




## Clinical Notes

## Abdominal pain as the presentation of imperforate hymen in a teenage girl

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Imperforate hymen is a rare obstructive anomaly of the female reproductive tract. In premenarcheal adolescent girls, recurrent abdominal pain can be the first clinical complaint that requires careful genital examination.

A 13-year-old premenarchal girl was presented to the emergency room with a 3-day history of intermittent, colicky abdominal pain. There was no history of sexual activity, fever, vomiting, diarrhea, constipation, or trauma, but there was abdominal pain that worsened. The physical examination showed tenderness in the lower abdomen with deep palpation. The complete blood count was normal. Abdominal ultrasonography (US) revealed a cystic mass (12 × 10 × 8 cm – long × short × antero-posterior axis), which was located behind the bladder and was filled with echogenic fluid, suggesting hematocolpos (Fig. 1a). After a genital examination, this patient was diagnosed with an imperforate hymen causing hematocolpos (Fig. 1d). Consequently, an MRI was performed, which showed a huge hematocolpos with hematometra and bilateral hematosalpinx (Fig. 1b,c). As a treatment, the imperforate hymen was opened using circumferential incision with removal of the central tissue (Fig. 1e). A Foley catheter was kept in place for 1 week. A repeated US before her discharge showed complete elimination of the collection with normal appearance of the fallopian tubes and ovaries. During her follow-up visits, the patient used tampons in order to keep the surgically opened

hymenal orifice patent, and had normal menstruation without any problems.

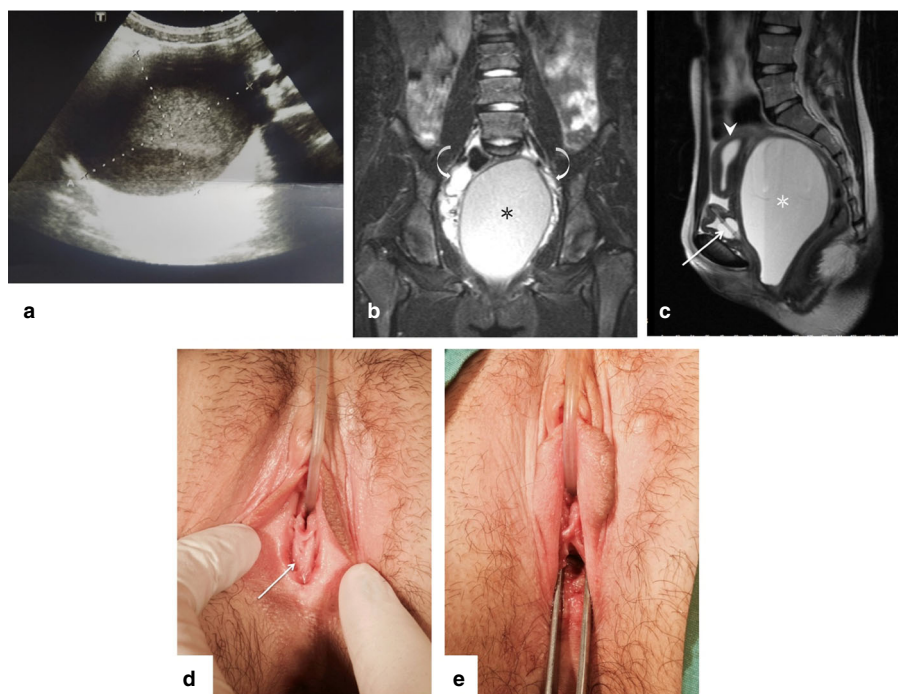
The definition of hematocolpometra is the accumulation of menstrual blood in the vagina (hematocolpos) and uterus (hematometra) instead of its expulsion, most commonly (90%) caused by an imperforate hymen. Blood in the fallopian tubes (hematosalpinx) can also be detected. The incidence of an imperforate hymen is about 1 in 2,000 females. Although it is the most common obstructive congenital abnormality of the female genital tract, its symptoms usually appear during puberty.<sup>1</sup>

The most common symptoms of vaginal obstruction during puberty are cyclical abdominal pain, primary amenorrhea with normal sexual secondary characteristics, lower abdominal mass, urinary retention, constipation, and back pain. An imperforate hymen can easily be identified by examining the external genitalia. Ultrasonography, computed tomography (CT), and magnetic resonance imaging (MRI) are used to diagnose hemato-/hydrocolpos. In particular, MRI with its high-resolution soft tissue contrast provides useful information for the differential diagnosis of obstructive causes and management decisions.<sup>2,3</sup>

Surgical treatment of the imperforate hymen is generally done by hymenotomy but excision of the central part reduces the risk of refusion, as is done in our case. Careful follow up is also especially important to avoid recurrence and complications.

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**Fig. 1** (a) Ultrasound of the patient's pelvis showing the cystic mass. (b and c) Magnetic resonance images of the pelvis with hematocolpos (asterisk), hematometra (arrowhead), hematosalpinx (curved arrows), and the Foley catheter in the bladder (arrow). (d) Preoperative and (e) postoperative views of the patient with an imperforate hymen (arrow).

## Disclosure

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## Author contributions

H.Ö., D.M. and D.A.M. designed the study. H.Ö. wrote the manuscript. D.M. collected the data. D.A.M. supervised the study process. All authors read and approved the final manuscript.

## Informed consent

The parents have signed a consent for publication and the form is held by Dr Hüseyin Özbey, Sechenov First Moscow State Medical University.

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