Imperforate hymen

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Ultrasound images (Figures 2 and 3) are included in the case description with patient and patient's caregiver consent.

Figure 1 (image of the hymen) is available for health care providers only on the request via e-mail: ewa.wozniakowska@umlub.pl

Imperforate hymen

1. Introduction

Imperforate hymen is a congenital anomaly and results in hematocolpos. It should always be considered a possible diagnosis in young females with primary amenorrhea and abdominal mass. The symptoms that appear after the onset of puberty are due to the accumulation of menstrual blood (1,2).

2. Case description

A 12-year-old girl was referred to the PAG Outpatient Clinic with a provisional diagnosis of pelvic mass. Patient suffered from mild cyclic abdominal pain and urinary retention. Symptoms had started six months earlier. Symptoms worsened over the last seven days. She did not experience menarche.

Physical examination did not reveal any pathology, although a mild lower abdominal discomfort without evident signs suggesting peritonitis was noted. Patient's Tanner stage was 3 for breast development and 3 pubic hair. Diagnosis was suggested by the typical history, which involved cyclic monthly episodes of lower abdominal pain without associated menstrual flow. Gynecological examination was performed and after retracting the labia minor, pale blue bulging imperforate hymen completely occluding the vagina was observed. A gentle inspection of hymenal area with a cotton swab confirmed the diagnosis of

imperforate hymen (Fig. 1).

Transabdominal ultrasound examination demonstrated a large hematocolpos measuring 12 cm x 10 × 8 cm (vol. 573ml). Uterus appeared normal in size and shape (no hematometra), and both ovaries were present with normal appearance. Both kidneys were present and no anatomical abnormalities were observed in kidneys and upper parts of both ureters.

Translabial ultrasound revealed thin tissues (imperforate hymen) between the probe and hematocolpos (Fig. 2), which distinguished it from transverse vaginal septum or agenesis of the lower third of the vagina (distal vaginal atresia).

The patient's laboratory tests revealed a hemoglobin concentration of 13 g/dL and white blood cell count of 11/nL, CRP and tumor markers' concentrations were within normal ranges. In addition, her endocrine hormonal profile was indicative of a postpubertal status. Urinalysis was normal.

Initial diagnosis

Imperforate hymen, hematocolpos

Initial treatment

A hymenotomy was performed under general anesthesia. With the use of electrocoagulation a vertical incision of 1 cm was performed. A total of 450 mL of chocolate-colored menstrual blood was drained from the vagina. An oval shaped piece of hymen was excised. Vaginal mucosa was sutured to hymenal ring to prevent regression and stenosis with interrupted 4-0 Vicryl sutures. Complete resolution of hematocolpos was confirmed by ultrasound examination during the anesthesia. (Fig.4).

Follow up

Four weeks later, at a follow-up visit the patient revealed normal anatomy with a normal-appearing hymenal ring. First normal menses occurred on the 30th day after the surgery, was not painful and lasted for five days.

During the following 12 month observation period the patient was not sexually active and she had regular cycles with normal menstrual bleedings.

3. Discussion

Imperforate hymen is a congenital anomaly. It causes hematocolpos and is some cases hematometra. In rare cases hematosalpinx may be present. The most common symptoms are cyclic lower abdominal pain, discomfort in the pelvis and urinary symptoms including urinary retention. Diagnosis is based on history and physical examination, but the ultrasound examination allows to confirm clinical diagnosis and to exclude other vaginal malformation (1,2,3).

Ultrasound examination is the diagnostic tool of choice, but translabial sonography can help to distinguish imperforate hymen from transverse vaginal septum or agenesis of the lower third of the vagina (distal vaginal atresia).

The most serious complication is recurrence, and most authors recommend a wide tissue excision, through an oval or triangular shape, instead of a cruciate incision (1,2,3,4).

Hematocolpos should be taken into consideration in every adolescent girl having primary amenorrhea with lower abdominal pain, acute urinary retention, or low back pain. The symptoms of imperforate hymen do not always indicate a gynecological disorder, but the patient's history and an inspection will provide the diagnosis. The treatment is surgical, and the prognosis is good, except for impaired fertility in cases with bilateral hematosalpinx (1,2,5)

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Figure 2. Hematocolpos.

