

DOI: <https://dx.doi.org/10.18203/2320-1770.ijrcog20260568>

## Case Report

# A rare case of unicornuate uterus with non-communicating functional rudimentary horn associated with grade 3 endometriosis and a vascular anomaly

Shruthi Kelasur Rajashekara\*, Virupaksha Ajjammanavar, Jayashree Sambashivaiah

Department of Obstetrics and Gynecology, JSS Medical College and Hospital, JSS AHER, Mysuru, Karnataka, India

**Received:** 28 January 2026

**Revised:** 15 February 2026

**Accepted:** 16 February 2026

### \*Correspondence:

Dr. Shruthi Kelasur Rajashekara,

E-mail: [drshruthikr@gmail.com](mailto:drshruthikr@gmail.com)

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

### ABSTRACT

Uterine anomalies result from either non-fusion or aberration in the fusion of the Müllerian ducts. An unicornuate uterus is one such anomaly that can present in different age groups due to its variation in relation to the presence or absence of a rudimentary horn. It can present as severe dysmenorrhea in young women if there is hematometra in the non-communicating functional rudimentary horn or if there is associated endometriosis. It can also present with infertility, recurrent pregnancy loss, or preterm delivery, and can be incidentally diagnosed during a cesarean section. One of the dreaded complications is pregnancy in the non-communicating horn and its rupture. It can pose a diagnostic and management challenge. Magnetic resonance imaging (MRI) is the gold standard for diagnosis, and surgical management is imperative in case of a functional non-communicating horn for relief of dysmenorrhea, prevention of endometriosis, and to prevent pregnancy complications. We report a case of a woman in her early 20s with severe dysmenorrhea and infertility diagnosed with a unicornuate uterus with a non-communicating functional rudimentary horn with grade 3 endometriosis with vascular anomaly who was managed surgically.

**Keywords:** Unicornuate uterus, Endometriosis, Rudimentary horn, Müllerian duct anomalies

### INTRODUCTION

Uterine anomalies are the deviation from the normal anatomy resulting from either non-fusion or aberration in the fusion of Müllerian ducts, with the incidence varying from 0.5% to 5% in the general population.<sup>1</sup> In women with fertility problems, the incidence of Müllerian duct anomalies is slightly higher at 3-6%.<sup>2</sup> The current ASRM (2021) Müllerian anomalies classification includes the following nine descriptive designations and replaces the AFS (1988) numerical nomenclature: Müllerian agenesis, cervical agenesis, unicornate uterus, uterus didelphys, bicornuate uterus, septate uterus, longitudinal vaginal septum, transverse vaginal septum, and complex anomalies.<sup>3</sup> Unicornuate uterus is not a unique anomaly, and its prevalence is estimated to be close to 0.1%, 0.5%, and 2% in unselected, infertile women, and those with a

history of miscarriage, respectively.<sup>4</sup> A unicornuate uterus may have a rudimentary horn or not. If a rudimentary horn is present, it could be either communicating or non-communicating and could be either functional or non-functional. The common presentations include amenorrhoea, dysmenorrhoea, a lump in the abdomen (hematometra), and infertility. The other problems are recurrent abortions, IUGR, and preterm labour.<sup>5</sup> The most dreaded complication is acute uterine rupture if pregnancy happens in the non-communicating horn, and hence, diagnosis of the rudimentary uterine horn requires a heightened awareness by clinicians, and surgical removal before pregnancy is recommended.<sup>6</sup> Mullerian malformations are frequently associated with abnormalities of the renal and axial skeletal systems, cardiac defects, and hearing loss. Very rarely, vertebral defect, anal atresia, cardiac defect, tracheoesophageal

fistula/esophageal atresia, renal defect, and limb defect (VACTERL association), with fewer cases of isolated anorectal malformations, have been reported.<sup>7</sup> 2-dimensional ultrasound or 3-dimensional ultrasound is the first investigation done, which can help in diagnosis, but MRI is considered the gold standard as it reliably helps in evaluating and detecting unicornuate uterus with its associated pathology.<sup>2</sup> In cases of a unicornuate uterus with hematometra in the rudimentary horn, a laparoscopic horn resection is fast, efficient, and technically easy, and in cases where the rudimentary horn may be solidly attached to the unicornuate uterus, the laparoscopic technique can be more challenging. With concomitant endometriosis and adhesions, transperitoneal identification of the ureter can be a challenging and suturing of the uterine wall may be necessary to restore integrity.<sup>4</sup>

