

Case Report

Ultrasound Diagnosis and Hysteroscopic Management of Uterus Didelphys with Obstructed Hemivagina and Ipsilateral Renal Agenesis: Case Report

Waleed Al-Sharhan, Nasir Al-Busiri, Samia Al-Khaleefa
Department of Obstetric and Gynecology, Farwania Hospital, Kuwait

Kuwait Medical Journal 2007, 39 (1): 62-64

ABSTRACT

Uterus didelphys with an obstructed hemivagina and ipsilateral renal agenesis is an infrequently encountered clinical problem. This is a report of 15-year-old virgin who presented with the above clinical problem. An

accurate diagnosis was made by ultrasound and reconfirmed by vaginoscopy. The case was effectively treated by vaginoscopic approach using operative hysteroscopy, thus preserving the integrity of the hymen.

KEY WORDS: hysteroscopy, obstructed hemivagina, renal agenesis, ultrasound, uterus didelphys, vaginoscopy

INTRODUCTION

Mullerian duct anomalies are an infrequently encountered clinical problem occurring at an estimated incidence of 1- 5 % of all women^[1]. Uterus didelphys with an obstructed hemivagina and ipsilateral renal agenesis has been reported in literature^[2]. This specific association was first reported in 1922^[3]. An early diagnosis is possible in these young girls presenting with symptoms like steadily worsening dysmenorrhoea, lower abdominal pain, intra abdominal or pelvic mass, especially after the onset of menarche. Occasionally, patients present with symptoms like acute urinary retention^[4]. In such cases although ultrasound is used as the first diagnostic modality^[5], many times it is confirmed only during explorative laparotomy and a major surgery is performed in some cases.

In this report we present a 15-year-old girl with uterus didelphys, unilateral haematometra, hematocolpos, haematosalpinx and ipsilateral renal agenesis in whom an accurate preoperative diagnosis was made by ultrasonography which was reconfirmed by hysteroscopy. We were also able to treat the patient effectively by operative hysteroscopy and thus preserve the integrity of the hymen.

CASE REPORT

A 15-year-old virgin girl presented to the outpatient clinic of our department with complaints of steadily worsening dysmenorrhoea and lower abdominal pain of one and half year duration. She

attained menarche at 13 years of age and she had regular menses. Occasionally she had constipation, especially after her periods.

General examination was normal. Pelvic examination revealed an intact hymen and normal external genitalia. In our area, virgins are not examined vaginally as a routine unless there is a vital problem. Rectal examination revealed a firm right sided pelvic mass.

Pelvic sonogram done trans-abdominally revealed a double uterus *i.e.*, a left uterus with normal endometrium and cervix and the right hemi pelvis showing two cystic masses. The first mass was pear shaped with a thick wall containing homogenous low echogenic fluid measuring 78.4 x 111 mm. This mass was connected to another tubular shaped mass measuring 62.7 x 34.3 mm with thick wall and containing homogeneously low echogenic fluid. Those two masses were the right hematometra with hematocolpos and right haematosalpinx respectively. Both ovaries were visualized and looked normal. Ultrasound examination of the abdomen revealed absence of the right kidney. The left kidney was measuring 13 cm with normal cortical and sinus echoes. The situation was explained to her parents and after getting their legal permission, the surgical intervention was performed by an endoscopic approach to preserve the integrity of the hymen. Vaginoscopy was done using a 2.9 mm office hysteroscope. Saline was used as the distending medium. Endoscopy revealed one uterine cervix, a

Address correspondence to:

Dr. Samia Al- khaleefa, Department of Obstetric and Gynecology, Farwania Hospital, Kuwait. Tel: +965-5634302, Fax: +965-2446078, Mobile: +965- 9444160 E- Mail: samia_alkhalifa@hotmail.com)



Fig. 1: Transabdominal ultrasound image of the pelvis showing the first cystic mass which was pear shaped with thick wall containing homogenous low echogenic fluid corresponding to the right sided hematometra and hematocolpos



Fig. 2: Transabdominal ultrasound of the pelvis showing the second cystic mass which was tubular shaped with thick wall containing low echogenic fluid corresponding to hematosalpinx and was continuous with the first pear shaped mass



Fig. 3: Transabdominal ultrasounds of the pelvis of the same patient three months after surgery showing the double uterus without any blood collection

slightly deformed vagina with a mass bulging into it from the right side, confirming obstructed hemivagina. A 4 mm operative hysteroscope was used again with glycine as distending medium with an angled coagulating needle electrode. The lower blind end of the obstructed hemivagina was punctured and dense chocolate colored fluid spilled into the vagina. Using needle electrode and scissors part of the septum was removed, thereby creating a large opening at the lower end of the obstructed hemivagina and a large communication between the two vaginas. Now the right cervix was visible. It was a completely bloodless surgery and we were able to preserve the integrity of hymen. It took about 30 minutes to perform the surgery and no sutures were used. Postoperative period was uneventful and she was discharged the next day. The girl was examined one month, three months and six months later. She had no dysmenorrhea or abdominal pain. She was relieved of constipation.

