

## Case of Double Uterus Using Imaging Technique

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**Abstract:** A female of 36 years old came to Shifa Alaleel Hospital, with heavy menstrual period and pelvic pain. By using Gynecologic Sonography and Magnetic Resonance Imaging, it was possible to diagnose a bicornuate uterus. Other less reliable diagnostic imaging methods included hysterosalpingography. These procedures are typically done during the course of an infertility investigation, and during this case all mentioned procedures were used.

**Keywords:** bicornuate uterus, hysterosalpingography, Magnetic Resonance Imaging (MRI)

### INTRODUCTION

The female reproductive system includes the ovaries, fallopian tubes, uterus, vagina, vulva, mammary glands and breasts that are involved in the production and transportation of gametes and also in the production of sex hormones. The female reproductive system facilitates the fertilization of ova by sperm. It also supports the development of offspring during pregnancy and infancy [1].

The uterus is a hollow, muscular, pear-shaped organ. It is located posterior and superior to the urinary bladder. It is connected to the two fallopian tubes on its superior end and to the vagina on its inferior end. It surrounds and supports the developing fetus during pregnancy. The inner lining endometrium, provides support to the early development of embryo. During birth visceral muscles of the uterus contract and push the fetus through the birth canal [1].

Congenital and acquired uterine anomalies associated with recurrent pregnancy loss [2]. Congenital uterine anomalies are malformations of uterus that develop during embryonic life. It occurs in less than 5% of all women, but occurs in 25% of women who had miscarriages and/or deliveries of premature babies [3].

Hysterosalpingograms, Cross sectional imaging study (sonography or MRI) are employed for imaging uterine anomalies [4].

A bicornuate uterus is a type of uterine duplication anomaly classified as a class IV Mullerian duct anomaly [16]. Double uterus is rare, sometimes never diagnosed. The percentage of women with a double uterus is likely higher in those with a history of miscarriage or premature birth [17].

### CASE REPORT

A female of 36 years old came to Shifa Alaleel Hospital (Sudan), with heavy menstrual period and pelvic pain, unusual pain before or during a menstrual period and abnormal bleeding during a menstrual period.

The preferred methods of imaging uterine anomalies were ultrasound, hysterosalpingogram or MRI. The external uterine contour was concave or heart-shaped, and the uterine horns were widely divergent. The fundal cleft was typically more than 1cm deep and the intercornual distance was widened.

The uterus was seen as comprising of caudally fused symmetric uterine cavities with some degree of communication between the two cavities (usually at the uterine isthmus).