### CASE REPORT

We present a case report of a woman in her early 20s with primary infertility with severe dysmenorrhea referred to our tertiary care centre for further management. She gave a history of attaining menarche at the age of 13 years with irregular and painful menstrual cycles in the last 3 years, for which she took pain medications without any relief. She has been married for 5 years and has been trying to conceive for the last 3 years, for which the couple was evaluated. She had no significant past or medical history. On examination, her pulse rate and blood pressure were within normal limits. She had a moderate build and was well-nourished; on abdominal palpation, mild tenderness was present in the suprapubic region and right iliac fossa with no palpable mass. On speculum examination, the cervix could not be visualized, with narrowing of the upper vagina, raising the suspicion of a transverse vaginal septum. Further prevaginal examination confirmed the narrowing of the upper 1/3rd of the vagina circumferentially, as only 1 finger could be passed, and the cervix was felt further inside. She had an ultrasound scan report showing a unicornuate uterus with a non-communicating right horn with echogenic contents within, along with a right tubo-ovarian mass, probably endometrioma / hematosalpinx. There was a mention that the vaginal probe could not be passed up to the upper 1/3rd of the vagina, with the possibility of a vaginal septum. Also, there was a mention of a vascular anomaly of the left common iliac artery looping around the upper 1/3rd of the vagina and continuing as the left external iliac artery, as shown in Figure 1.

Further MRI with contrast study was performed, which mentioned about 2 separate well-defined masses in the right hemipelvis, the anterior mass representing a noncommunicating rudimentary horn with hematometra within, and a posterior mass with subacute to chronic hemorrhagic cyst. A small-sized uterus with unicornuate morphology was noted in the left hemipelvis, as shown in Figure 2.

Aberrent course of left common iliac artery in relation to lower cervix and upper vagina- coursing vertically indenting the left proximal common iliac vein further descending along anterior wall of the left sacrum up to sacrococcygeal junction, coursing horizontally towards right side posterior to upper to upper wall of vagina and revolving along the right lateral wall of the lower cervix and coursing horizontally along the anterior wall of lower cervix reaching up to left lateral pelvic wall(at the level of roof of acetabulum) and then dividing into external and internal iliac arteries. A diagnostic hysterolaparoscopy was performed, which showed a right-sided non-communicating rudimentary horn around 4×5 cm with the right ovary containing a 3×4 cm endometriotic cyst adherent to the rudimentary horn along with omentum and large bowel adhesion, with the diagnosis of stage 3 endometriosis as shown in Figure 3.



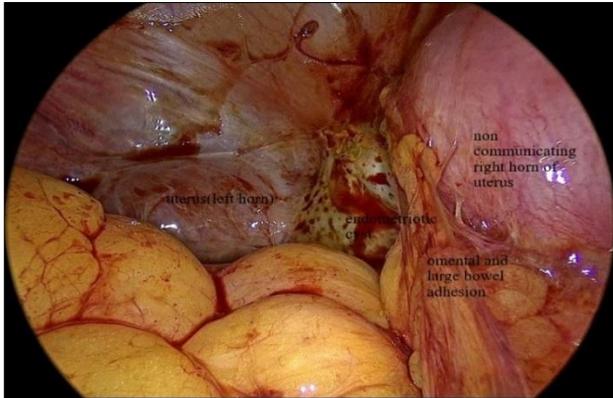
**Figure 1: Ultrasound Doppler image showing the aberrant course of the left common iliac artery encircling the cervix.**



**Figure 2: Magnetic resonance imaging showing the unicornuate uterus with right-sided rudimentary horn and the endometriotic/hemorrhagic cyst.**

The right fallopian tube was not visualized. Right ovarian cystectomy was done after releasing the adhesion using scissors and a harmonic scalpel, as shown in Figure 4. The right-sided rudimentary horn was excised, and it contained the old, collected blood as shown in Figure 5. Hysteroscopy was done, showing a normal single cervix

and a single ostium in the unicornuate uterus. The patient was stable and was discharged on postoperative day 3. She was followed up after 1 week and was symptomatically better.



**Figure 3: Laparoscopic image showing left unicornuate uterus with right non-communicating rudimentary horn with endometriotic cyst with omental and large bowel adhesions-stage 3 endometriosis.**



**Figure 4: Right-sided endometriotic cyst with chocolate coloured fluid.**



**Figure 5: Right-sided non-communicating rudimentary horn excision. A functional endometrium and a collection of blood are seen within.**

