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# Incidental Pick Up: Mullerian Anomalies in Acute Abdominal Pain Using 3D Ultrasound.

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## INTRODUCTION:

The uterus, fallopian tubes, cervix, and the proximal two-thirds of the vagina are formed by the fusion of the Müllerian ducts, which typically takes place between weeks six and eleven of pregnancy [(1)]. During embryogenesis, any interference with the development of the Müllerian duct can lead to a wide range of complicated congenital defects known as Müllerian duct anomalies (MDAs). The ovaries and the distal portion of the vagina are derived from the primordial yolk sac and sinovaginal bud, respectively [(2)].

## CASE SERIES:

Among 6 cases was diagnosed with different types of mullerian anomaly like arcuate , septate , unicorn ate , bicornuate , Didelphys , T shaped uterus with all shares a common feature of renal agenesis. One of the cases presented with irregular G Sac.

**CASE 1:** 29 – Year old female came with history of amenorrhea for past 5 months, UPT positive. Previous menstrual history is normal 3/ 28 days cycle. She came for her dating scan. Routine blood parameters are within normal limits (Figure 1: A) Bicornuate uterus Two uterine cavities with single cervix & vagina with a irrgular sac like structure in a left horn of uterus.

**CASE 2:** A 24 – Year old female came with Complaints of abdominal pain for past 3 days. History of one peak of pyrexia. No history of loose stools / vomiting. Menstrual history is normal. The ultrasound is advised in view of pelvic inflammatory disease. (Figure 1: B) Septate uterus External uterine contour is flat and a thin endometrial stripe seen extending till the internal os.

**CASE 3:** A 35 – Year old female came with epigastric pain and vomiting of sudden onset. No history of loose stools / vomiting. She advised for routine ultrasound. (Figure 1: C) Unicornuate uterus with Banana shaped appearance with reduction in the uterine volume with normal myometrial configuration

**CASE 4:** A 32 – Year old female came to casualty with road traffic accident. No evidence of external injuries noted. Patient is conscious and oriented. She was advised for E-Fast. (Figure 1: D) Didelphys Two divergent uterine horns, Two endometrial cavities and cervix.