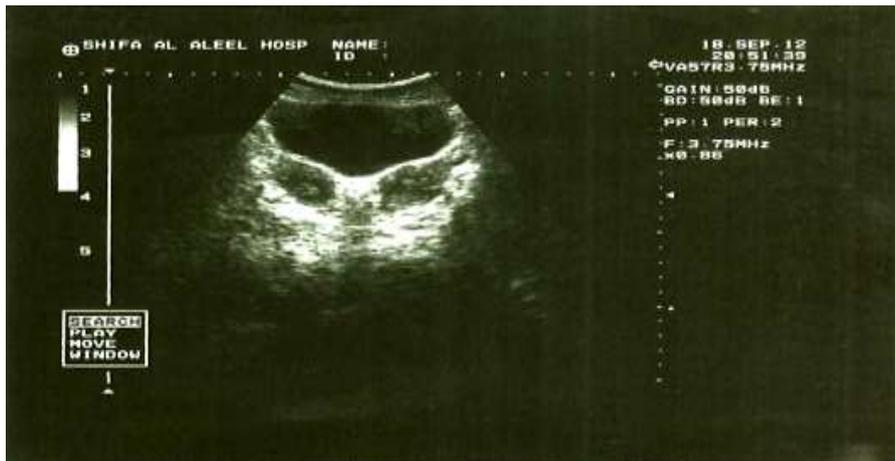


Fig. 1: Transverse U/S image shows double uterus

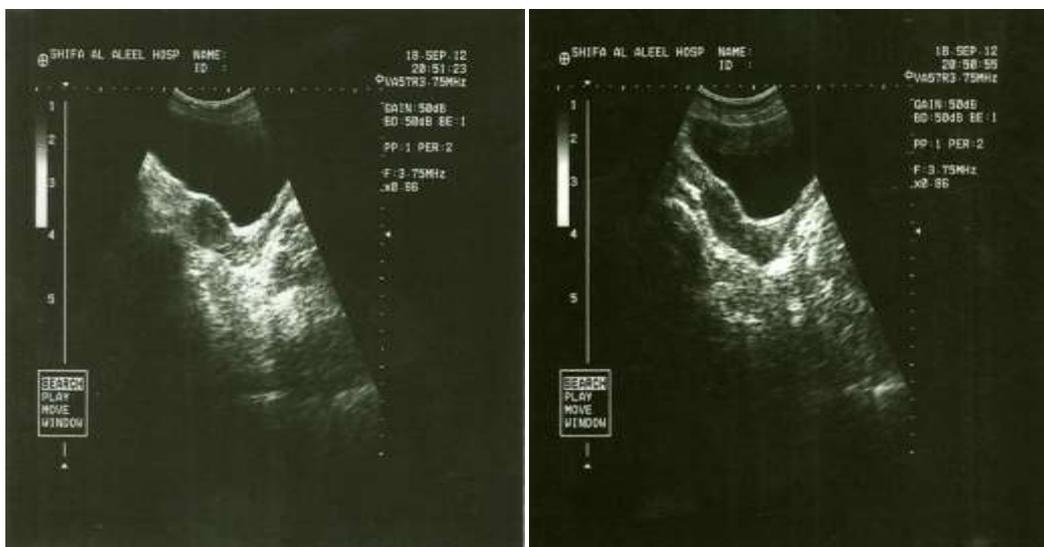


Fig. 2: Sagittal U/S image shows double uterus

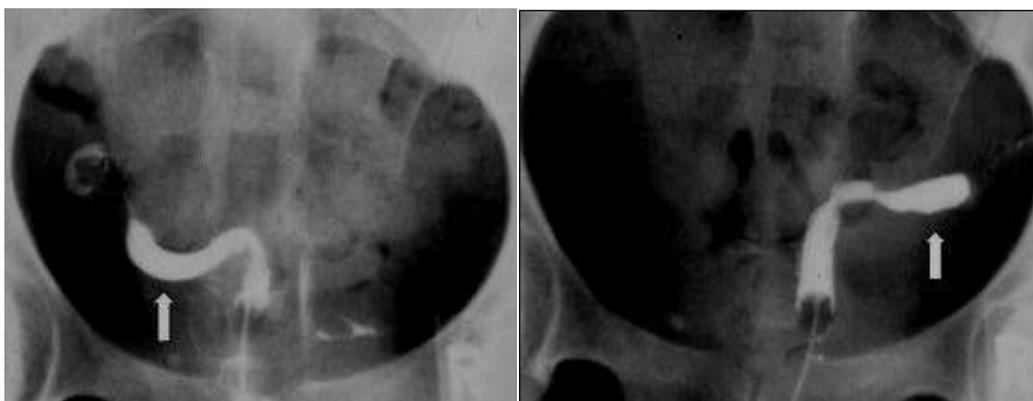


Fig. 3: HSG images shows double uterus, double vagina

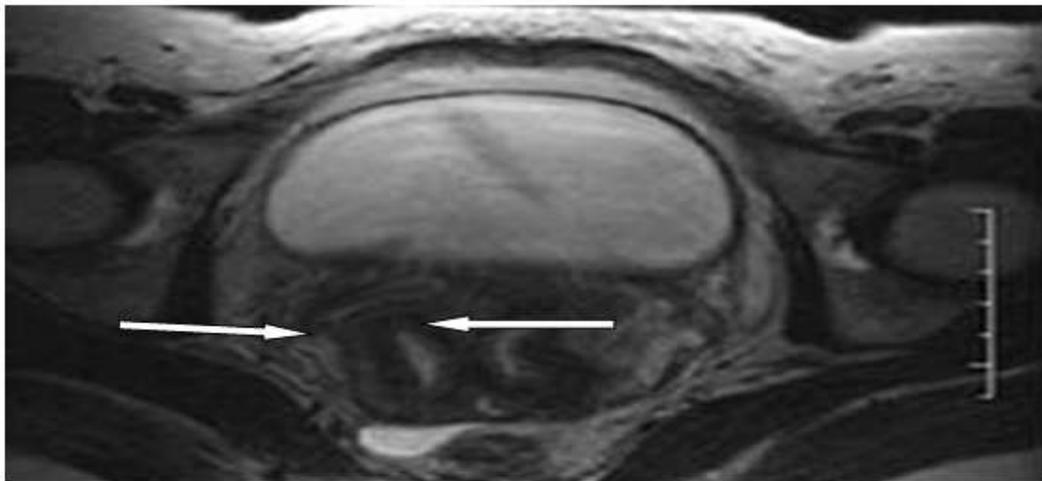


Fig. 4: Axial MRI T2 weighted image shows double uterus (arrows)

## DISCUSSION

Female genital tract anomalies are common deviations from normal anatomy [4, 5]. It may result in variety of clinical presentations, severe health problems in the adolescence, reproductive problems. But most of them they are asymptomatic [5-8].

The most commonly accepted means for classifying uterine anomalies has been framed by orphology America Society for Reproductive Medicine [9] given below:

- Class I: Müllerian agenesis or hypoplasia
- Class II: Unicornuate uterus
- Class III: Didelphys uterus
- Class IV: Bicornuate uterus
- Class V: Septate uterus
- Class VI: Arcuate uterus
- Class VII: Diethylstilbestrol (DES)-exposed

uterus

The diagnostic methods used in the investigation include Gynecological examination (GE), Two-dimensional ultrasound (2D US), Three-dimensional ultrasound (3D US), Sonohysterography (SHG), Hysteroscopy (Hys), Magnetic resonance imaging (MRI), Hysterosalpingography [10].

Three-dimensional ultrasound provides ideal, objective and measurable representation [11–13]. It is able to provide information on the cervix, uterine cavity, uterine wall, external contour of the uterus and the other structures with the exception of tubes [10]

Hysterosalpingography is a non-invasive diagnostic tool used for the diagnosis of uterine's cavity deformations but unable to provide information of uterine wall and external contour of the uterus [14].

MRI is a noninvasive technique, does not involve ionizing radiation and has multiplanar capability. It allows excellent soft-tissue characterization, and permits a greater field of interrogation than does US [15].

## CONCLUSION

By using Gynecologic Sonography and Magnetic Resonance Imaging and Hysterosalpingography a bicornuate uterus was diagnosed.

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