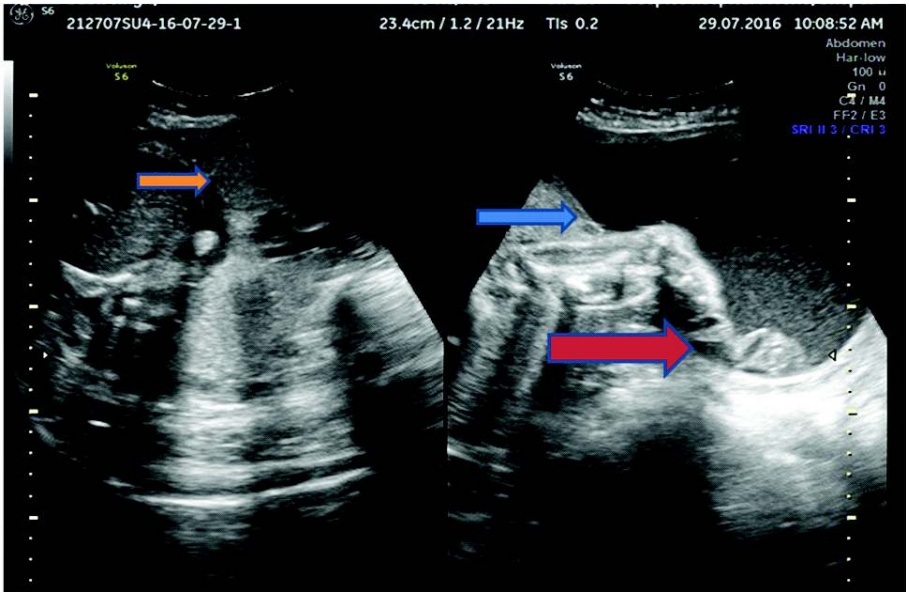

Figure 1: Ultrasonograpphy shows the septa (blue arrow) dividing the uterine cavity into two halves. Red arrow indicates lower limb of fetus extending in left half of the cavity. Orange arrow indicates placenta.

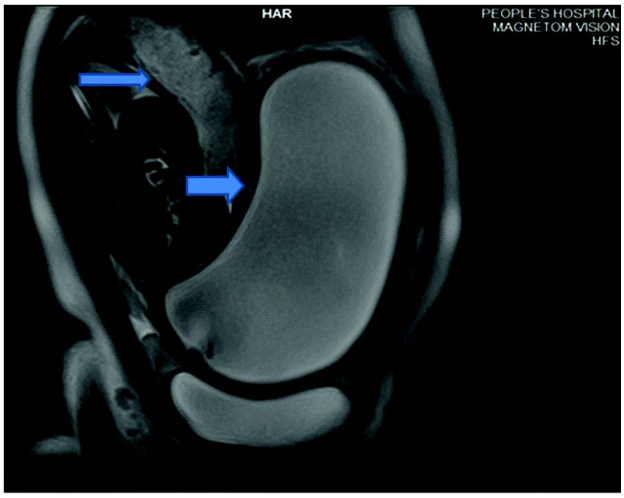

Figure 2: Fetal MRI in oblique veiw shows the septa (short arrow) with placenta (long arrow) attach on its right side.

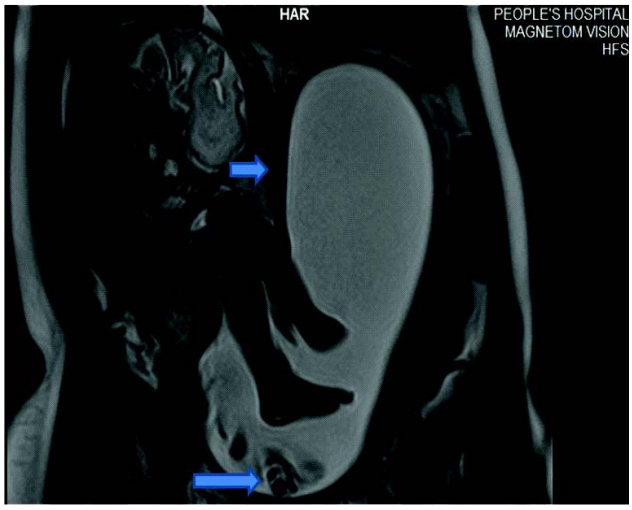

Figure 3: Fetal MRI in coronal section shows partial septa (short arrow) divides the uterine cavity into two halves. Long arrow indicates umblical cord.

