

# Bicornuate Uterus: Infertility Treatment and Pregnancy Continuation without Cerclage: An Unusual Case

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## Abstract

**Introduction:** Uterine malformation in general population is around 7% - 8%. Abnormal fusion of the para-mesonephric duct (mullerian duct) during embryonic life results in a variety of congenital uterine malformations, such as uterus didelphys, uterus bicornis bicollis, uterus bicornis unicollis, uterus subseptae, uterus arcuatus, uterus unicornis. The bicornuate uterus accounts for approximately 10% of the mullerian anomalies. Women with bicornuate uterus have no extra uterine infertility issues. The uterine malformations are known to be associated with spontaneous miscarriages, intrauterine growth restriction, preterm deliveries, preterm prelabour rupture of membranes, breech presentation and increased rate of caesarean delivery. The rates of spontaneous abortion and premature delivery have been reported to reflect the degree of non fusion of the horns. The common complications and adverse reproductive outcomes associated with bicornuate uterus are recurrent pregnancy loss (25%), preterm birth (15% - 25%) and cervical insufficiency (38%). We reported a case of bicornuate unicollis pregnancy which was infertility treated and carried till 38 weeks and had a good outcome. **Case Report:** A 32-year-old nullipara presented to Infertility OPD at NIMS Medical College and Hospital with the chief complaint of inability to conceive in spite of having regular sexual intercourse for 12 years without using any contraception. Patient was then investigated, bicornuate uterus identified. Infertility treatment was done by Intrauterine Insemination (IUI). Patient conceived and pregnancy continued till term uneventfully. **Discussion:** The prevalence of uterine anomalies is 7% - 8%. And now because of better availability of diagnostic modalities, better detection of such anomalies is possible. Bicornuate uterus is a congenital uterine anomaly that results from defective lateral fusion of the paramesonephric ducts at about the tenth week of intrauterine life around the fundus. A bicornuate uterus consists of two symmetric cornua that are fused caudad, with communication of the endometrial cavities—most often at the level of the uterine isthmus. In a partial bicornuate unicollis uterus the in-

**tervening cleft is of variable length. Bicornuate uterus has been reported to have the highest prevalence of cervical incompetence among mullerian anomalies. Prophylactic placement of cervical cerclage in selected patients has been reported to increase fetal survival rates.**

## Keywords

**Bicornuate Uterus, Paramesonephric, Mullerian Duct**

## 1. Introduction

Uterine malformation in general population is around 7% - 8% [1]. Abnormal fusion of the para-mesonephric duct (mullerian duct) during embryonic life results in a variety of congenital uterine malformations, such as uterus didelphys, uterus bicornis bicollis, uterus bicornis unicollis, uterus subseptae, uterus arcuatus, uterus unicornis. The bicornuate uterus accounts for approximately 10% of the mullerian anomalies. Women with bicornuate uterus have no extra uterine infertility issues [1]. The uterine malformations are known to be associated with spontaneous miscarriages, intrauterine growth restriction, preterm deliveries, preterm pre-labour rupture of membranes, breech presentation and increased rate of caesarean delivery. The rates of spontaneous abortion and premature delivery have been reported to reflect the degree of non fusion of the horns. The common complications and adverse reproductive outcomes associated with bicornuate uterus are recurrent pregnancy loss (25%) [1] [2], preterm birth (15% - 25%) [3] and cervical insufficiency (38%) [4]. We report a case of bicornuate unicollis pregnancy which was infertility treated and carried till 38 weeks and had a good outcome.

## 2. Case Report

A 32-year-old nullipara presented to Infertility OPD at NIMS Medical College and Hospital with the chief complain of inability to conceive inspite of having regular sexual intercourse for 12 years without using any contraception. Also complained of excessive bleeding during menstruation along with dysmenorrhoea.

**GENERAL EXAMINATION:** Patient was conscious, cooperative, well oriented.

**GYNAECOLOGICAL EXAMINATION:** Breast—tanner stage 5, no galactorrhoea, axillary and pubic hair tanner stage 5

Per speculum and per vaginum reveals no significant abnormality.

**INVESTIGATIONS:** Ultrasonography—2d USG shows bicornuate uterus with hypoplastic left cavity and normal right cavity with ovaries normal size (**Figure 1**).

Hystrosalpingography showed bicornuate unicollis uterus with both patent fallopian tubes (**Figure 2**).

**HORMONAL INVESTIGATION—**Bld grp-O+ve, RBS—86 mg/dl, Serum LH—5.6 mIU/ml, FSH—10.4 mIU/ml, TSH—2.5 ng/ml, AMH—2 ng/ml, PRL—12.5 ng/ml.

Husband Semen Examination—40 million, 20% motility grade 1, no abnormal forms and pus cells.

Diagnostic hysteroscopy: uterine cavity divided into two with one cervi. Right cavity is normal with hypoplastic left cavity.

Diagnostic laparoscopy: Uterus seen bicornuate with normal ovaries and bilateral chromopertubation positive, POD clear, no adhesions.