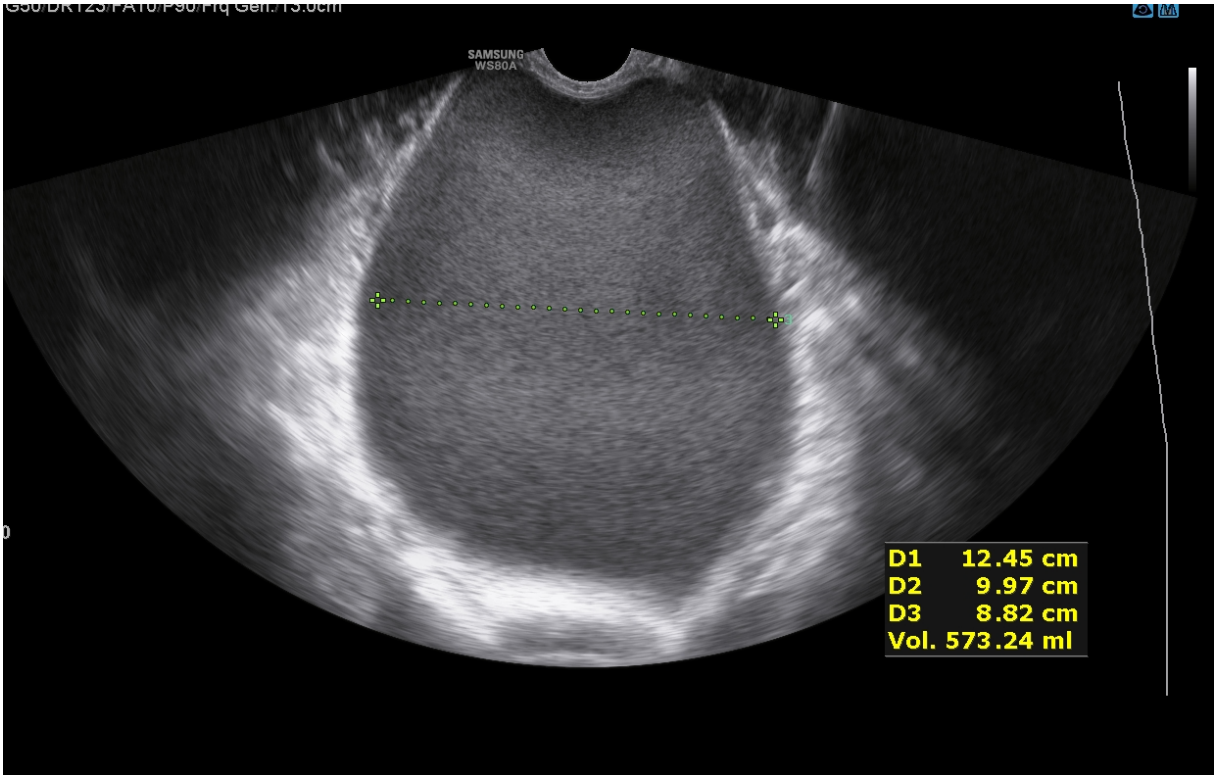
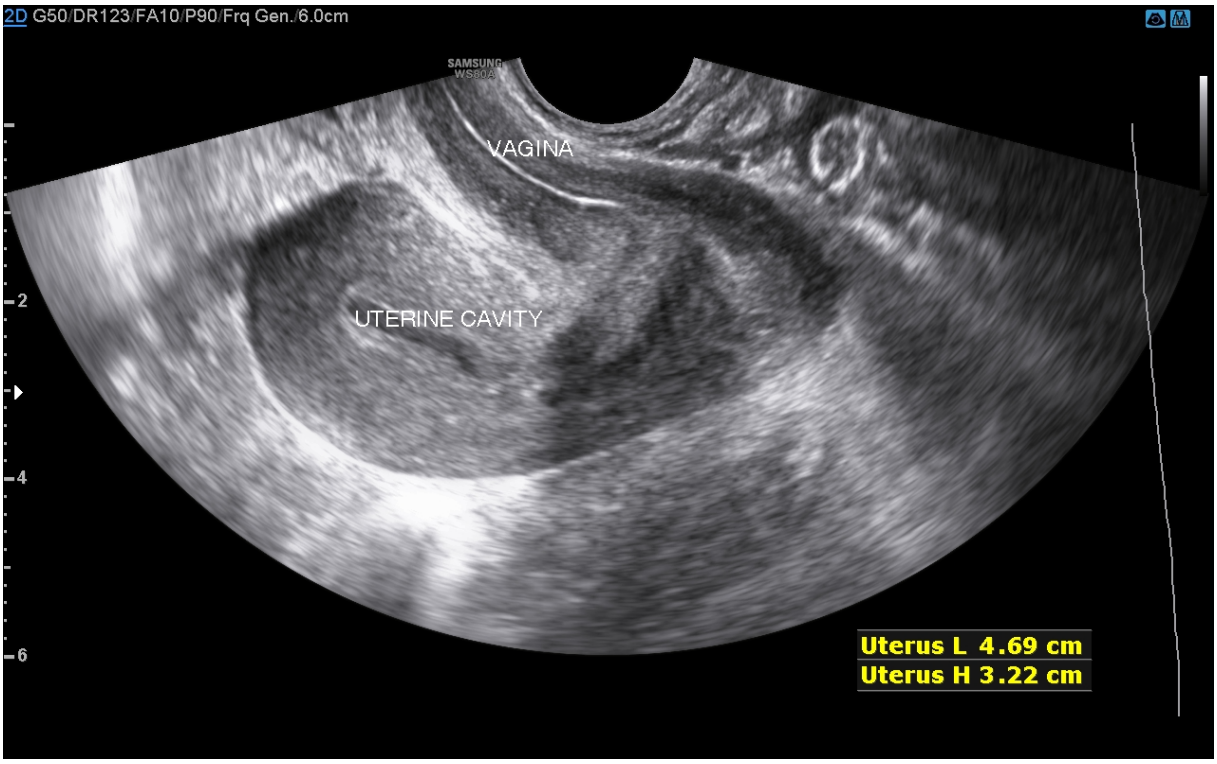


Figure 3. Uterus and vagina after the surgery.



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