

# Bicornuate Uterus With Associated Bilateral Tubal Blockage And Fibroid Tumors: A Rare Combination Causing Infertility

O Ayoola, O Alao, B Ibitoye, S Ma'aji

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## Abstract

A bicornuate uterus is a rare mullerian duct anomaly (MDA) caused by fusion defects of the mullerian duct during embryogenesis.<sup>1</sup> They are of clinical significance because they can result in fertility problems ranging from infertility and recurrent abortions to prematurity and malpresentation which increases the perinatal morbidity and mortality rate<sup>2</sup>. In this paper a case is presented to highlight the hysterosalpingography (HSG) and sonographic findings in a patient with bicornuate uterus with bilateral tubal blockage and submucous fibroid.

## CASE REPORT

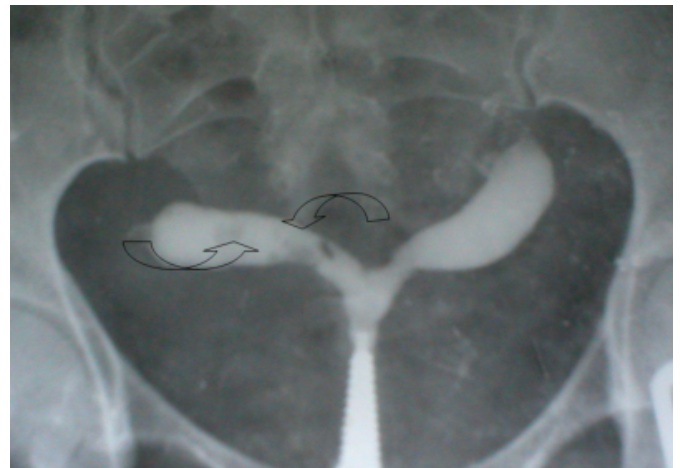
A 35-year-old primipara, referred from a private hospital, presented with a 10 year history of infertility following an induced abortion at 8 weeks gestation which was confirmed by an ultrasound examination. There was no history as to suggest a previous pelvic inflammatory disease. The physical examination revealed no remarkable finding and the patient was otherwise in a healthy condition. She was referred to have a hysterosalpingogram and this revealed a complete duplication of the uterine horns with an angle of greater than  $105^\circ$  separating both horns. Several filling defects were consistently seen in the right horn of the uterus indicating fibroid seedlings. Neither of the fallopian tubes were demonstrated (fig. 1).

A sonohysterographic examination was done thereafter and this unveiled two divergent uterine horns with separate endometrial cavities and a large fundal cleft (fig. 2), the ovaries were essentially normal. Intravenous urography, which was done to rule out the possibility of a co-existing renal anomalies, was essentially normal.

A laparoscopic examination with a dye examination was done following these series of investigations and it revealed two divergent uterine horns and bilateral tubal blockage. Based on the findings, the patient was scheduled for tubal surgery but she defaulted from further management in the hospital as she did not desire a pregnancy to the extent of having a surgery carried out on her.