## DISCUSSION

Unicornuate uterus is a Müllerian anomaly of the uterus, which can remain asymptomatic without any complications or can present early after menarche as severe dysmenorrhea and pelvic pain or as a pregnancy complication later.<sup>2</sup> It can present with an abdominal mass if associated with a functioning rudimentary horn with hematometra or due to endometriosis resulting from retrograde blood flow.<sup>8</sup> These women can also present with infertility, recurrent abortions, preterm delivery, intrauterine growth restriction, and, rarely, pregnancy can occur in the rudimentary horn -ectopic pregnancy, missed abortion, posing challenges in diagnosis and management.<sup>5,6,9</sup> There are various studies also reporting acute rupture of the rudimentary horn, which can be life-threatening.<sup>6</sup> In the present case patient had a unicornuate uterus with a non-communicating functional horn with hematometra with grade 3 endometriosis, which required surgical management to reduce the symptoms and also to contain the peritoneal spread of endometriosis to preserve her fertility. In cases of a unicornuate uterus with hematometra in the rudimentary horn with a flimsy connection with the main body, resection is technically easy, as in the present case. In cases where the rudimentary horn may be solidly attached to the unicornuate uterus, a laparoscopic technique can be more challenging and requires identification of the ureter, hemostasis, and suturing of the remnant body with preservation of the endometrial lining. With concomitant endometriosis and adhesions, transperitoneal identification of the ureter can be a challenge.<sup>4</sup> Similar study was reported by Bhadwal et al, where there was a functional non-communicating rudimentary horn associated with ovarian endometrioma.<sup>10</sup> Our patient did not have any other known anomalies associated with a unicornuate uterus, but had an aberrant vascular anatomy of the left common iliac artery, which encircled the cervix and upper vagina, and a vaginal constriction was noted, which posed a diagnostic dilemma of a partial septum, and also had difficulty in doing TVS as the probe could not be passed. This may imply future issues if the patient requires infertility treatment like IVF, as it may interfere with oocyte pickup, and the vascular distortion can also pose a risk of hemorrhage.

## CONCLUSION

The present case highlights the diagnostic and surgical challenges associated with a unicornuate uterus with a non-communicating functional rudimentary horn, especially when compounded by grade 3 endometriosis and a rare vascular anomaly of the left common iliac artery. Severe dysmenorrhea and infertility in young women should prompt a high index of suspicion for Müllerian duct anomalies. MRI proved invaluable in delineating the uterine morphology, associated endometriotic pathology, and aberrant vascular anatomy, thereby facilitating meticulous preoperative planning. Early surgical excision of the functional non-communicating horn helps in alleviating the symptoms and prevents the progression of

endometriosis. The presence of distorted pelvic vascular anatomy in this patient underscores the importance of careful intraoperative dissection and ureteric identification to prevent inadvertent injury and hemorrhage. Additionally, recognition of such anatomical variations is crucial for future fertility interventions, including assisted reproductive techniques.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: Not required*

## REFERENCES

1. Grimbizis GF, Sardo ADS, Saravelos SH, Gordts S, Exacoustos C, Schoubroeck DV, et al. The Thessaloniki ESHRE/ESGE consensus on diagnosis of female genital anomalies. *Human Reprod.* 2016;31(1):2-7.
2. Mullerian Duct Anomalies: Overview, Incidence and Prevalence, Embryology. 2023. Available at: <https://emedicine.medscape.com/article/273534-overview#a2>. Accessed on 10 November 2025.
3. Pfeifer SM, Attaran M, Goldstein J, Lindheim SR, Petrozza JC, Rackow BW, et al. ASRM müllerian anomalies classification 2021. *Fertil Steril.* 2021;116(5):1238-52.
4. Ludwin A, Lindheim SR. Unicornuate uterus and the noncommunicating functional horn: continued debate on the diagnosis, classification, and treatment. *Fertil Steril.* 2020;113(4):772-3.
5. Arab M, Mehdighalb S, Khosravi D. Functional Rudimentary Horn as a Rare Cause of Pelvic Pain: A Case Report. *Iran Red Crescent Med J.* 2014;16(10).
6. Jayasinghe Y, Rane A, Stalewski H, Grover S. The Presentation and Early Diagnosis of the Rudimentary Uterine Horn: *Obstet Gynecol.* 2005;105(6):1456-67.
7. Herlin MK, Petersen MB, Brännström M. Mayer-Rokitansky-Küster-Hauser (MRKH) syndrome: a comprehensive update. *Orphanet J Rare Dis.* 2020;15(1):214.
8. Yadav R, Srivastava A. Intractable Dysmenorrhea in Adolescents: A Series of Two Cases of Laparoscopic Rudimentary Horn Excision. *J Case Rep.* 2019;15-8.
9. Madhu AR, Shipra K. A Case of Non-Communicating Uterine Horn Containing Functional Endometrium. *Gynecol Obstet.* 2015;05(09).
10. Bhadwal A, Sharma S, Ranga S. Uterine rudimentary horn and ovarian endometriosis with a special emphasis on VACTERL association: a report of two cases. *Int J Reprod Contracept Obstet Gynecol.* 2024;13(7):1868-72.

**Cite this article as:** Rajashekara SK, Ajjammanavar V, Sambashivaiah J. A rare case of unicornuate uterus with non-communicating functional rudimentary horn associated with grade 3 endometriosis and a vascular anomaly. *Int J Reprod Contracept Obstet Gynecol* 2026;15:1060-3.