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Case Report

The perplexing entity of rudimentary uterine horn: a case report of tertiary care center

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ABSTRACT

Congenital uterine anomalies (CUAs) are an uncommon type of female genital malformations caused by abnormal development of Mullerian ducts during embryogenesis. Patients with an obstructive uterine anomaly have a higher risk of developing gynaecological and obstetric complications that may present at menarche or later in life. We present a case of severe dysmenorrhea in a adult reproductive age group women caused by obstructive hematometra in a noncommunicating horn of the unicornuate uterus. A differential diagnosis of a possible anomaly was made using 2-dimensional pelvic ultrasonography, which was later confirmed using MRI that revealed an anomalous uterine cavity with a single left-sided cornua communicating with the cervix and a distended right-sided rudimentary horn. She underwent a right salpingectomy and right oophorectomy with rudimentary horn excision (hemi-hysterectomy), which was successfully managed by laparotomy. This case emphasizes the importance of physicians being cognizant in identifying patients with uterine anomaly to provide appropriate treatment and prevent adverse reproductive outcomes.

Keywords: Uterine anomaly, Unicornuate uterus, Rudimentary horn, Hemi-hysterectomy, Reproductive age group women

INTRODUCTION

Mullerian duct anomalies are rare. Unicornuate uterus with a noncommunicating rudimentary horn is a rare type of mullerian duct anomaly which occurs due to defective fusion of malformed duct with contralateral side. Patient with obstructive uterine anomaly have a higher chance of developing gynaecological; and obstetric complications that may present early or later in life. CUAs result from an abnormal formation, fusion, or resorption of the Mullerian ducts during fetal life. According to a meta-analysis, the overall prevalence of CUAs is 5.5%, with unicornuate uterus accounting for 0.1% of the population, amongst which 0.5% were infertile, 0.5% suffered miscarriage, and 3.1% of women had both miscarriage and infertility.[1] The clinical spectrum of unicornuate uterus can vary from an asymptomatic and incidental finding to complex reproductive pathology often leading to subfertility and miscarriages.[2] One of the most common symptoms of CUAs is dysmenorrhea or menstrual cramps which also happens to be a frequent complaint among adolescent females attending the outpatient department.[3]

Secondary dysmenorrhea, which is usually pathological, should always raise the suspicion of uterine malformation that necessitates investigation and treatment. Owing to the wide variety of presentations, this clinical condition remains an interesting field of study with regard to its diagnosis and challenges in its management.

CASE REPORT

We present a case of 33 years old reproductive age group female who presented to the emergency of a tertiary care hospital with complaint of severe dysmenorrhoea. She gave history of chronic and progressive dysmenorrhoea, urinary frequency and constipation. The pain was cramping in nature, start 2-3 days before the menses and

persisting for a week, even after the menstrual bleeding subsided and was minimally relived with analgesics. she is P2 (Parous) and both deliveries done by caesarean section. She is sexually active and wants her fertility to be preserved.

On admission she had hemodynamically stable vitals. Per abdomen examination shows mild tenderness in the suprapubic and right iliac fossa with absence of guarding. systemic examination was normal. Trans abdominal ultrasonography revealed a 1.5×1.3 cm right ovarian endometriotic cyst and unicornuate uterus with 22 CC hematometra in noncommunicating rudimentary right horn of uterus. Further for confirmation MRI pelvis was done which shows non-communicating and functional right rudimentary horn containing hematometra with unicornuate uterus (left) and endometriotic cyst in right ovary.

After detail discussion with the patient and the family about the surgery and informed consent was taken for hemi-hysterectomy. After laparotomy; initially, the round ligament, the infundibulopelvic ligament and anterior leaflet of the broad ligament ipsilateral to the rudimentary horn were cut and ligated. A right salpingectomy was done at the cornual end. Following dissection into the retroperitoneal space, a branch of the right uterine artery supplying the rudimentary horn was ligated.

The fibromuscular connection was cut, the rudimentary horn was incised draining altered dark blood, and later haemostatic suture was applied over connecting site of normal uterus. The pieces of the horn along with the connecting tube were removed and sent for the histopathology.

