Role of conventional transvaginal sonography in diagnosing uterine anomalies.

Shivam Sood
Dept. of Radio-Diagnosis, MMIMSR Mullana, Ambala, Haryana, India 133207
shivamsood97@gmail.com ***Phone number; 8077059568***

Mugdha Subhash Mozarkar
Dept. of Radio-Diagnosis, MMIMSR Mullana, Ambala, Haryana, India 133207
mugdhamozarkar@gmail.com Phone number; 8055955155

Tanya Sharma
Dept. of Radio-Diagnosis, MMIMSR Mullana, Ambala, Haryana, India 133207
tanyasharma1593@gmail.com ***Phone number; 7018570031***

Vaibhav Yadav
Dept. of Radio-Diagnosis, MMIMSR Mullana, Ambala, Haryana, India 133207
yadav.vaibhav94@gmail.com ***Phone number; 9971330077***

***Corresponding author**

Shivam Sood
Dept. of Radio-Diagnosis, MMIMSR Mullana, Ambala, Haryana, India 133207
shivamsood97@gmail.com ***Phone number; 8077059568***

Abstract
About 2.4 to 13% of all Mullerian abnormalities are unicornuate uteri. The heterogeneous set of congenital defects known as mullerian duct anomalies results from deviations in ductal development, fusion, or septal resorption. Obstetric and gynecological complications like infertility, endometriosis, hematometra, urinary tract anomalies, abortions, and preterm births may be linked to a unicornuate uterus with a non-communicating rudimentary horn. The results of the current study show that traditional transvaginal sonography is useful in uterine anomaly diagnosis, although it should be confirmed by additional methods like MRI**.**
Keywords: Mullerian duct anomalies, Pregnancy outcomes, Pregnancy unicornuate uterus,

Introduction

Infertility, recurrent miscarriages, premature labour, intrauterine growth restriction, and postpartum hemorrhage are all possible outcomes of uterine abnormalities. Recurrent miscarriage and infertility are rather prevalent issues among women. Mullerian duct deformity include unicornuate uteri. Mullerian duct anomalies are a diverse range of congenital malformations that emerge as a result of irregularities in ductal growth, ductal fusion, or altered septal resorption. Different uterine malformations can develop as a result of these defects [1]. To distinguish between instances that can be operated or not, uterine abnormalities must be identified early and correctly diagnosed. Infertility, recurrent first-

trimester abortions, fetal intrauterine growth restriction, and obstetric problems are the most common patient presentations [1].

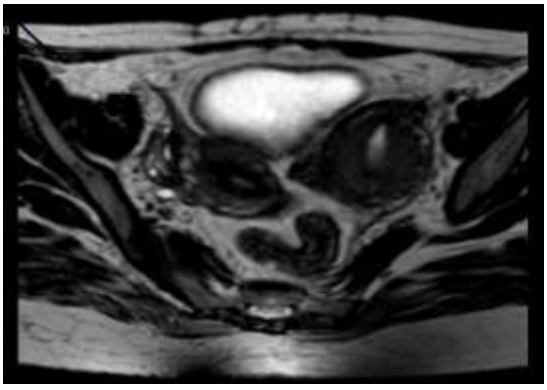
The American Society for Reproductive Medicine (ASRM) system for classification of uterine anomalies, formalized in 1988 and currently in use, the unicornuate uterus is classified as class II, and is subdivided into: II a: with communicating rudimentary horn; II b: with non-communicating rudimentary horn; II c: rudimentary horn without cavity; II d: without any rudimentary horn - also called true unicornuate uterus. [2]

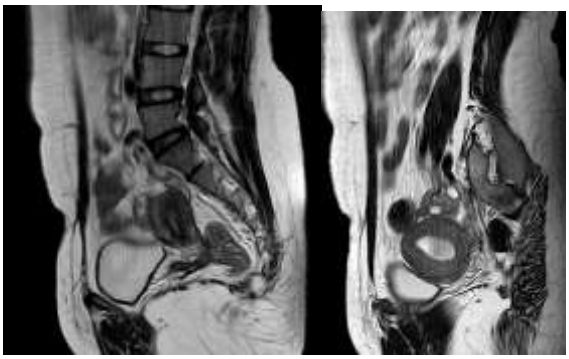
The male and female fetuses are identical throughout the first six weeks of development and both have paired mesonephric (wolffian or male genital) and paramesonephric (mullerian or female genital) ducts. due to the fusion and medial wall resorption of the paired mullerian ducts, the uterus, cervix, and upper two thirds of the vagina. Both cranial and caudal orientations are assumed to be involved in the reabsorption process. Variations in this development can result in a number of congenital uterine malformations. A unicornuate uterus, which accounts for 15% of these abnormalities, develops when one mullerian duct develops normally while the other mullerian duct develops abnormally, either as hypo- or aplasia. Buttram and Gibbons' used categorization method divides unicornuate uteri into four categories based on the degree of rudimentary horn growth. The ovarian development is often normal, however the fallopian tube development differs across the four sub types and cannot be characterized. [3]

