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Case Presentation of Congenital Anomaly of Uterus: Short Review of A Case

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Abstract:
Müllerian duct anomalies are congenital abnormalities of the female reproductive system. (MDAs) are caused by aberrant Müllerian duct formation during embryonic development. A unicornuate uterus arises when one of the paired Müllerian ducts fails to mature or union, whose primordial horn may or may not be present. Preterm birth, intrauterine foetal demise, and spontaneous miscarriage are among the obstetric difficulties that women with this illness are more likely to experience. They might also suffer from gynaecological problems like endometriosis, infertility, and painful periods. A 14-year-old single girl arrived at the Niswan-Wa-Qabalat OPD of Ajmal Khan Tibbiya College, Aligarh Muslim University, complaining of lower abdominal pain and no menstruation throughout a single menstrual cycle. A complete medical history, examination, and imaging modality, such as ultrasound, indicating the patient has a right unicornuate uterus and a left rudimentary non-cavitated uterine horn.
In conclusion, a young, healthy-looking adolescent girl's lack of a regular menstrual cycle should raise suspicions of a unicornuate uterus because it may impact her future ability to conceive. The patient should receive appropriate counselling in addition to a variety of treatment options, including non-surgical and surgical treatments.

Keywords: congenital anomaly of uterus, unicornuate uterus, American Fertility Society

INTRODUCTION:

A unicornuate uterus, also known as unicornis unicollis, is a class II Mullerian duct abnormality. The single uterine horn's elongated appearance gives it the nickname "banana-shaped uterus" (1, 2), and it often empties into a single fallopian tube. Mullerian ducts can develop, fuse, or reabsorb abnormally throughout foetal life, leading to congenital uterine abnormalities. AFS, or the American Fertility Society categorized Müllerian abnormalities in 1988. [(3)] As"

Class I: Uterine agenesis/uterine hypoplasia: Uterine/cervical agenesis or hypoplasia is included in this class.

- Uterus and vaginal: normal or a range of aberrant types

- Cervical
- Foundational
- Tubal
- Combined

Class II: Unicornis unicollis/uterus unicornuate: approximately 15%, with a range of 6-25%. The unicornuate uterus causes the Müllerian duct to completely or nearly completely stop developing. The presence of a crude horn with or without a functional endometrium indicates an incomplete arrest. Obstacles to the rudimentary horn can manifest as an increasing pelvic mass. It is possible to have a full-term pregnancy if the contralateral horn is robust and healthy.

- A contralateral communicative rudimentary horn that includes endometrium
- The endometrium is present in the non-communicating contralateral rudimentary horn.
- There is no endometrial cavity in the contralateral horn.
- No horn

Class III: Uterus didelphysis: around 7.5% (range 5–11%). The total nonfusion of both Müllerian ducts causes this abnormality. Cervices are unavoidably present, and each individual horn is fully grown.

Class IV: Bicornuate uterus: About 25% of uteruses are bicornuate, the second most common kind (range: 10–39%). The Müllerian ducts partially nonfusion causes a bicornuate uterus. The central myometrium has the ability to reach either the internal (bicornuate unicollis) or exterior (bicornuate bicollis).

- Completely separate the external OS and bicornuate bicollis.
- Bicornuate unicollis is characterized by incomplete division that does not include the internal OS.

Class V About 45% of cases (range: 34-55%) have a Septate uterus, making it the most common anomaly. The failure to resorb the septum between the two uterine horns results in a Septate uterus. The differences in treatment between a Septate and a bicornuate uterus are important.

- Complete division, including internal and external operating systems.
- The cervix is unaffected by incomplete division, which affects the endometrial cavity.

Class VI: Arcuate uterus: An arcuate uterus features a single uterine cavity with a convex or flat uterine fundus, known as the endometrial cavity, a tiny fundal fissure or impression, and a flat outer surface, accounting for around 7% of all uterine cavities.

Class VII: DES exposure in utero (t-shaped uterus). The uterine anomaly is found in the female children of up to 15% of moms who were exposed to DES while pregnant. Female foetuses with the condition have a T-shaped uterine cavity and uterine hypoplasia, among other abnormalities.
Structure: The uterus is smaller, asymmetrical, and has only one functional horn. The contralateral side may be absent or have a non-functioning rudimentary horn. 2–8% of infertile women, 5–30% of women who have lost a pregnancy more than once, and 1–10% of the general population have these abnormalities. In addition, intrauterine foetal mortality is 10.5%, second-trimester losses are 9.7%, and first-trimester

miscarriages are 24.3% in women with this condition. [4]. It has been suggested that defective or non-existent uterine or ovarian arteries may limit uterine blood flow, leading to stillbirths, intrauterine growth restriction, and first-trimester miscarriages. On the other hand, cervical insufficiency and decreased muscle mass in the unicornuate uterus are hypothesized to be associated with second-trimester losses and premature births.