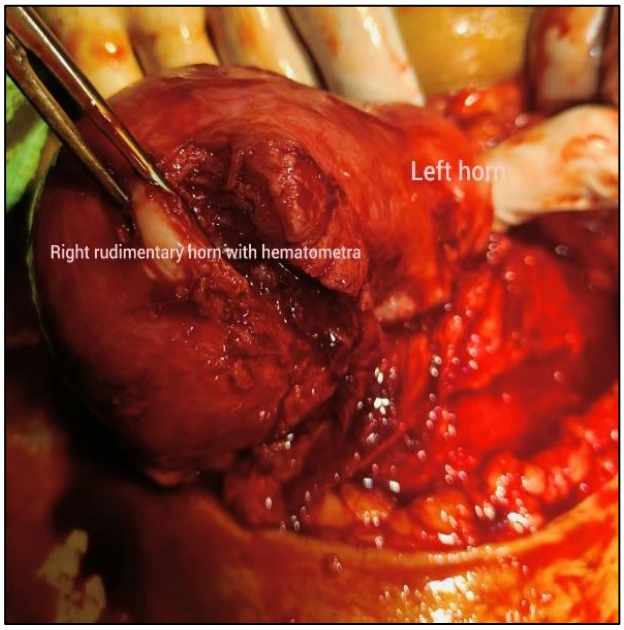

Figure 1: Intraoperative picture showing normal left horn and right rudimentary horn with the hematometra.

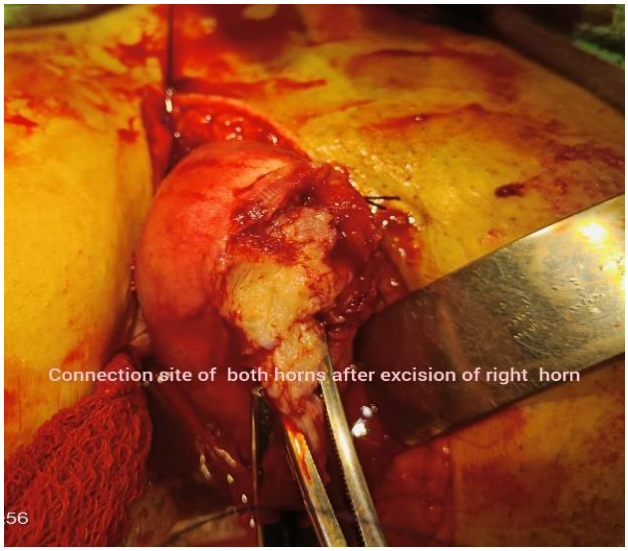

Figure 2: Intraoperative picture showing connection site of both horns after excision of right horn.

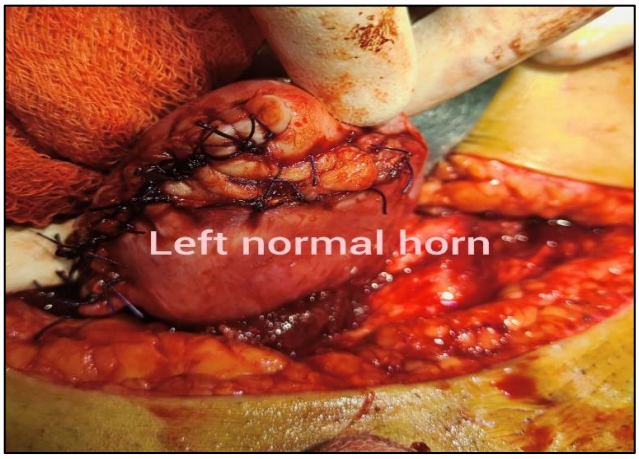

Figure 3: Intraoperative picture (anterior view) showing remaining horn (left horn) after application of haemostatic suture.

Figure 4: Intraoperative picture (posterior view) showing remaining horn (left horn) after application of haemostatic suture.

