

Case Report

Pelvic Pain, Dysuria, and Back Pain in an Adolescent Female

Urgent message: Adolescent patients present to urgent care facilities with unique needs and diagnoses. It is imperative that those who care for them be familiar with some of these diagnoses and keep in mind the importance of obtaining a full and accurate medical history and performing a thorough physical examination.

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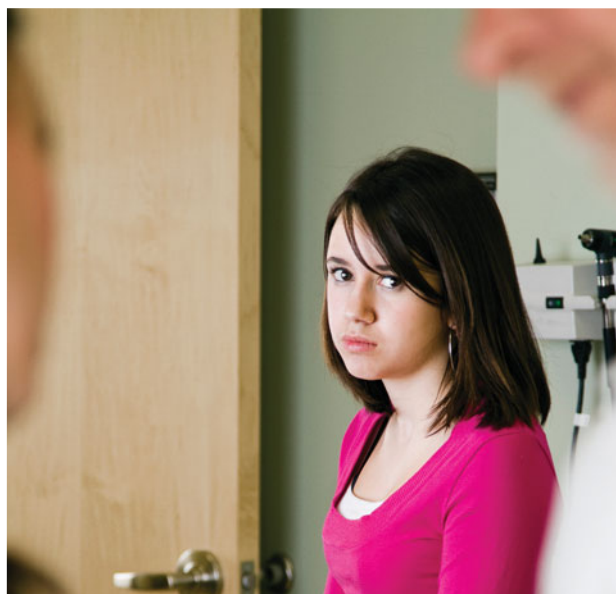
Note: This case is adapted from the book *Bouncebacks! Pediatrics (2015, Anadem Publishing)*, by Michael B. Weinstock, Kevin M. Klauer, Madeline Matar Joseph, and Gregory L. Henry. The book includes 28 case presentations with risk-management commentary.

Introduction

Adolescent patients can represent unique challenges for health-care providers. In caring for them, providers must work from a broad differential, including diagnoses common to children, those common to adults, and also those unique to adolescents. Obtaining a thorough history of illness is of the utmost importance in these patients, but doing so is often especially challenging.

Case Presentation

A previously healthy 12-year-old girl presents to an emergency department (ED) with lower back pain. She is brought in by her mother. The girl is an active gymnast, but she does not report any specific trauma. Her pain is bilateral and nonradiating, and she describes it as having an intensity of 5 on a visual analog scale, on which the highest possible score is 10. It is worse with movement and when she sits up. She reports that she



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has not had any fever, urinary symptoms, weakness, or numbness. She reports transient relief with Tylenol.

Physical Examination

Her physical examination reveals normal findings regarding her heart, lungs, and abdomen. Her vital signs are unremarkable. She has no flank tenderness or midline tenderness, but she does show paraspinal tenderness

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over the lumbar region. She has a strength score of 5/5 on hip flexion and toe dorsiflexion, normal two-point discrimination in the upper and lower extremities, and negative findings on the straight-leg-raise test. It is noted that she has a normal gait but appears to be in pain when she moves.

Diagnosis and Treatment

She is given Motrin and ultimately discharged with diagnosis of musculoskeletal back strain.

One week later, the patient and her mother return to the same ED. This time, a urinalysis is done, and findings show many epithelial cells. The new diagnosis is urinary tract infection. Despite having no fever or dysuria, she is discharged home with ciprofloxacin.

When her symptoms fail to respond to the medication, she and her mother again return to the same ED. Notes indicate that the mother is angry and demands magnetic resonance imaging. The patient has benign findings on examination of the back, without any concerning neurologic symptoms. A plain film of the patient's back is obtained, and a repeat urinalysis is done; the findings are unremarkable. The patient is interviewed without her mother present, and she reports no sexual activity, intravenous drug use, or problems at home. The family is told to follow up with their primary-care provider, but they are unable to get an appointment for several weeks.

When the pain worsens and the patient develops urinary retention, the patient and her mother present to a different ED. There, examination reveals normal vital signs but severe bilateral paraspinal back pain. A Foley catheter is ordered; however, a nurse notices abnormal anatomy when attempting to place the catheter. She alerts the ED physician. A subsequent genitourinary examination then demonstrates intact bulging blue hymen. The gynecology department is consulted, and the patient is admitted to the hospital for hymenotomy because the diagnosis is hematocolpos.

Discussion

Hematocolpos is the accumulation of blood in the vagina due to an imperforate hymen, a congenital condition characterized by lack of vaginal patency because of failure of canalization of the connective tissue in the hymen.