Case presentation:

An unmarried 14-year-old girl who had her first period at 13 years old reported having excruciating lower abdomen pain. Her first menstrual cycle, which lasted 7–8 days with a moderate flow, only happened once a year ago. A pelvic ultrasound showed a left rudimentary non-cavitated uterine horn and a right unicornuate uterus measuring 43.6 × 33.5 mm. At a public hospital, the patient had a diagnostic laparoscopy, which confirmed that the uterus was unicornuate.

Due to budgetary limitations, an MRI was not pursued, and HSG and transvaginal ultrasound were not conducted because of her parents' cultural views. Rather, a thorough Transabdominal ultrasound was performed, which allowed for the distinct identification of both ovaries. The provisional diagnosis was congenital uterine anomaly with non-cavitated rudimentary horn unicornuate uterus.

Fig -1: USG before treatment

Counselling:

It takes a sympathetic and comprehensive approach to counsel someone with a unicornuate uterus, especially if they are single, to address both the emotional and medical elements of their condition. Make it clear to the patient that nothing they or their family did caused the congenital issue. Inform her that she can still have a regular monthly cycle and about menstrual health. Emphasize that additional abnormalities can occasionally coexist with the illness.

the significance of screening, especially in the kidneys (renal abnormalities). Prepare her and her family psychologically for issues like infertility in the future. Conception difficulties, an elevated chance of miscarriage, or pregnancy issues (such as preterm labour or intrauterine growth restriction) can result from a unicornuate uterus.

Nonetheless, a large number of women with this illness are able to conceive and give birth to healthy children. Emphasize that in order to support general reproductive health, maintaining a healthy weight, eating a balanced diet, exercising regularly, and avoiding alcohol and tobacco are all essential. Routine gynaecological examinations to track reproductive health and look for issues.

Discussion:

One rare but treatable cause of infertility in women is Müllerian duct anomalies, another name for CUD (congenital uterine deformities).

About 0.1 to 0.5% of all women have these abnormalities, but among those who have experienced repeated miscarriages, their prevalence rises to roughly 3%. Reproductive difficulties, such as infertility, frequent first-trimester miscarriages, incorrect foetal placement, and preterm labour, affect about 25% of women with Müllerian malformations. Since imaging results frequently affect the surgical method chosen, imaging is essential for diagnosing and identifying abnormalities that can be surgically addressed. [5, 6]. Anomalies of some kinds, especially those involving partially or completely blocked Müllerian systems, can result in consequences including hematometra, hematosalpinx, and hematocolpos, which raise morbidity. Furthermore, a known correlation exists between renal abnormalities and Müllerian duct defects. [7].

Sonographic imaging, such as transvaginal and abdominal ultrasonography, is frequently the initial diagnostic technique used in contemporary clinical practice. However, the existence of Müllerian abnormalities is not excluded by negative ultrasonography results. Although advanced 3D sonographic techniques can improve diagnostic capabilities, picture quality and operator competence may restrict their efficacy.Although hysterosalpingography (HSG) is helpful for evaluating the uterus and tubal patency, it might produce vague results that make it difficult to identify abnormalities. Additional imaging is frequently required since illnesses that show up similarly on HSG may need distinct therapies. Because cervix, fundus, body and uterine anatomy may be seen in high-resolution images using MRI, it is considered the gold standard for assessing uterine defects.

Additionally, MRI can be used to detect related urinary tract problems that were previously evaluated with intravenous urography (IVU). But it's important to take into account the common MRI contraindications. [5, 7].

Conclusion:

In this case, an unmarried patient with acute abdominal pain needed surgery because of signs of a unicornuate uterus with a crude horn. Infertility issues were not a priority at this time because the patient was not married. This emphasizes how crucial it is to regularly perform a comprehensive analysis of uterine morphology in order to detect instances of unicornuate uterus.Women who have this syndrome are more likely to develop pelvic endometriosis and rudimentary horn pregnancies, especially if they have a functional rudimentary horn. To avoid major difficulties, the rudimentary horn should be removed laparoscopically. Additionally, tubal ectopic pregnancies are more likely to develop in women with unicornuate uteruses, which emphasizes the importance of early pregnancy ultrasound imaging in

identifying such cases prior to tubal rupture.

Consent of patient:
The entire study was conducted with the consent of patient.

Limitation of study:
This report presents the case details of a patient, emphasizing the need for further studies with a larger sample size to ensure scientific validation.

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