**MANAGMENT:** Explaining all consequences to patient, counselled for IUI or IVF surrogacy. She chose IUI and was called on day 3 of menstruation for ovulation induction by clomphene citrate. Regular serial follicular monitoring done from tenth day until 18 mm follicle seen, IUI performed. She turned UPT positive in the second cycle.

Patient was advised bed rest, luteal phase support given for 12 weeks and was on regular antenatal visits with regular ultrasonography, tetanus toxoids and routine medications. At 37 weeks she underwent elective caesarean section.

**Intra operative findings:** Bicornuate uterus with pregnancy in well developed right horn seen (**Figure 3**, **Figure 4**). Left horn measures 10 × 12 centimeters. A live female child weighing 2.4 kilograms was delivered. Placenta was located posteriorly in upper segment of right horn. The findings were confirmed by exteriorizing the uterus and noting the communication between the two cavities and single cervix. The patient had an

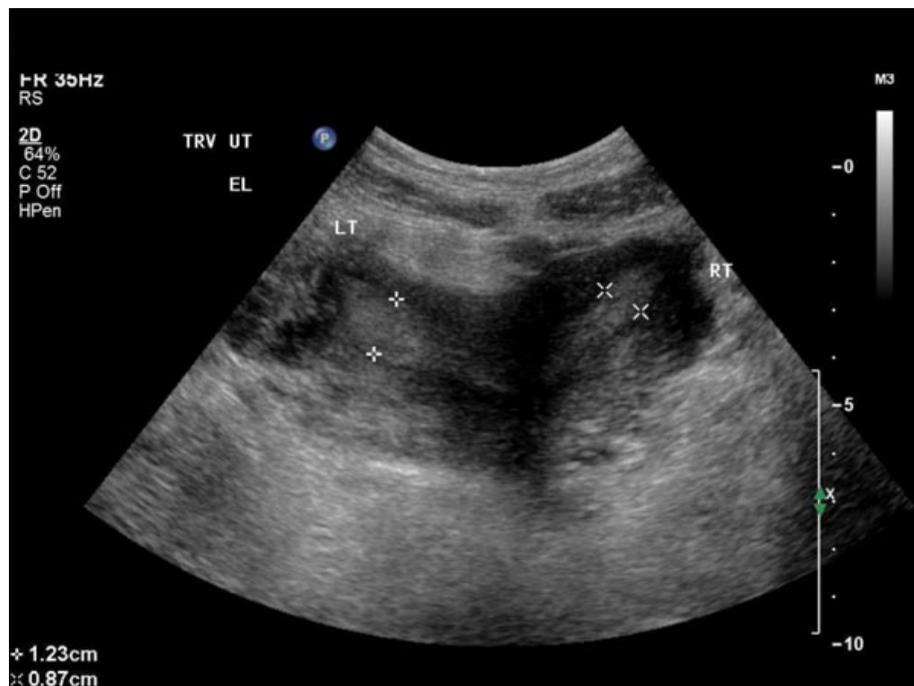


Figure 1. 2D USG scan showing bicornuate uterus.

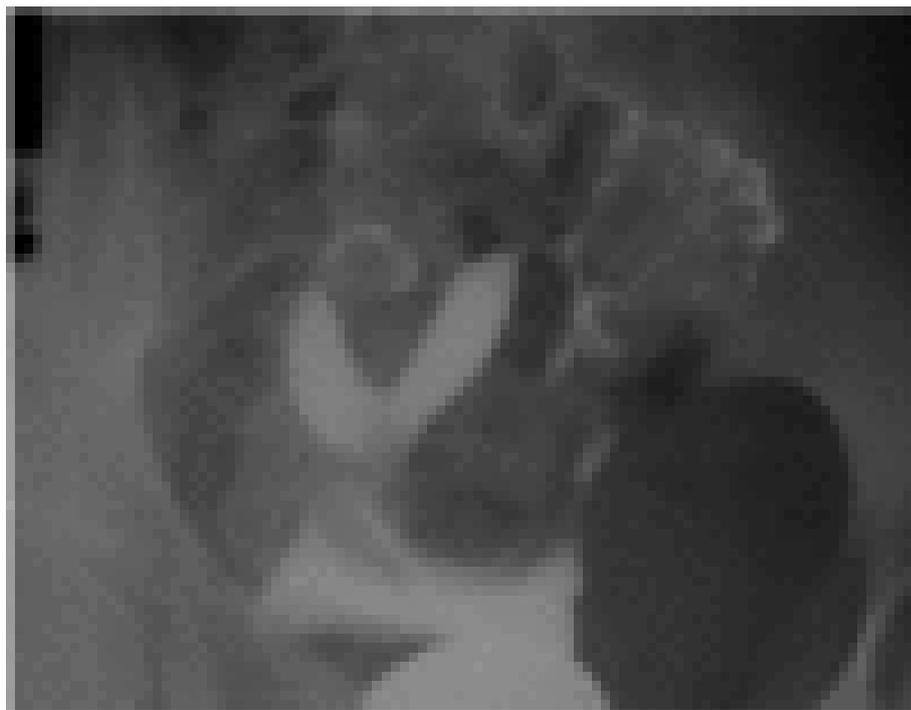
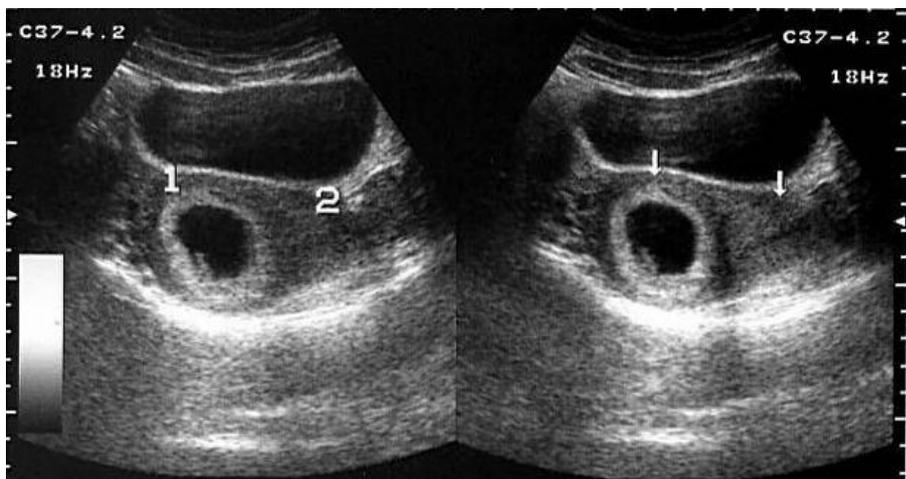


