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Hystero-Laparoscopic Communication of Right Non-Communicating Horn of Robert's Uterus in a 16-Year-Old Girl with Severe Dysmenorrhea and Hematometra: A Case Report

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Abstract

Introduction: Robert's uterus, first described in 1970, is a rare variant of a complete, oblique septate uterus characterized by a non-communicating hemi-cavity and a contralateral unicornuate cavity. This anomaly can lead to obstructed menstrual flow, resulting in hematometra and associated complications such as hematosalpinx and endometriosis. We report a case of Robert's uterus in a 16-year-old girl, highlighting the restoration of uterine anatomy.

Case details: A 16-year-old girl presented with severe dysmenorrhea and prolonged menstrual flow since menarche. Previous MRI indicated a Mullerian duct anomaly with a non-communicating rudimentary horn. After initial management involving hystero-laparoscopy and drainage of hematometra, she experienced recurrent dysmenorrhea. A second hystero-laparoscopic procedure revealed adhesions and the non-communicating horn was surgically communicated with the main cavity. The patient was discharged with oral contraceptives and follow-up ultrasound showed a normal-sized uterus and regular, pain-free menstruation.

Discussion: Robert's uterus arises from incomplete resorption of the uterine septum, leading to unique anatomical features and potential complications, including subfertility. Traditional management has included laparotomy; however, minimally invasive techniques like hysteroscopy and laparoscopy are now preferred due to reduced surgical trauma and better preservation of fertility.

Conclusion: Robert's uterus is a rare anomaly that requires awareness among healthcare providers when evaluating young women with severe dysmenorrhea or suspected endometriosis. Timely diagnosis and appropriate management are essential to prevent severe complications and preserve future fertility, with hysteroscopic resection offering promising reproductive outcomes.

Keyword: Adolescent gynaecology; Gynaecological surgery; Hysteroscopy; Laparoscopy; Diagnosis

Introduction

In 1970, Robert's uterus was initially described as an unusual variant of a complete, yet oblique, septate uterus. This condition featured a non-communicating hemicavity alongside a contralateral unicornuate uterine cavity, all within a single uterine body that had a normal fundus [1]. The uterine septum is complete and fused with the uterine wall on one side, asymmetrically dividing the uterus into hemi-cavities, one of which communicates with the cervix. Regular menstrual flow occurs while simultaneously, menstrual flow is obstructed in the non-communicating hemicavity leading to hematometra and in some cases, hematosalpinx and endometriosis may also occur. The presenting symptoms include severe dysmenorrhea

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and recurrent acute abdominal pain [2]. We report a case of Robert's uterus in a 16-year-old girl with communication of obstructed hemi-cavity and restoration of uterine anatomy.

Case Presentation

A 16-year-old girl had presented with congestive dysmenorrhea since menarche. Her menarche was at the age of 12 years, preceded by vomiting and lower abdominal pain. From the beginning, she had reduced menstrual blood flow which continued for a prolonged duration of 10 days. Severe dysmenorrhea persisted throughout and subsided a few days later. On examination, she had well-developed secondary sexual characteristics and was of average built. Vulva and perineum appeared to be normal. As she was unmarried, per rectal examination was done which revealed an enlarged uterus.

The patient had previously consulted other specialists near the time of her menarche almost 4 years ago. Her MRI Pelvis at that time revealed a Mullerian duct anomaly (Class II B) uterus was unicornuate unicollis with non-communicating rudimentary horn on right side with functioning endometrium causing hematometra. Single cervix led into the uterus on the left side. No proper demonstrable communication of endometrial cavity was noted between the uterus on left side and right side with rudimentary horn. Vagina was found to be canalised. She had an ultrasonogram at the same time which reported a normal sized uterus with approximately 30 ml echogenic fluid collection suggesting haematometra. Kidneys, ureters and urinary bladder appeared to be normal in size and position.

She underwent her first hysteroscopy and diagnostic laparoscopy four years ago. Hysteroscopy at that time suggested a uterine cavity which was unicornuate on the left side with a single ostium. Right ostium was not visualised. Laparoscopy revealed omental adhesions on the right horn and a uterus with broad fundus and smooth contour. The diagnosis of Robert's uterus was confirmed on laparoscopy. There was no dip in the fundus. Hematometra was visible on the right horn of the uterus and approximately 25 ml to 30 ml of haemorrhagic fluid was aspirated out. Bilateral tubes and ovaries were normal. Patient was discharged on the same day after an uneventful day-care hystero-laparoscopy. Due to her age being 12 years at that time, no intervention was performed other than hematometra drainage. She was put on Injection Depo-Provera 150 mg Intramuscular 3-monthly for a period of two years.