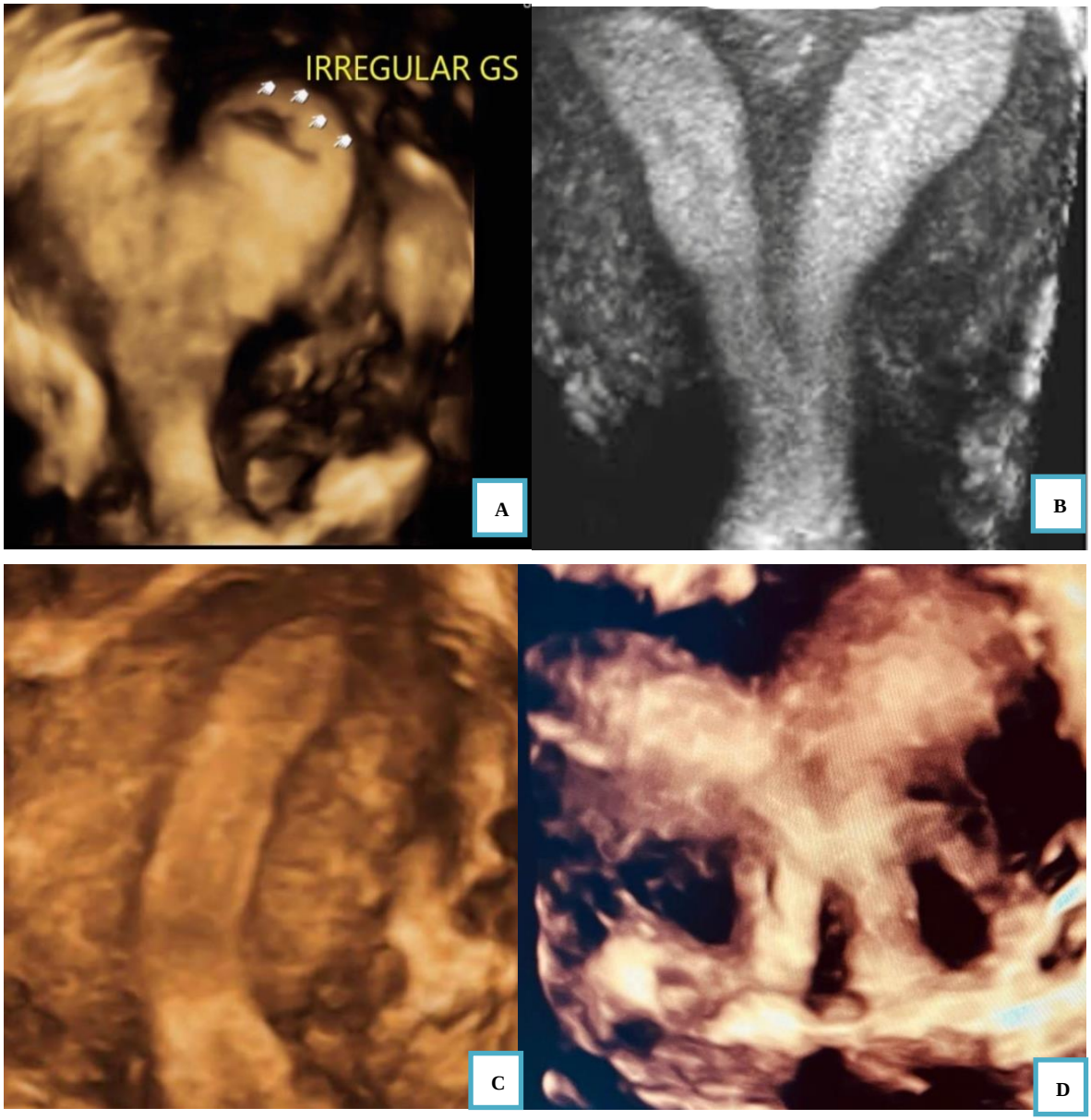


**Fig I: A)** Bicornuate uterus **B)** Septate uterus **C)** Unicornuate uterus **D) Didelphys**

**CASE 5:** A 30 – Year old female came with abnormal uterine bleeding for 5 days. There is no relevant history in the past. K/C/O Hypothyroidism on irregular menstruation. (Figure 2: A)Arcuate uterus Uterine contour normal with smooth fundal indendation.

**CASE 6:** A 34– Year old female came with history of taking contraceptive pills for her abnormal uterine bleeding. Referred to our department for routine check-up. (Figure 2: B) 'T' Shaped uterus

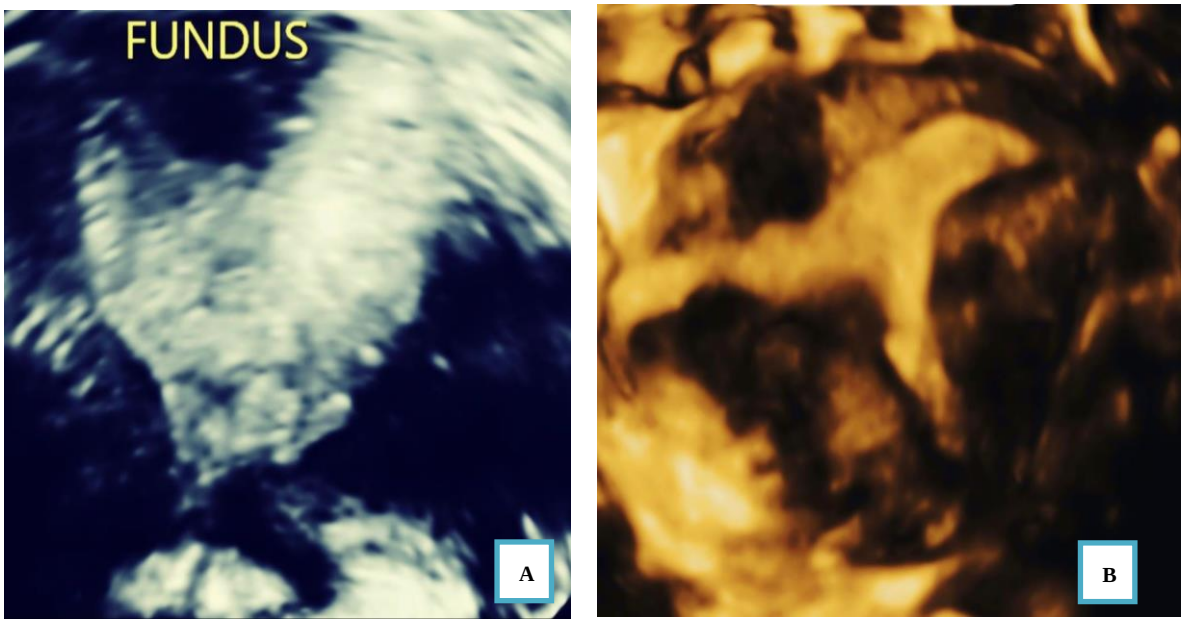


**Fig 2: A)** Arcuate uterus **B) '**T' Shaped uterus

## DISCUSSION:

In a female, placenta and maternal hormones stimulate the growth of the paramesonephric ducts, also known as Müllerian ducts, whereas the mesonephric ducts recede when testosterone levels drop. the top two thirds of the vagina, the cervix, the fallopian tubes, and the uterine body are all formed by the Müllerian ducts.