Figure 2. HSG Film showing biconuate uterus with bilateral patent fallopian tubes.

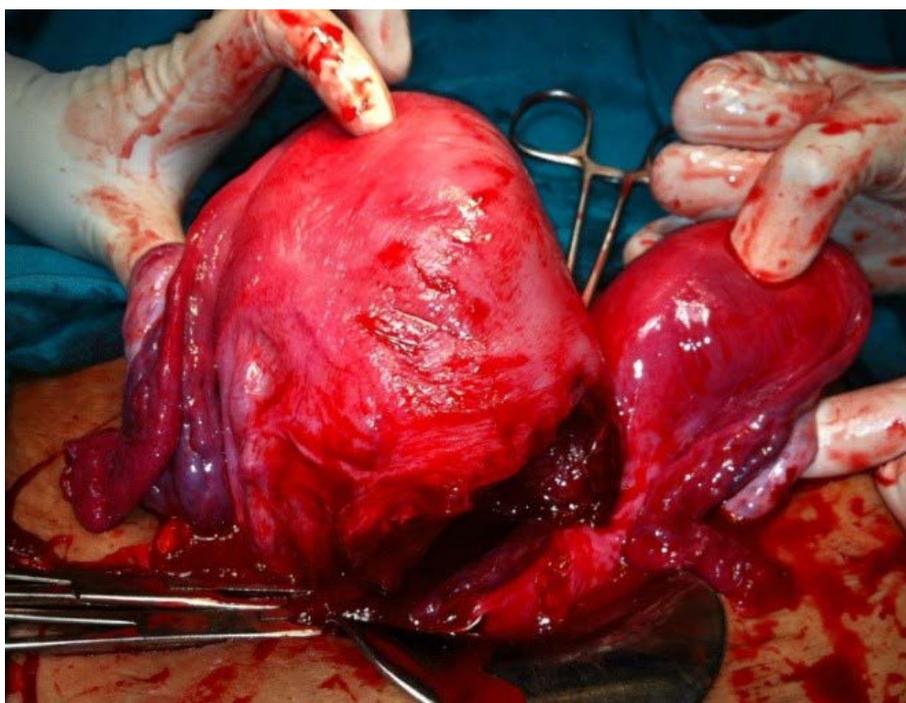
uneventful post operative period and discharged on 7th post operative period.

### 3. Discussion

The prevalence of uterine anomalies is 7% - 8% [1]. And now because of better availability of diagnostic



**Figure 3.** Early pregnancy in right horn of bicornuate uterus. 1. right horn , 2. Left horn.



**Figure 4.** Showing intraoperative bicornuate uterus.

modalities, better detection of such anomalies is possible. Bicornuate uterus is a congenital uterine anomaly that results from defective lateral fusion of the paramesonephric ducts at about the tenth week of intrauterine life around the fundus. A bicornuate uterus consists of two symmetric cornua that are fused caudad, with communication of the endometrial cavities—most often at the level of the uterine isthmus. In a partial bicornuate unicollis uterus the intervening cleft is of variable length. Bicornuate uterus has been reported to have the highest prevalence of cervical incompetence among müllerian anomalies [4]. Prophylactic placement of cervical cerclage in selected patients has been reported to increase fetal survival rates [5]. Most widely accepted classification was given by subcommittee of the American fertility society (now the American society of reproductive medicine) in 1986. Bicornuate uteri belong to class 4 Bicornuate Uterus with Successful Pregnancy Outcome [www.iosrjournals.org](http://www.iosrjournals.org) 53|Page of this classification. Toaff *et al.* described nine subtypes of septate and bicornuate uteri with communicating cavities [6] [7].

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