For the past two years, soon after stopping injection. Depo-Provera, she again started having dysmenorrhea. Initially the pain was manageable by oral medications, however it soon increased in severity and worsened during the last six months. Patient presented to the A&E due to intractable pain associated with vomiting and was posted for a second hystero-laparoscopy on the following day, with the plan of communication or excision of the non-communicating horn. On Hysteroscopy, Right cornu was not seen. On laparoscopy, uterus was found to be adhered with the recto-sigmoid, right ovary and dilated right tube were adhered with each other as well as to the uterus. Adhesiolysis was done to free the uterus and pelvic anatomy was restored. Initially right cornu was not seen which was deciphered with scissors and dilatation of that part of the uterus was done **(Figure 1)**. Finally, the non-communicating right horn was communicated with the rest of the uterine cavity. Patient was discharged on the same day after an uneventful postoperative observation period, with the advice of combined oral contraceptive pills containing Ethinyl Estradiol 0.03 mg and Levonorgestrel 0.15 mg in a cyclical pattern for the next one-year. A follow-up ultrasound was performed 3 months later which revealed a normal-sized uterus with two endometrial strips meeting each other in the body of the uterus. Currently she is having regular pain-free menstruation and is doing well.

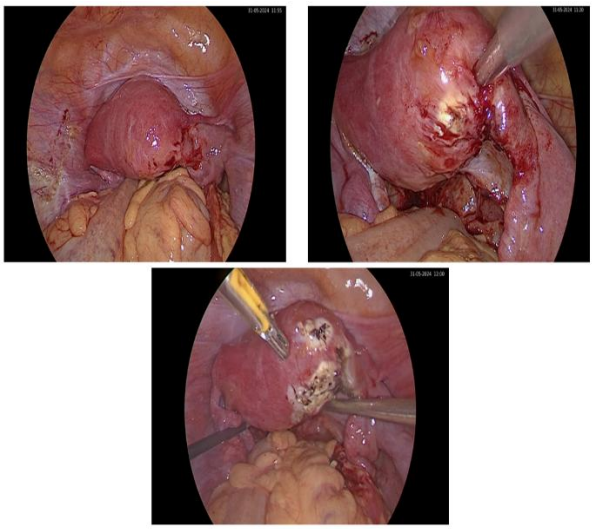

Figure 1: Global view of the pelvis showing Robert's uterus; Dilatation and communication of right horn with the uterine cavity; Final view of pelvis showing restored anatomy of Tobert's uterus.

Discussion

Female genital tract develops from the fusion of the two mullerian ducts, followed by the resorption of the septum between the two ducts. Failure of fusion or resorption result in a variety of congenital defects of the uterus broadly termed as Mullerian Duct Anomaly. When the midline septum is not adequately resorbed, it gives rise to septate uterus. Robert's uterus is a variant of septate uterus class V of American Society of Reproductive Medicine (ASRM) classification and class

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U2 of European Society of Human Reproduction and Embryology-European Society for Gynaecolgical Endoscopy (ESHRE-ESGE) classification in which the lower part of the septum deviates to fuse with the uterine wall on one side, leading to obstruction of one uterine hemi-cavity [1]. The obstructed cavity contains a functional endometrium and experiences cyclical menstrual flow that cannot exit, while the other cavity communicates with the cervix and has normal menstrual outflow [3]. The menstrual flow from the obstructed hemi-cavity can extend into the fallopian tube resulting in hematosalphinx, chocolate cyst and pelvic endometriosis, leading to long term complications of subfertility. Blind horns are more commonly found on the right side as seen in this case, as the left Müllerian duct typically develops slightly ahead of a right Robert's uterus. However, cases of a left Robert's uterus have been reported occasionally [4]. Management of Robert's uterus is not fully established because of the lack of adequate case reports on this condition. Traditionally, Robert's uterus has been managed through laparotomy, involving a hysterotomy incision, horn resection and repair of the myometrium or through endometrectomy of the blind cavity [5]. However, disruption of myometrium in such situations may lead to scar formation at the surgical site which may predispose the patient to adherent placenta formation or scar rupture at the time of pregnancy and delivery [2,6]. Currently, ultrasound combined with hysteroscopy is considered as a minimally invasive, practical and safe choice for Robert's uterus [1,8], with the additional use of laparoscopy in some situations. Hysteroscopy can evaluate the uterine cavity and in combination with laparoscopy can adequately visualize the uterine malformation [7]. These methods significantly reduce surgical trauma, promote prompt postoperative recovery and preserve the integrity of the uterus, all of which are beneficial for protecting fertility. However, if the patient is young and not having any major symptoms, conservative management and long-term follow-up, with planned delayed therapy, could be considered [9].

Conclusion

Robert's uterus is a very rare uterine anomaly. To prevent inappropriate management, gynaecologists and sonologists should keep in mind the possibility of Robert's uterus while evaluating and managing cases of young women with severe dysmenorrhea or suspected endometriosis who are being investigated for congenital anomalies. MRI is ideal in diagnosing such cases. Timely diagnosis and appropriate management of Robert's uterus are crucial for avoiding progression to severe endometriosis and are key factors in preserving future fertility. In current practice, hysteroscopic resection of the fused septum and restoration of anatomy promotes better reproductive outcome.

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Contribution To Authorship

AC wrote the first draft of the case report. PC provided the research and data for this case report. AC, PC, AB and RB edited and revised the article and all the authors approved the final draft.

Patient Consent

Written informed consent was obtained from the patient.

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Disclosure Statement

Authors declare no Conflict of Interests for this article.

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