The vesicouterine and rectouterine gaps, as well as the wide ligament— the peritoneum that joins the side walls of the pelvis to the uterine lateral aspect are also produced by the fusion of the Müllerian duct [(17)]. The uterovaginal primordium make a touch with the urogenital sinus and stimulates the creation of vagina, is formed by caudal fusion of the Müllerian ducts [(3)].

It was then classified into upper and lower sections, which originated from the urogenital sinus and Müllerian ducts, respectively. Since then, controversy has surrounded the question of whether the vagina originated from the urogenital sinus alone or from both müllerian and urogenital sinus components.

Developments in immunohistochemistry and the understanding of diethylstilbestrol's longitudinal effects have revealed more intricacy. Mesothelial, mesenchymal, and primordial germ cells give rise to the ovaries, which become visible by about the tenth week of pregnancy. The ovaries' typical normal function in people with Müllerian hypoplasia is a reflection of their distinct embryologic origins [(4)]. The inability to descend may cause the ovaries to be positioned above where they should be.

In few instances, hysteroscopy in conjunction with interventional radiology has been employed. Sometimes, like in the event of an unsuccessful laparoscopic-assisted excision of a non-communicating horn, IR is the main therapeutic technique. In this instance, the tract is dilated by inserting a needle guided by ultrasonography into the hollow.

IR is also used for dilating blocked structures and guiding hysteroscopic treatments. For instance, a wire can be safely introduced transvaginally into the fallopian tube to direct the hysteroscopic dissection in cases when thick synechiae impede access to the tubal ostium. Likewise, in situations when normal attempts at cervical dilatation fail, an ultrasound-guided puncture into a blocked endocervical canal can be performed in conjunction with balloon catheter angioplasty.

Patients with Müllerian hypoplasia typically exhibit primary amenorrhea and normal ovarian function; hence, uterus transplantation or in-vitro fertilization with a gestational surrogate are viable reproductive options. Vaginoplasty is a crucial component of MRKHS therapy that restores sexual function. Pain at menarche is a typical reason why female teenage patients with obstructive Mullerian abnormalities (OHVIRA, most often) come to a clinician. It has been demonstrated that oblique vaginal septoplasty by vaginoscopic incision is an effective surgical approach for treating OHVIRA. The symptoms of abnormal vaginal discharge may remain if an ectopic ureter inserts itself into the blocked hemivagina and is not recognized.

All together, MDAs are linked to increased incidences of premature membrane rupture at birth (before 37 weeks), fetal malpresentation at delivery, and perinatal mortality . The kind of uterine aberration determines the increased prevalence of preterm delivery; septate abnormalities account for 30% of cases, bicornuate anomalies for 39%, unicornuate anomalies for 41%, and didelphys malformations for 54%. On the other hand, patients with a septate uterus had the largest relative chances of miscarriage in the first and second trimesters. The data supporting the link between MDAs and infertility is weak. When it comes to women who are infertile (and do not miscarry), the stated prevalence of MDAs is similar to the overall population.

The impact of MDAs on the effectiveness of assisted reproductive technologies, such as in-vitro fertilization and intrauterine insemination, has not been well studied. Intrauterine insemination is implemented in a highly diverse manner between clinics, utilizing nonstandard procedures throughout the whole process. Because US advice has little effect on pregnancy rates, it is hardly frequently used. Nevertheless, a physical examination by itself may fail to identify some abnormalities, such as incomplete cervical septa that stop short of the external os. To evaluate the effects of these approaches in patients with MDAs, more research is required.

In this article we emphasize the most recent modifications to the MDA categorization systems, as well as pertinent imaging results for the clinical & surgical therapy.

## CONCLUSION:

3D Ultrasound plays a vital role in identifying mullerian anomalies and impact on infertility.

our study, demonstrated six different types of mullerian anomaly with renal agenesis. Almost all types are identified in ultrasound but MRI serves as gold standard.

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None declared

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