Repeated ultrasound showed uterus didelphys without any hematometra, hematosalpinx or hematocolpos.

DISCUSSION

Uterus didelphys with an imperforate hemivagina is an embryonic malformation of the genitourinary system in the female. The lack of fusion of the mullerian ducts or the absence of resorption of the septum, results in varied genital anomalies: vaginal atresia, uterus didelphys, unicornuate or bicornuate uterus^[6]. The displaced mullerian duct forms the imperforate hemivagina. Menstrual backflow may occur leading to unilateral hematocolpos, hematometra and endometriosis^[1]. The ipsilateral kidney and collecting ducts fail to develop^[1]. Majority of cases have been diagnosed at surgery^[1]. Ultrasonography is a noninvasive easily performed method for evaluation of the female genital tract^[3]. Real-time high resolution ultrasonography usually can differentiate among different blood filled portions of the occluded genital tract^[3]. In this case a large amount of blood had accumulated in the uterine cavity and fallopian tube with the patient suffering increasingly from dysmenorrhea.

Although transvaginal scan may provide more information about such an anomaly, it is relatively contraindicated for young virgins in many countries.

Accurate preoperative evaluation of the female genital tract using noninvasive technique with the great awareness of the association of uterus didelphys, obstructed hemivagina and ipsilateral renal agenesis ensures appropriate conservative surgical intervention and decreases long-term morbidity. A high rate of successful full term pregnancies ranging from 33-70% has been reported with the minor surgery; whereas low rate of 13% follows a major operation. Excision of the vaginal septum is recommended by most investigators. Traditional excision of the septum requires hymen disruption and wide exposure of the vagina using vaginal valves and often there are technical difficulties because of the small size of the vagina and thus of the surgical field^[7]. T Sai *et al*

recently reported the first case of hysteroscopic resection of the vaginal septum in an adolescent virgin with obstructed hemivagina.

Resectoscopic treatment of the same condition under ultrasonographic control was described by Ettore Cicinelli *et al*^[6]. By using vaginoscopy and hysteroscopic needle cutting electrode and scissors a major surgical procedure was avoided. This is a simple minimally invasive procedure that preserves the integrity of the hymen. We used a 4 mm operative hysteroscope rather than resectoscope (7.6 mm) mainly to preserve the integrity of the hymen which has too much importance in our society.

The success of the procedure was evaluated by resolution of clinical symptoms and by ultrasonographic confirmation of absence of any hematocolpos, hematometra or hematosalpinx at one month, three months and six months after the procedure.

In conclusion, ultrasonography is an accurate method for evaluation of the female genital tract and hysteroscopic treatment of uterus didelphys with obstructed hemivagina is an effective and safe method without jeopardizing woman's future fertility and with preservation of the integrity of the hymen.

ACKNOWLEDGMENT

We would like to express our gratitude and thanks to Dr Ganga Devi Venkateswaran for her great contribution to this report.

REFERENCES

1. Taonei I, Mushayandeburu, Gerson W. Case report: uterus didelphys with obstructed hemivagina and ipsilateral renal agenesis: Ultrasound and Magnetic Resonance Imaging diagnosis. *Gynecol Obstet Invest* 1997; 43:209-211.
2. K.G.Skondras, C.C. Moutsouris, G.C. Vaos, G. C. Barouchas, and L. D.Demetriou. Uterus didelphys with an obstructed hemivagina and ipsilateral renal agenesis: a rare cause of acute abdomen in pubertal girls. *J Pediatr Surg* 1991; 26:1200-1201.
3. Chung -Pin Sheih, Yang-Jamn Liao, Wan Weng Liang and Wen-Tza Lu. Sonographic presentation of unilateral hematometra: Report of two cases. *J Ultrasound Med* 1995; 14:695-697.
4. Adams WG, Wilson EC, Holloway HJ. Uterus didelphys with imperforate vagina: a rare cause of acute urinary retention. *J Urol* 1979; 121:131-132.
5. Chaim W, Kornmehl P, Kopernik G, Meizner I. Uterus didelphys with unilateral imperforate vagina and ipsilateral renal agenesis: The challenge of non -invasive diagnosis. *J Clin Ultrasound* 1991; 19:583-585.
6. E Broseta, FB Oronat, JL Ruiz, M Alonso, JM Osca, JF Jimenez-Cruz. A case report and review of the literature, urological complication associated to uterus didelphys with unilateral haematocolpos. *Eur Urol* 1991; 20:85-88.
7. Rock JA, Jones HW Jr. The double uterus associated with an obstructed hemivagina and ipsilateral renal agenesis. *Am J Obstet Gynecol* 1988; 138:339-342.
8. Cicinelli E, Romano F, Didonna T, Schonauer LM, Galantino P, Di Naro E. Resectoscopic treatment of uterus didelphys with unilateral imperforate vagina complicated by hematocolpos and hematometra: case report. *Fertil Steril* 1999; 72:553-555.