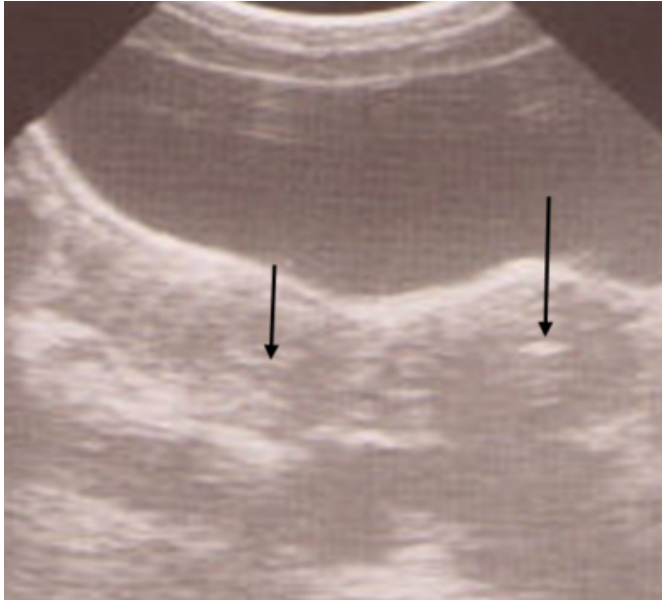
## Figure 1

Figure 1: A hysterosalpingogram showing a single cervical canal and a complete duplication of the uterine horns with an angle greater than  $105^\circ$  separating them in bicornuate uterus. Filling defects are also seen (open curved arrows) indicating uterine fibroids.



**Figure 2**

Figure 2: Transverse ultrasound image revealing two divergent uterine horns along with their endometrial plate (black arrows) and a large fundal cleft due to bicornuate uterus.



**DISCUSSION**

Uterine anomalies have a prevalence of 2-3 %.<sup>3</sup>

It causes a range of fertility problems, from infertility and recurrent abortions to prematurity and malpresentation, which increase the perinatal morbidity and mortality rates.<sup>2</sup> Due to the close embryonic relationship between the wolffian and mullerian ducts, MDA may be associated with renal anomalies, however this was not the case in the patient that was discussed.

Accurate diagnosis is essential in order to avoid unnecessary major surgical intervention as the different subtypes of MDA are managed differently<sup>4</sup> and to ensure proper management. Evaluation of patients suspected to have MDA include physical examination and imaging studies such as ultrasound, Hysterosalpingography (HSG), and Magnetic resonance imaging (MRI). However diagnostic laparoscopy is often necessary for definitive evaluation.<sup>5</sup> MRI, which is very sensitive in making a diagnosis of MDA is not without its pitfalls especially in distinguishing septate uterus from bicornuate uterus.<sup>5</sup>

Septate uterus is a MDA which closely resembles bicornuate uterus is differentiated on the basis of the angle between the uterine cavities which measures less than 75°. If the angle is

however equal to or greater than 105°, a bicornuate uterus is probably present.<sup>6</sup> Angles between 75° and 105° are more likely to be due to septate uterus, but sonography done in the luteal phase of the menstrual cycle could rule out the possibility of an existing bicornuate component.<sup>6</sup> Visualization of the uterine fundal contour, which was not visualized in the case presented, also helps to differentiate septate uterus from a bicornuate uterus.<sup>5</sup>

Uterine didelphys which is also a MDA which closely resembles bicornuate uterus can be differentiated from it on the basis of the number of cervical canals present.<sup>4</sup> In cases of uterine didelphys, two cervical canals are present but only one is seen in bicornuate uterus, just as described in the case presented.

A unicornuate uterus is also a MDA, but in its case a single ellipsoidal shaped, laterally deviated uterus is seen with a single cervical canal and single adnexa.<sup>3,5</sup>

Though a number of patients with MDA present with infertility problems, it should be noted that there have been reported cases of pregnancy in some patients<sup>6</sup> like the one described in this report.

The case of the described patient is rare and interesting in that she had a coexisting bilateral tubal blockage along with fibroid tumors in one of the horns of the bicornuate uterus, which both contributed to the patient's infertility problem. To our knowledge no case has been reported of a bicornuate uterus with the associated pathologies discussed, however a case of a bicornuate uterus with associated fibroids has been reported in literature.<sup>1</sup>

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**Author Information**

**Oluwagbemiga Ayoola, MB chB, FMCR**

Radiology Department, Obafemi Awolowo University teaching Hospital

**Olumide Alao, MBBS, FMCR**

Radiology Department, Obafemi Awolowo University teaching Hospital

**Bolanle Ibitoye, MB chB, FWACS**

Radiology Department, Obafemi Awolowo University teaching Hospital

**Sadisu Ma'aji, MBBS, FMCR**

Radiology Department, Obafemi Awolowo University teaching Hospital