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Case Report

A Successful Pregnancy Outcome in Unicornuate Uterus with Rudimentary Horn

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Abstract

Mullerian anomalies occur at a very early stage when the embryo is 6 weeks. This Mullerian anomalies are classified by the American Society of Reproductive Medicine (ASRM). The unicornuate uterus affects 6.3 percent of women. This type of anomaly is linked to endometriosis through retrograde menstruation, as well as renal problems. Patients with hematometra in the rudimentary horn or hematosalpinx commonly appear with progressive dysmenorrhoea. Ectopic pregnancies and recurrent abortions are also more common in these people. MRI and 3D sonography are able to achieve comparable results for diagnosis. The gold standard for diagnosing Mullerian abnormalities is laparoscopy. To avoid tubal pregnancy, the fallopian tube on the side of the rudimentary horn must be removed. As the ipsilateral ureter is closer to the uterus, there is higher risk of injury to the ureter during removal of rudimentary horn.

Keywords: Unicornuate Uterus; Mullerian Abnormalities; Magnetic Resonance Imaging (MRI)

Introduction

Mullerian abnormalities occur when the embryo is just 20mm long. The American Society of Reproductive Medicine has classified these mullerian abnormalities. A non-communicating rudimentary horn with a unicornuate uterus belongs to Group II B (According to American Fertility Society classification). This sort of abnormality is linked to endometriosis by retrograde menstruation, as well as renal problems [3,4]. In our case we observed a right sided rudimentary horn with a firm attachment to the Unicornuate uterus. For right-sided type, some manuscripts give an estimated frequency of 80%, while others report a frequency of 62 percent [2]. Hematometra in the cavitated rudimentary horn, endometriosis, or torsion of the abnormal segment of the fallopian tube are the most common causes of increasing dysmenorrhoea in these patients. Ectopic pregnancy and miscarriage are also more common in these patients [1]. Our case was also presented with a history of progressive dysmenorrhoea and it was also found in our case that there was hematometra in the rudimentary horn and an endometrioma (chocolate cyst) on the right ovary. Although 3D sonography can obtain equivalent results, MRI appears to be the gold standard for the diagnosis of Mullerian abnormalities [2,3,5]. For this patient's diagnosis, both MRI and ultrasonography were performed. The surgeon must proceed with utmost caution while operating on a rudimentary horn with a Unicornuate uterus. To avoid tubal pregnancy, the fallopian tube on the side of the rudimentary horn must be removed [5].

Case Study

A 22 years old, unmarried girl, student of MSc, from a middle socioeconomic background attended in GOPD with the complaints of cyclical severe lower abdominal pain for the last 1 year and dysmenorrhoea since menarche.

Patient stated that she had cyclical severe lower abdominal pain for the last 1 year, which is progressively increasing in intensity and does not subsides after taking analgesics. She was treated with analgesics, antispasmodics and antibiotics for several occasions before. The menstrual cycle was regular, and the flow was average. Rest of her medical history was unremarkable. Family history was unremarkable. Secondary sexual characteristics and vital parameters - revealed nothing abnormality. An abdominal examination revealed a soft abdomen with no tumor or cystic structure. A USG of the lower abdomen revealed a normal-sized uterus and a right-sided hemorrhagic cyst. So, after receiving a provisional diagnosis of endometrioma and receiving suitable counseling, and to keep her amenorrhoeic, she was given progesterone daily orally for three months. She had a regular menstrual cycle without dysmenorrhoea for about three months after that, and then she married. Three months after her marriage she came with complaints of lower abdominal pain and severe unilateral dysmenorrhoea and dyspareunia.

The abdomen was tender and tense during the examination. On vaginal examination, the uterus was normal in size and there was a soft, ill-defined mass felt through the right fornix that was extremely tender. On rectal examination: Rectal mucosa was free, there was free space between the lateral pelvic wall and the uterus on the left side. There was a doughy feeling mass on the right side of the uterus. TVS revealed the uterus is normal in size with a rudimentary horn on the right side (?) hemorrhagic cyst of about 5x5 cm in diameter.

She was advised to have an MRI, which revealed a unicornuate uterus on the right side with a rudimentary horn and right sided hematosalpinx. No renal abnormality was found. MRI image of unicornuate uterus (UU) with right sided rudimentary horn (RH) with right sided hematosalpinx (HS). She was also advised to do resection of rudimentary horn by Laparoscopy, but in the meantime she became pregnant. The USG confirmed that she had a normal intrauterine pregnancy. At her 10 weeks of gestation she had pain in lower abdomen with pervaginal bleeding and USG showed Incomplete abortion, which was expelled out by E&C. After Counselling with the patient party, a decision for laparoscopic surgery was taken.

Per-operative findings

Laparoscopic resection of rudimentary uterine horn was performed, 3 ports were made: one 11 mm infraumbilical port, one 12 mm port, and one 5 mm port were implanted in the right and left lower quadrants, respectively. Initial examination indicated no endometriosis and a smaller rudimentary horn than previously reported. A band of tissue connected the left rudimentary horn to the unicornuate uterus. After dissecting a bladder flap, the band of tissue was coagulated with bipolar cautery and transected, allowing separation of the rudimentary horn from the unicornuate uterus and access to the uterine artery. The round ligament and the utero ovarian ligament were transfected with minimal blood loss after coagulation and transection of the major blood supply. The ureter's course was traced through the posterior leaf of the broad ligament, which was well out of the surgical field. Finally, the fallopian tube was removed by cauterizing and cutting the left mesosalpinx. A posterior colpotomy was used to extract the specimen.

A Fallopian tube and a 35-mm-long, in uterine cavity, hypertrophic endometrium with irregularly secretory features were found on pathological examination of the specimen. The patient was discharged 2 days after the operation. She has no dysmenorrhoea and regular menses without oral contraception after a one-year follow-up. After 6 months of operation she was conceived and delivered a female baby by C-section.

Discussion

Because many people with unicornuate uterus are asymptomatic or suffer from a wide range of symptoms that might manifest at any stage of adult life, the incidence of this illness is not well defined. Raga., *et al.* (1997) the incidence of this malformation was estimated to be between 0.2 percent in fertile people and 0.6 percent in infertile patients. Approximately 90% of unicornuate uterus with rudimentary horn are non-communicating, however there may be minor anatomical differences, especially in the attachment of the rudimentary horn to the unicornuate uterus. Pinsonneau and Goldstein (1985) were the first to describe the unicornuate uterus with rudimentary uterine horn that might be fixed or separated in a succession of obstructive Mullerian abnormalities.

The uterine artery, which represents the predominant blood supply in this situation, runs beneath the fibrous band and is easy to coagulate or ligate. Furthermore, dissection to form a plane between the two horns is difficult in this circumstance, but hysteroscopy can help. Canis., *et al.* [8] published the first report on laparoscopic rudimentary horn excision. The main blood supply in this circumstance is the uterine artery, which runs beneath the fibrous

band and is easy to clot or ligate. The removal of uterine horn has quickly become the standard treatment for Mullerian dysgenesis, particularly to avoid serious problems like ectopic pregnancy or extensive endometriosis.

Conclusion

It appears that being prepared for either anatomical presentation is necessary in order to make the surgical process go more smoothly. According to recent research, magnetic resonance imaging (MRI) is a far more effective and precise method of diagnosing and identifying Mullerian anomalies [6]. Finally, laparoscopic surgeons should be aware of this new surgical approach, which may be performed on some patients to improve laparoscopic care of Mullerian anomaly.

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