DISCUSSION:

Septate uterus is the commonest congenital uterine anomaly associated with loss of pregnancy in 90% of cases. Septate uterus is a class V type mullerian duct anomalies[3].

Septate uterus is considered a type of uterine duplication anomaly. It results from partial or complete failure of resorption of utero-vaginal septum after fusion of the para-mesonephric duct. Septum can be partial septum that involves the endometrial canal but not the cervix. Septum can be complete, if it extends to either internal or external cervical os Fusion of the mullerian ducts normally occurs between the 6th and 11th weeks of gestation to form the uterus, fallopian tubes, cervix, and proximal two-thirds of the vagina[4]. Any disruption of mullerian duct development during embryogenesis can result in a broad and complex spectrum of congenital abnormalities termed mullerian duct anomalies. The ovaries and distal third of the vagina originate from the primitive yolk sac and sino vaginal bud,

respectively. Therefore, Mullerian duct anomalies are not associated with anomalies of the external genitalia or ovarian development.

Diagnosis of Mullerian duct anomalies is clinically important because of the high associated risk of infertility, endometriosis, and miscarriage. Mullerian duct anomalies are also commonly associated with renal anomalies, including renal agenesis (most commonly unilateral agenesis), ectopia, hypoplasia, fusion, malrotation, and duplication. Other congenital anomalies commonly associated with Mullerian duct anomalies include those of the vertebral bodies , such as wedged or fused vertebral bodies and spina bifida, cardiac anomalies, and syndromes such as Klippel-Feil syndrome.

Accurate Mullerian duct anomalies recognition and classification are critical because treatment varies by the anomaly subtype. Of particular importance is correct identification of a septate uterus, since the septum may be composed predominantly of fibrous tissue. Recurrent miscarriage in these patients is attributed to implantation of the embryo onto a poorly vascularized septum. Even with today's state-of-the-art imaging techniques, classification of Mullerian duct anomalies may be challenging .

Imaging plays an essential role in Mullerian duct anomalies diagnosis and treatment planning. Currently, magnetic resonance (MR) imaging is the preferred means of evaluation. However, selection of the initial imaging modality is often dictated by the presenting clinical scenario (eg, primary amenorrhea, pelvic pain, or infertility). Hysterosalpingography (HSG) is routinely used in an initial evaluation of infertility. It allows assessment of the uterine cavity and fallopian tube patency but does not provide any information about the external uterine contour.

In younger patients or acute cases, ultrasonography (US) is the preferred method because it is readily available, inexpensive, and rapid and does not use ionizing radiation. Field-of-view restrictions with ultrasonography, patient body habitus, and artifact from bowel gas may result in a request for further imaging with MR imaging. With the advent of three-dimensional (3D) techniques, Ultra sonography may have the future potential to match the capabilities of MR imaging[5,6]. Currently, however, MR imaging remains the preferred Mullerian duct anomalies imaging method, as it exquisitely details both the uterine cavity and external contours and has shown excellent agreement with clinical Mullerian duct anomalies subtype diagnosis[7].

CONCLUSION:

Radiologist plays a very important role to rule out the cause of vaginal bleeding in pregnancy by Ultrasound and MRI[8]. The use of ultrasound has proved to be extremely accurate in the detection and classification of uterine anomalies and seems to have established it as the gold standard technique for diagnosis of septate uterus.

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Cite this article as: Khanna P & Raghuwanshi S: Ultrasound: A Gold Standard for Diagnosis of Septate Uterus. PJSR. 2017:10(2):88-91.
Source of Support: Nil, **Conflict of Interest**: None declared.