LAPAROSCOPIC REMOVAL OF LATE-ONSET HEMATOMETRA WITH DYSMENORRHEA AND DYSPAREUNIA SYMPTOMS IN A NON-COMMUNICATING UTERINE HORN.

Sadiman Kiykac Altinbas[1], Omer Lutfi Tapisiz[1], Ozlem Moraloglu Tekin[1]
[1] University of Health Sciences, Etlik Zubeyde Hanim Women's Health Training and Research Hospital, Ankara, Turkey

INTRODUCTION

Various congenital anomalies of the female tract such as agenesis, failure of vertical or lateral fusion, and failure of canalization occur when normal development of Mullerian duct disrupts in any stage of the developmental milestones. The unicornuate uterus is caused by the normal maturation of only one Müllerian duct. In some cases, the contralateral Müllerian duct is absent or partially develops called a rudimentary horn that may communicate or not communicate with the normally developed one Müllerian duct called unicornuate uterus.

A cavitated noncommunicating rudimentary horn is reported in about 20%–25% of women with unicornuate uterus (1,2). The symptoms differ with the functionality of the endometrial cavity, and the patients' symptoms depend on the presence of an obstructive anomaly causing pain regarding hematometra, hematosalpinx and/or endometriosis probably due to retrograde menstruation (3). There have been studies reporting the improvement of the reproductive outcome by removing the rudimentary horn, but it is still lack of knowledge in which cases to remove such a pathology.

In the present case, we aimed to discuss the laparoscopic management of a multiparous patient with a rudimentary horn presenting dysmenorrhea and dyspareunia symptoms in her late 30's.

CASE REPORT

A-36-year old patient, G2P2, was admitted to the hospital with a complaint of worsening lower abdominal pain occurring each menses during 8 months. Her external and internal genitalia including the cervix were normal except the-6-cm, accessory, cavitated left uterine mass suggestive of hematometra compressing the urinary bladder without any other genitourinary system pathology shown on the ultrasound examination (**Figure 1**). Diagnostic hysteroscopy revealed a single cervix without any vaginal malformations and a relative small uterine cavity with a right tubal ostium and the absence of the left tubal ostium. It was decided to remove the left uterine horn by laparoscopic route. The evaluation of the abdominal cavity revealed a-left non-communicating rudimentary horn tightly-resided on the lateral abdominal wall and 2 normal-looking ovaries and tubes (**Figure 2**).

In the first step, left salpingectomy was performed taking care of staying close to the tube. In the second step, the vesicouterine septum was divided to dissect the bladder from the cervix and the left uterine horn. In the third step, the broad ligament was fenestrated to lateralize the left ureter and to facilitate the transection of the utero-ovarian pedicle. The retroperitoneum was dissected and tract of the ureter was followed. Posterior peritoneum was also opened to become distant from the ureter and to recess place for the division of the horn by a monopolar hook. After the dissection and coagulation of the left uterine artery on the origin of the left hypogastric artery to minimize the bleeding while the excision of the uterine horn **(Figure 3)**, the resection of the rudimentary horn was achieved using a monopolar hook. After the control of bleeding and lavage and drainage of the abdominal cavity, the operation was completed successfully. The patient was discharged on the first postoperative day, and normal regular menstrual cycles without any pain and complaints during the 6 and 12 months after the surgery were noted.

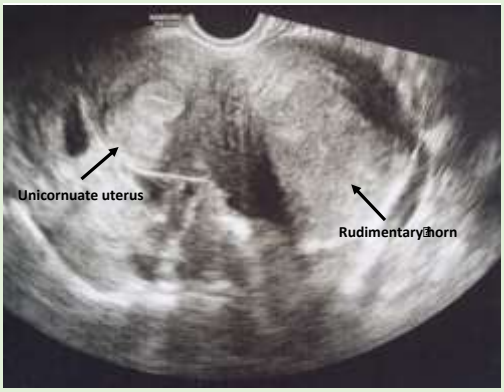

Figure 1. Cavitated left uterine mass suggestive of hematometra.

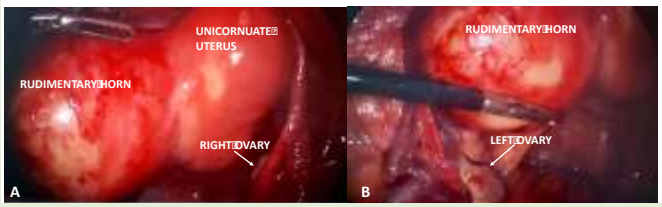

Figure 2. The abdominal cavity revealing a-left non-communicating rudimentary horn tightly-resided on the lateral abdominal wall and 2 normal-looking ovaries and tubes (A, B).

