# 34-year-old Female with Recurrent Abortions: A Case of Bicornuate Uterus with Cross-fused Renal Ectopia

**Shriya Goel, Sonal Saran***

Department of Radiodiagnosis, All India Institute of Medical Sciences, Rishikesh, Uttarakhand, India

## Section 2 – Answer

### Case

A 34-year-old married female presented to a gynecology outpatient clinic with the chief complaint of recurrent miscarriage in the first trimester. The patient had normal menstrual cycle. No other significant medical and surgical history was present. Pelvic examination of the patient revealed single uterine cervical orifice. Ultrasound examination of the patient was done and the images are shown in Figure 1. Magnetic resonance imaging (MRI) of the female was also performed [Figures 2 and 3]. What is your interpretation?

### Interpretation

Ultrasound examination of the patient revealed two uterine cavities with single cervix. The depth of fundal depression was >1 cm. There was absence of kidney in the left renal fossa. The left kidney was seen in the right renal fossa and fused with the right kidney [Figure 1]. Pelvicalyceal system was not dilated in the fused kidneys. Corticomedullary differentiation was also maintained in the fused kidneys.

The patient further underwent MRI which revealed duplicated endometrial cavity with single cervical canal [Figure 2]. The two uterine cavities were widely separated, the fundal cleft measured ~1.9 cm, and the intercornual distance was ~ 4.4 cm. Bilateral ovaries were normal.

Further, bilateral kidneys were seen in the right renal fossa. There was fusion of upper pole of the left kidney with lower pole of the right kidney. The hilum of the left kidney faced laterally while that of the right kidney was seen facing medially resulting in type S/sigmoid type of crossed-fused renal ectopia [Figure 3].

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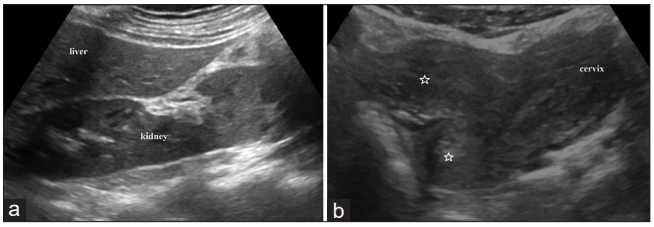


**Figure 1:** Transabdominal ultrasound images of the right lumbar region (a) and the pelvis (b) showing two uterine cavities (star) with single cervix (b). There is absence of kidney in left renal fossa. The left kidney was seen in the right renal fossa and fused with the right kidney (a)

### Discussion

Septate uterus is the most common Müllerian duct anomaly followed by bicornuate uterus. Bicornuate uterus is a type of Müllerian duct anomaly usually discovered incidentally. It most commonly presents with recurrent pregnancy loss. Infertility is not usually a problem with this type of malformation, but studies reveal that there is an association.[1]

Recurrent pregnancy loss on the other hand can be caused by congenital as well as acquired factors. Complete uterine evaluation should be performed by hysteroscopy, Hysterosalpingography, Ultrasound and MRI in the patient presenting with recurrent pregnancy loss.[2]

It is important to differentiate the septate uterus from the bicornuate uterus. It is not possible to differentiate the two on hysterosalpingography as hysterosalpingography only gives information about the triangular or divided uterine cavity contour. Ultrasound and MRI provide greater

**Address for correspondence:** Dr. Sonal Saran, Department of Radiodiagnosis, All India Institute of Medical Sciences, Rishikesh, Uttarakhand, India.
E-mail: sonalsaranmalik@gmail.com



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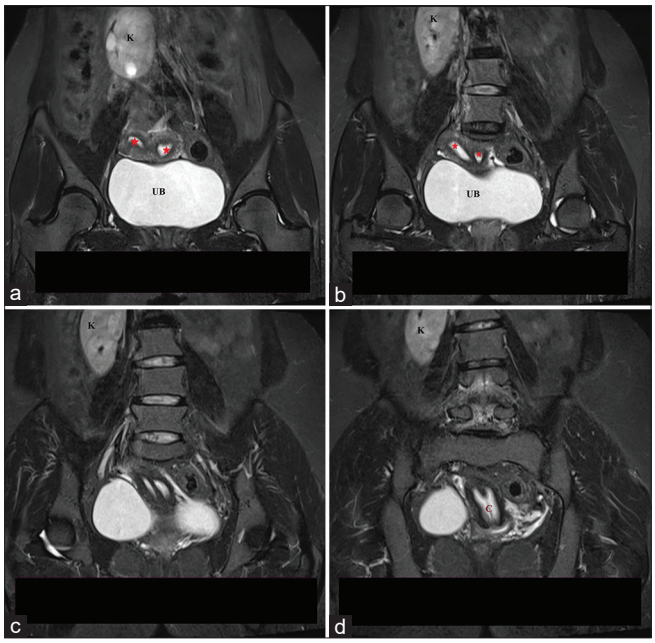