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Blood then accumulates behind the closed space, leading to hematocolpos (blood in the vagina), hematometra (retained blood in the uterus), and hematosalpinx (blood in the fallopian tube). Hematocolpos is estimated to occur in approximately 0.1% of female newborns.¹ Its incidence is reported² to be 1 in 2000.

The typical presentation is in a premenarchal female with cyclic lower abdominal and pelvic pain; however, the presentation can be variable.³ Between 40% and 60% of patients will present with urinary hesitancy or dysuria, but there are several reports of patients presenting with lower back pain.^{4,5} Although the physical examination is a key part of making the diagnosis of hematocolpos, it is imperative to perform pelvic and renal ultrasound imaging to confirm the underlying anatomic cause, because imperforate hymen, vaginal septum, and congenital vaginal abnormalities can all lead to the clinical symptoms of hematocolpos, and renal anomalies may be associated with genital anomalies.

The treatment for this condition is surgical intervention with hymenotomy. Failure to make the diagnosis leads to further accumulation of blood more proximal in the genitourinary system, including hematosalpinx. The presence of this blood is believed to destroy ciliary action in the fallopian tubes and can lead to adhesions and ultimately to endometriosis and decreased fertility.⁶

This case is a difficult one both because the ultimate diagnosis, hematocolpos, is a rare diagnosis and because the presenting symptom, back pain, is an atypical presentation of this problem. Additionally complicating the care of this patient is that making the diagnosis relies on obtaining a sexual history and performing a genitourinary examination on a member of a population many of us are uncomfortable with—the preteen patient presenting with his or her parents.

Although performing a genitourinary examination on every patient presenting with back pain is not only impractical but also unnecessarily invasive, there are important take-home points from this case. Perhaps the most important of these is that adolescents are not the same as children. It is imperative to build time into your interview for a discussion with them separate from the parents. Because of this, the importance of obtaining an accurate sexual history cannot be overstated. It is only

speculation, but one could argue that the key in making the diagnosis in this case earlier would have been in obtaining two essential pieces of the medical history early on—cyclical pain and lack of menstrual bleeding—and connecting them, allowing this process to lead you to performing a genitourinary examination.

In reality, however, hematocolpos is most often diagnosed in an ED on subsequent visits. Accordingly, two additional learning points from this case deal with subsequent

patient encounters. When a patient presents a second time—or, as in this case, even a third time—additional and different items in the workup are indicated. In this case, we see the same workup (urinalysis and lumbosacral x-rays) being repeated. The findings from the patient's medical history and physical examination do not argue for the use of magnetic resonance imaging that the patient's mother had insisted on. The patient has no red-flag back-pain signs or symptoms.

In a young gymnast with these examination findings, spondylolisthesis would also be a likely diagnosis, one that could be missed with a plain film and could be found more accurately with computed tomography; however, computed tomography was also not done or discussed.⁷ Interestingly, however, the patient's examination findings were not even entirely consistent with the initial diagnosis of musculoskeletal back pain. She had negative findings on the straight-leg raise, and her symptoms did not diminish even though she refrained from gymnastics practice.

In a patient presenting multiple times with the same complaint without a clear diagnosis, something different must be done. In this case, if the examination findings do not support additional imaging or laboratory testing, that something different may only have to be obtaining additional age-focused medical history or conducting an additional physical examination. When patients present with true pain that you cannot explain, additional questions are warranted.

Finally, this case highlights one of the basic tenets of urgent care: ensuring adequate follow-up. Although it was certainly appropriate to conduct further outpatient workup after the first two visits for this well-appearing

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patient, she would have benefited from more timely follow-up, and yet the patient's mother reported that they were unable to get an appointment with the primary-care provider for weeks. In a patient with an unclear diagnosis, this is not an appropriate time frame. Perhaps if the patient had been referred to a physical therapist or sports medicine specialist more urgently, it would have been revealed that her symptoms were not consistent with a musculoskeletal etiology, and the physician

could have obtained a more thorough medical history and conducted a physical examination and tests that were more appropriate.

Conclusion

Hematocolpos represents a rare but important diagnostic challenge in the care of an adolescent patient presenting with pelvic pain, dysuria, and back pain. The case reported here highlights several important learning points, including these:

- Adolescents should be given time to speak with their physician without parents in the room.
- Sexual histories must be obtained from adolescent patients so that appropriate treatment can be provided.
- When patients present for subsequent visits, consider obtaining a more detailed medical history and performing a more comprehensive physical examination.
- In patients returning for multiple visits, expand the differential diagnosis.
- Ensure that there is timely outpatient follow-up. ■

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