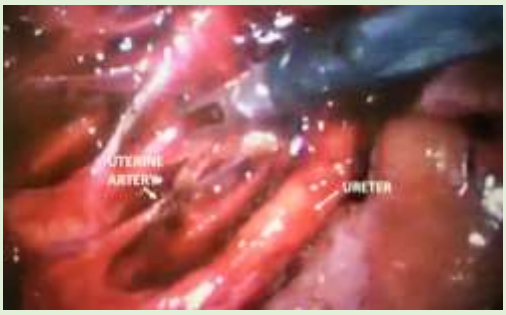

Figure 3. Dissection of the retroperitoneal space showing the ligated left uterine artery and the left ureter.

DISCUSSION

Since the first documentation of the laparoscopic removal of the rudimentary horn in 1990 by Canis et al., laparoscopy has become the standard treatment with its proven advantages as short operative times, hospital admission duration, less blood loss and postoperative pain (4). Although laparoscopic excision of a rudimentary uterine horn seems to be an effective and feasible surgical approach in experienced hands, it should always be remembered that the anatomical landmarks and retroperitoneal space must be defined as the cleavage planes of the uterine horn, and unicornuate uterus are not well-defined all the time.

Two anatomical variations in the attachment of the rudimentary horn to the unicornuate uterus were reported; one can either be attached by a band of tissue or attached firmly to the latter. When no fusion occurs with the contralateral duct, a fibrous or fibromuscular band connects the two horns (5). In this case, the rudimentary horn was attached firmly to the right unicornuate uterus and the left sidewall. When the borders are firm and not easy to distinguish, it can be difficult to remove the horn. To minimize the risk of penetration into the cavity of the hemiuterus while laparoscopic dissection, a technique of hysteroscopic transillumination was defined in three cases by Nezhat et al. (6). At the beginning of the operation, we first performed a hysteroscopic evaluation of the uterine cavity to visualize the relation.

Besides, the most important point about these anomalies is the preoperative evaluation of these patients, that probable concomitant other female reproductive tract anomalies and abnormalities of the renal and skeletal systems may co-occur with Mullerian anomalies. After defining the anatomy of the pathology, the type of attachment and the communication between the rudimentary horn and the hemiuterus, the right treatment option should be discussed and performed. In this case, preoperative examinations including transvaginal ultrasonography and an intravenous pyelogram showing normal kidneys and the ureters were performed.

Another step of the operation depends on the blood supply of the rudimentary horn as it may not always be from the ipsilateral uterine artery, also may be from the contralateral uterine artery (2). Therefore, the ligation of the major blood supply from the uterine artery at the level of isthmus may sometimes be impossible to achieve, so the dissection of the retroperitoneal space to develop a plane for the ipsilateral ureter lying adjacent to the vascular supply of the uterine horn is of great importance not to injure while coagulation and ligation of the uterine artery at the level of hypogastric origin. Moreover, in cases where a firmly attached horn is present, the laparoscopic surgeon should handle the large myometrial defect for reconstruction after the removal of the horn. The removal of the ipsilateral fallopian tube should always be performed to avoid a tubal pregnancy and cancerization.

In conclusion, a careful preoperative examination should be done to detect the subtype, attachment, and other co-existing genital malformations. While laparoscopic approach in these abnormalities seems to be effective and feasible, it should always be remembered that the anatomical landmarks and retroperitoneal space must be defined, careful hemostasis must be performed regarding the procedures step by step.

References

1. American Fertility Society. The American Fertility Society classification of adnexal adhesions, distal tubal occlusion, tubal occlusion secondary to tubal ligation, tubal pregnancies, Mullerian anomalies and intrauterine adhesions. Fertil Steril 1998; 49:944 -955.

2. Fedele L, Bianchi S, Zanconato G, Berlanda N, Bergamini V. Laparoscopic removal of the cavitated noncommunicating rudimentary uterine horn: surgical aspects in 10 cases. Fertil Steril 2005; 83:432-436.

3. Sánchez-Ferrer ML, Prieto-Sanchez MT, Sánchez Del Campo F. Variations in clinical presentation of unicornuate uterus with non-communicating rudimentary horn (class IIB of the American Fertility Society classification). Taiwan J Obstet Gynecol. 2018; 57:110-114. doi: 10.1016/j.tjog.2017.12.018.

4. Canis, M, Wattiez A, Pouly JL, Mage G, Manhes H, Bruhat MA. Laparoscopic management of unicornuate uterus with rudimentary horn and unilateral extensive endometriosis: case report. Hum Reprod 1990; 5: 819-820.

5. Falcone T, Gidwani G, Paraiso M, Beverly C, Goldberg J. Anatomical variation in the rudimentary horns of a unicornuate uterus: implications for laparoscopic surgery. Hum Reprod 1997; 12:263-265.

6. Nezhat F, Nezhat C, Bess O, Nezhat CH. Laparoscopic amputation of a noncommunicating rudimentary horn after a hysteroscopic diagnosis: a case study. Surg Laparosc Endosc 1994; 4:155-156.