**Figure 2:** Magnetic resonance imaging of the abdomen and pelvis in coronal plane showing two uterine cavities (star) with single cervix (c). There is absence of kidney (k) in the left renal fossa. The left kidney was seen in the right renal fossa and fused with the right kidney forming S-shaped configuration. UB: urinary bladder, C- cervix

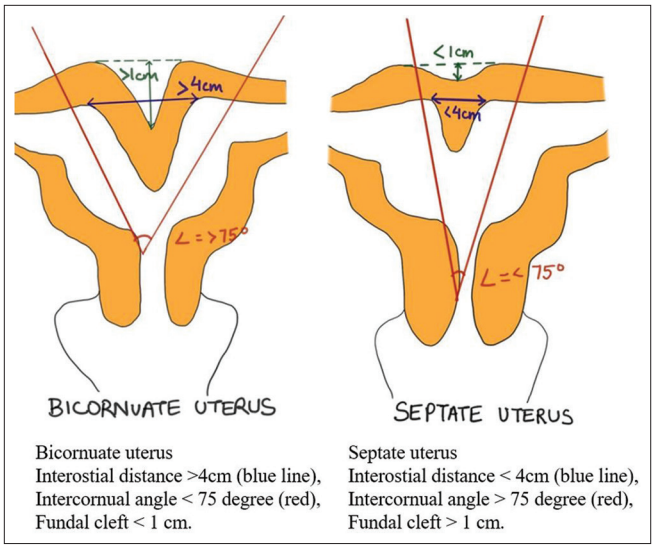


**Figure 4:** Schematic diagram showing difference between bicornuate and septate uterus

anatomic detail about the external uterine contour and thus help in differentiating between septate and bicornuate uterus [Figures 4 and 5]. Moreover, ultrasound and MRI provide information about the concomitant renal anomalies.

Renal ectopy and fusion are common congenital anomalies of the kidney and urinary tract. They result from disruption of the normal embryologic migration of the kidneys. Although most patients are asymptomatic, some can develop symptoms due to complications. There is a close association between

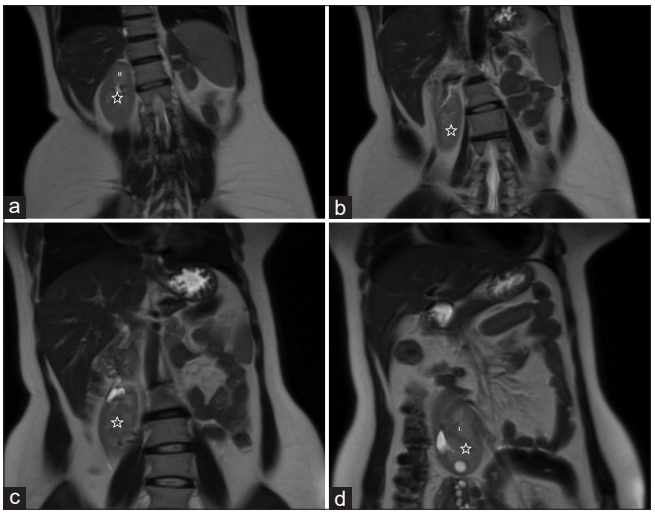


**Figure 3:** Magnetic resonance imaging of the abdomen in coronal plane showing cross fused renal ectopia (star) in the form of fusion of upper pole of left kidney with the lower pole of right kidney. R: right kidney, L: left kidney

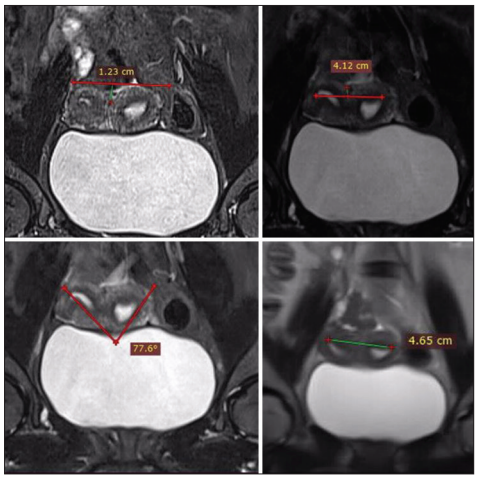


**Figure 5:** Magnetic resonance imaging pelvis showing different measurements used in the case described to prove it as bicornuate uterus

renal tract defects and Müllerian duct malformations. Concomitant renal anomalies are reported in many Müllerian duct anomaly cases. Therefore, it is important to examine the kidneys in such cases. The spectrum of renal anomalies includes agenesis, horseshoe kidney, renal dysplasia, ectopic kidney, and duplicated collecting systems. Renal agenesis is the most common renal anomaly associated with Müllerian duct malformations.[3] However, association of crossed-fused ectopia with bicornuate uterus is very rare. Our extensive search of the literature revealed that till date there has only one such case been reported.[4]

The reason behind presenting this case is to highlight the importance of association between bicornuate uterus and cross fused renal ectopia.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient has given her

consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal the identity, but anonymity cannot be guaranteed.

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Nil.

## Conflicts of interest

There are no conflicts of interest.

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