CASE REPORT

Unicornuate Uterus with a Functional Non-communicating Horn in a Parous Woman

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About the Author

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Case History

A 41-year-old parous lady presented with complaints of spasmodic pain in right lower abdomen, on and off since 3 years. She had no bowel or bladder complaints. She was married for 19 years. Her previous cycles were regular; however, she had secondary cyclic dysmenorrhoea since 3 years which had now become intolerable. She had been taking analgesics and antispasmodic medications on and off, which were not relieving the pain. She had two normal

vaginal deliveries and one caesarean section—her last child birth being 17 years before.

She was diagnosed to have single kidney on left side; however, no uterine anomaly was diagnosed at that time. She had undergone laparotomy for evaluation of pelvic pain 15 years back, where a right partial ovariectomy was performed; however, no uterine anomaly was reported in her previous surgical records. She again underwent laparotomy for right-sided tuboovarian mass 3 years back, where a salpingo-oophorectomy was done and biopsy for the same was reported as endometriosis with secondary chronic inflammation. As her dysmenorrhoea was not relieved, she was put on GnRH agonists for 3 months in view of the endometriosis. At present she was on tablet dienogest since 6 months. Her previous scans had reported her to be having a right-sided sub-serous fibroid and a right adnexal mass on two separate occasions.

Her vitals, general physical and systemic examination were normal. Abdominal examination was normal; non-tender, no organomegaly and on speculum examination a

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Fig. 1 Laparoscopic view of the uterine horns showing fibrous band between them

Fig. 2 Intraoperative photograph showing left unicornuate uterus with normal tube and ovary and the right non-communicating horn attached to the right round ligament

single cervix was seen with normal vagina. Bimanual examination revealed a normal uterus deviated to the left, with the right fornix tender and a soft, mobile adnexal mass of about 3×4 cm.

She underwent a pelvic ultrasound which suggested a bicornuate unicollis uterus with an endometrial polyp in left hemi-uterus with endometrial thickness of 6.0 mm and right hemi-uterus with a turbid collection (vol 19.6 cc). She was taken up for a diagnostic hysterolaparoscopy/laparotomy keeping in mind the uterine anomaly.

Hysteroscopy revealed a small left uterine cavity with only one ostia on left and a small polyp of about 2×2 cm seen from the anterior wall which was removed.

On diagnostic laparoscopy: A unicornuate left hemi-uterus with a non-communicating right horn was noted with a fibrous band in between (Fig. 1). There was difficulty in visualization of the pouch of Douglas. As complete anatomy of the non-communicating horn could not be delineated as it was bulky, and during efforts of manipulation, a perforation occurred, decision was taken for laparotomy.

Fig. 3 Cut section of the excised right horn showing myohyperplasia

On laparotomy, the uterine anomaly was confirmed. The round ligament on right side was identified; tube and ovary were not seen on right side (consistent with history of salpingo-oophorectomy) (Fig. 2). The left uterine horn was small, with normal left tube and ovary and round ligament attachment. The bladder was adherent to the left hemi-uterus, consistent with history of caesarean section. The right horn had no communication with surrounding structures except for round ligament attachment which was cut; anterior fold of peritoneum was cut and pushed down. The right horn was separated circumferentially and feeding vessels identified at the base, clamp applied at the base, pedicle cut and transfixed with vicryl.

Cut section of the right hemi-uterus showed that the cavity was filled with dark-coloured fluid with myohyperplasia. Histological study reported it as a cavitated adenomyotic rudiment (Fig. 3).

She had an uneventful post-operative recovery. She has been pain free after surgery last follow-up being around 2 weeks back.

Discussion

The actual incidence of unicornuate uterus is hard to determine as many patients never develop any obstetric or gynaecological symptoms due to the non-functional non-communicating horn. The incidence has variously been reported in different studies to be between 2 and 10 % [1]. There is significant diversity in anatomical variations and their respective long-term sexual and reproductive outcome. Proper identification and diagnosis are critical to assess the right surgical approach, as the procedure depends on the specific subtype, on the anatomical characteristics of the uterus as well as on the extent of the

connection between the rudimentary horn and the unicornuate uterus. Also, association of renal, cervical and uterine developmental anomalies should be kept in mind.

The recent ESHRE/ESGE classification system for müllerian anomalies suggests Class U0 as normal uteri, Class U1 as dysmorphic uteri, Class U2 septate, Class U3 bicorporeal, Class U4 hemi-uterus, Class U5 atrophic and Class U6 unclassified [2].

According to this, a hemi-uterus with a rudimentary functional horn is Class U4 (a), whereas Class U4 (b) is a hemi-uterus with a rudimentary non-functional horn. The presence of a functional cavity in the contralateral part is the only clinically important factor for complications, such as hematometra or ectopic pregnancy in the rudimentary horn, and treatment (removal) is always recommended even if the horn is non-communicating. The unicornuate uterus with rudimentary horn is frequently associated with variations of the pelvic anatomy. The ipsilateral ureter may have a higher/alterd course; hence, it is mandatory to identify the ureter and trace it all along its pelvic course, initially, when the round ligament is cut and the broad ligament and retroperitoneal space are entered. In our case, absent right kidney and ureter made the procedure easy with no complications and we did not need to trace/identify the ureter. In our case, the ipsilateral ovary and tube were previously excised; hence, these anatomical landmarks were absent. It has been suggested to perform a salpingectomy along with the excision of such uteri to avoid the remote possibility of a tubal pregnancy.

The uterine anomaly of this patient was initially missed at the time of previous laparotomy and the adnexectomy which she had undergone caused retrograde obstruction of menstruation. Her dysmenorrhoea and hematometra could be attributed to this, and hence, an accurate diagnosis initially and resection of the non-communicating horn could have prevented all her symptoms [3].

Our patient had undergone only a pelvic ultrasound. With regard to imaging techniques, magnetic resonance imaging (MRI) is the gold standard for the diagnosis of müllerian abnormalities, although three-dimensional sonography is able to achieve comparable results [4]. Both these techniques provide us with a detailed structure of the anatomical anomaly, hence enabling a proper plan with regard to the surgical approach.

Conclusion

The diagnosis and the management of uterine anomalies are often a challenge for the gynaecologist. A high index of suspicion for the presence of a uterine anomaly is necessary when dealing with recurrent cyclical pelvic pain and an adequate work-up is essential. The surgical technique has to be adapted according to the type of malformation. The basic objective of surgical resection of symptomatic functional non-communicating horn is pain relief and hence better quality of life. Surgical skill and decision at the time of surgery are very important. Laparotomy has been the standard approach for such cases. But with emerging skills in minimally invasive surgery and added advantages of shorter hospital stay, small incisions and less post-operative pain, laparoscopy has become the first choice. The results are equivalent to those offered by a laparotomy. The surgical procedure can be complicated by important anatomical variations, less experienced surgical skills due to the relative rarity of this particular malformation and need for identification and ureteric dissection.

Compliance with Ethical Standards

Ethical Approval This article does not contain any studies with human participants performed by any of the authors.

Conflict of interest Both the authors have no conflicts of interest. There is no funding source associated with this study.

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