Case presentation

A 35-year-old woman (G0P0) was requested to come back for a transvaginal examination. Because "the left ovary was not visualized" during a normal trans abdominal scan, Additionally, left renal agenesis was documented. The uterus was discovered to have significantly shifted to the right during the 2D transvaginal examination; a perfect transverse section at the fundal level was not possible due to the inability to follow the interstitial component of the left uterine tube at the uterine cornu. The uterine measurements were similar to those of a typical nulliparous woman, measuring 81 mm in longitudinal diameter, 28 mm in AP diameter, and 32 mm in transverse diameter. The menstrual phase correlated with endometrial thickness and echo structure. A simple follicle compatible with the menstrual phase was visible as an anechoic structure in the right ovary, which was shown to be cranial to the fundus. Even after scanning transabdominally to confirm an exceedingly high adnexal position, the left ovary could not be seen. No rudimentary horn-related adnexal mass was seen. An MRI was conducted when the patient was sent to Radiology, which confirmed the diagnosis of a right type D unicornuate uterus as well as agenesis of the left ovary and left kidney.

Axial T2W MRI images showing unicornuate uterus with non communicating horn towards left side. (Figure 1)





Sagittal T2W images show non communicating horn with collection within it on left side **(Figure 2)**

Discussion

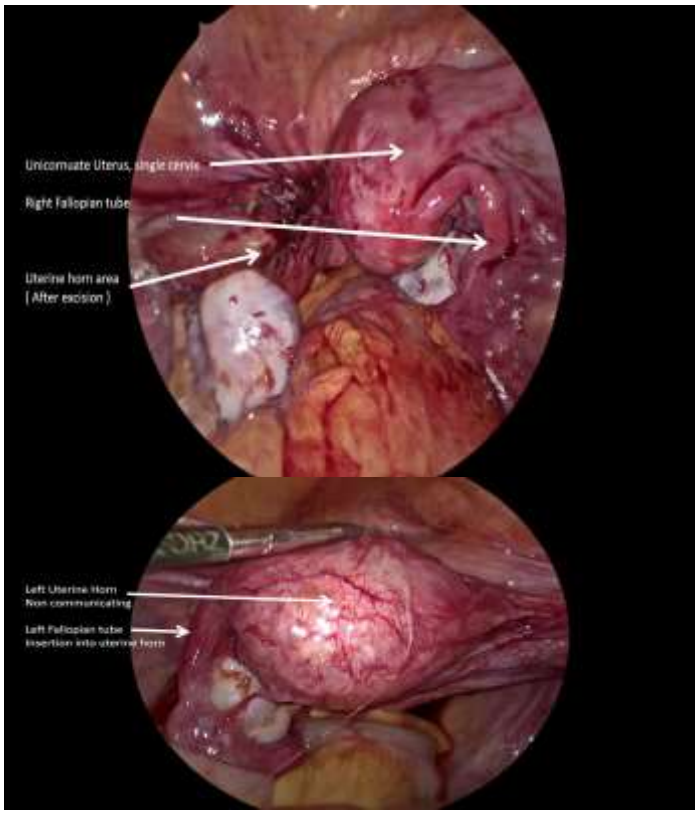
Normal pregnancy may take place in women who have unicornuate uterus but who are asymptomatic and uninformed that they have a unicornuate uterus. Patients who have unicornuate uteri are therefore at higher risk of miscarriage and obstetrical problems. When a genitourinary abnormality is suspected, an initial screening ultrasound should be followed by an MRI rather than a CT, as the latter exposes the patient to radiation and leaves many concerns unresolved due to its poor soft tissue resolution.

Conclusion

Transvaginal ultrasonography is an important diagnostic tool for the study of uterine anomalies

Our findings prove that conventional transvaginal sonography is helpful in diagnosing uterine anomalies, but suspicion should be confirmed by other techniques such as MRI. Furthermore, anomalies of the urinary system and contralateral ovary should be always sought.

OPERATIVE FINDINGS



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Conflict of interest: None

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