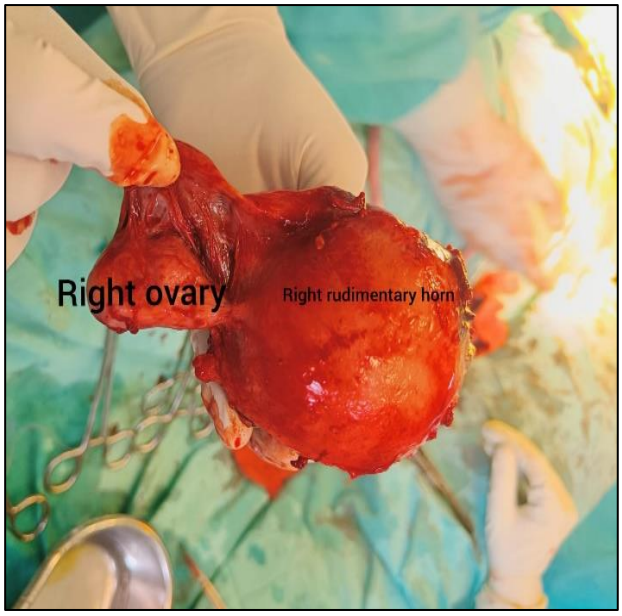

Figure 5: Excised right rudimentary horn with right ovary.

The postoperative period was uneventful, and the patient was discharged 4 days later. She was followed up in the gynaecology clinic after a 1-month period and reported relived dysmenorrhea.

DISCUSSION

The female reproductive organs develop from paired Mullerian (paramesonephric) ducts at the sixth week of gestation, which fuses to form the uterus, cervix, and upper two-thirds of the vagina.[4] CUAs result from a failure of fusion, abnormal development, or incomplete resorption of the Mullerian ducts. The sporadic nature of the majority of these anomalies, on the other hand, may indicate a multifactorial etiology involving extrauterine and intrauterine environmental factors such as infections, ionizing radiation, or teratogenic drugs (e.g., thalidomide and diethylstilbesterol) during early pregnancy.[5] We believe our case is congenital as there was no significant prenatal history to suggest an acquired reason for the malformation.

CUAs are classified into a 7-class system, with our patient presenting with the class 2-unicornuate uterus. Unicornuate uterus results from an abnormal development of one of the paired Mullerian ducts.[6] According to the American fertility society, it can be classified further into the subtypes as given in Figure 6.[7]

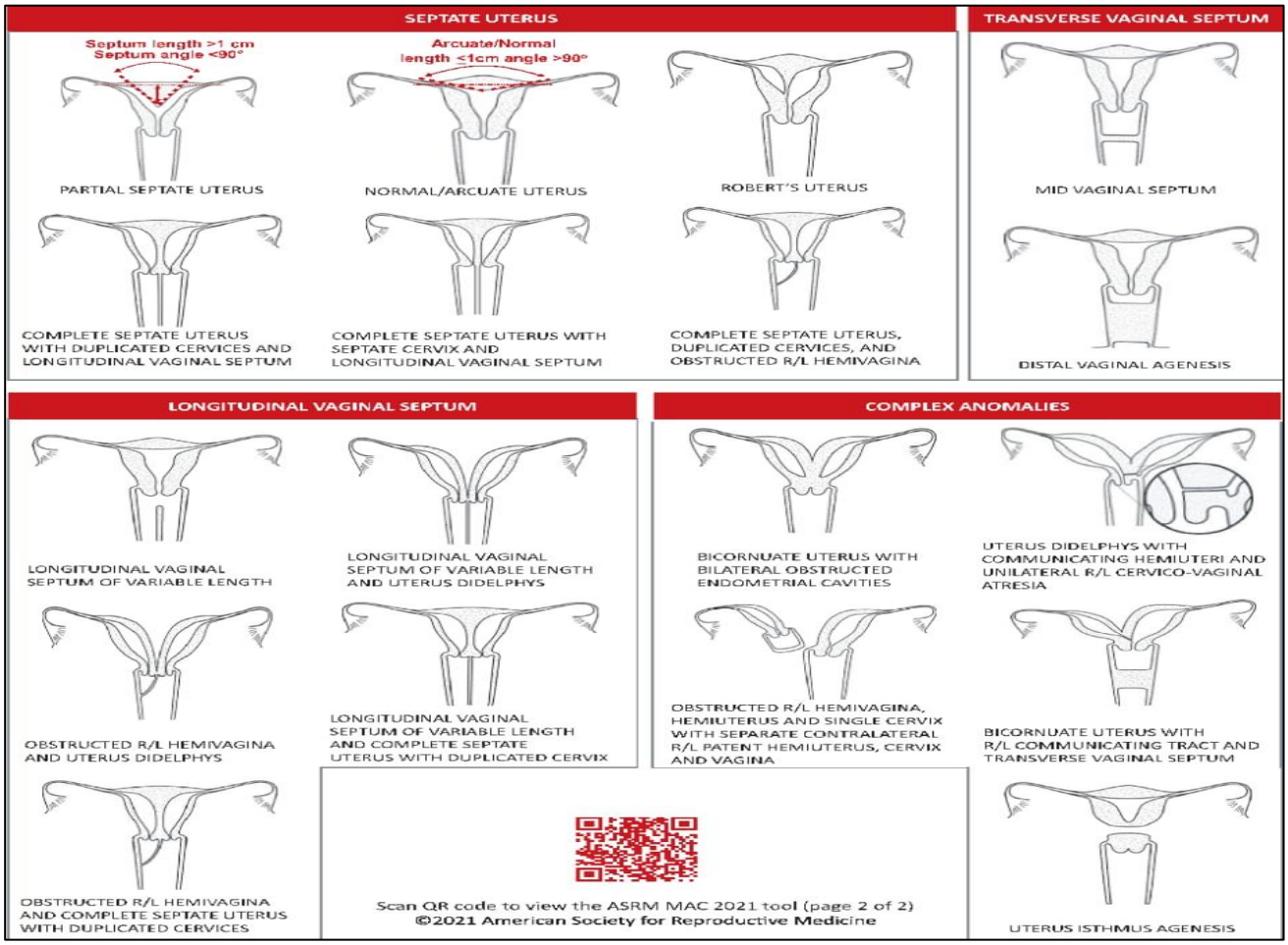

Figure 6: The American fertility society classification of unicornuate uterus.[7]

patients with this uterine anomaly are more likely to experience gynaecological problems such as hematometra, hematosalpinx, endometriosis, dysmenorrhea, chronic pelvic pain, and primary infertility, as well as obstetric complications like miscarriages, ectopic pregnancies, rupture of the uterus, and preterm labor.[8] With regard to this case, the patient presented with increasing postmenstrual pain, urinary frequency, and constipation, which we believe was due to distension of the rudimentary horn owing to its functional endometrium and its pressure effect on neighbouring organs.

Precise assessment of the internal and external contours of the uterus is essential in diagnosing and classifying CUAs accurately. Previously, the combination of laparoscopy and hysteroscopy was the gold standard modality; however, imaging studies such as ultrasonography, hysterosalpingography (HSG), Sono hysterography, and MRI are less invasive and are used to screen, diagnose, and classify CUAs.[1] Although standard 2-dimensional transvaginal scanning (TVS) and HSG are good screening tools for uterine anomalies, 3-dimensional TVS and MRI can precisely classify CUAs.[9,10] Since TVS and HSG cannot be carried out in females with intact hymen, an MRI was performed on this patient.

Rudimentary horn and its liability for ectopic pregnancy has been described in multiple literature studies as being presumably due to intraperitoneal sperm or oocyte migration and were associated with higher incidence of abortion or rupture of the horn, especially in the second and third trimesters.[11-13] Furthermore, considering the fact that hematometra, hematosalpinx, and endometriosis are consequences of retrograde menstruation, the rudimentary horn and its connecting fallopian tube were removed during laprotomy for this patient.[14] Our goal was to perform a reconstructive surgery to restore the structural and functional integrity and to alleviate symptoms via minimally invasive procedure.

Although unicornuate uterus is often associated with renal anomalies, occurring in 40.5% of cases, with renal agenesis being the most common, recorded in 67% of cases, our patient had no such abnormalities.[15,16] An MRI should be used in these patients' diagnostic workup to outline the rudimentary horn variant and to assess the presence of associated renal anomalies.

CONCLUSION

A case of rudimentary uterus is clinically misleading, and therefore an appropriate diagnostic method is needed for prompt diagnosis. Although there is no one specific symptom for clinically diagnosing uterine anomaly, one should have a high level of suspicion when a young female patient or reproductive age group women presents with dysmenorrhea that does not respond to analgesics. Only imaging, such as transvaginal ultrasound and MRI, can provide a definitive diagnosis, which is useful not only for diagnosing but also for surgical planning. This literature also explains the significance of removal of rudimentary horn and its connecting fallopian tube as the best treatment option, particularly for younger women and reproductive age group women, as in our case to prevent future gynaecological and pregnancy-related complications.

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