Menarche? A Case of Abdominal Pain and Vaginal Bleeding in a Preadolescent Girl

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Abdominal pain is one of the most common complaints in the pediatric ED. Because of the broad range of potential diagnoses, it can pose challenges in diagnosis and therapy in the preadolescent girl. An 11-year-old previously healthy girl presented to our pediatric ED with fever, decreased appetite, vaginal bleeding, and abdominal pain. Initial evaluation yielded elevated creatinine levels, leukocytosis with bandemia, elevated inflammatory markers, and urine concerning for a urinary tract infection. She began receiving antibiotics for presumed pyelonephritis and was admitted to the hospital. After worsening respiratory status and continued abdominal pain, a computed tomography scan was obtained and a pelvic foreign body and abscess were identified. Adolescent gynecology was consulted for examination under anesthesia for abscess drainage and foreign body removal. A foreign body in the vagina or uterus can present as vaginal discharge, vaginal bleeding, abdominal pain, dysuria, or hematuria. Because symptoms can be diverse, an intravaginal or uterine foreign body should be considered in the preteen female patient presenting to the ED with abdominal pain. [Ann Emerg Med. 2015;66:479-482.]

0196-0644/$-see front matter

http://dx.doi.org/10.1016/j.annemergmed.2015.06.007

INTRODUCTION

Vaginal and uterine foreign bodies pose a significant diagnostic challenge to physicians. The most frequent symptoms of vaginal foreign bodies include vaginal bleeding or vaginal discharge.[1] Vaginal bleeding has been reported more frequently with vaginal foreign bodies while vaginal discharge is more frequently associated with infectious or nonspecific vaginitis.[2] Vaginal foreign bodies predominate in the three-nine year age group and the most commonly reported objects are small pieces of toilet paper but also include hair ties, safety pins, pencils, candy, and other objects.[1] In rare cases, the foreign body can migrate through the cervix and cause uterine damage, fistula and adhesion formation, stenosis of the vagina or abscess development.[1,3,4] Here, we report a case of a uterine foreign body initially misdiagnosed as pyelonephritis.

Case Report

An 11-year-old white girl presented to our pediatric emergency department (ED) with abdominal pain and fever. Symptoms began 2 days before her arrival. The patient had sudden onset of continuous pain (score 7 of 10) in the epigastric area and bilateral flanks, without radiation. The pain was worsened by activity and walking but improved in a warm bath. Her maximum temperature at home was 101°F (38.3°C). Associated symptoms included decreased activity and solid food intake; she continued to tolerate fluids. Pertinent negative examination results included no sore throat, congestion, cough, chest pain, nausea, vomiting, diarrhea, hematuria, dysuria, headache, or rash. Her last bowel movement was 2 days before arrival and was normal in consistency. The patient was thought by her grandmother to be experiencing menarche; she was on day 2 of vaginal bleeding and reported spotting twice in the past. However, the grandmother was concerned because the pain worsened despite over-the-counter analgesics. Medical history was significant only for attention deficit/hyperactivity disorder and an *Escherichia coli*–positive urinary tract infection 2 years before admission.

The patient weighed 69.1 kg and her vital signs at presentation were blood pressure 138/64 mm Hg, pulse rate 140 beats/min, respiratory rate 26 breaths/min, and temperature 37.2°C (99°F). On initial examination in the ED, the patient was ill appearing but nontoxic and in no acute distress. Her mucous membranes were dry, and her cardiovascular examination result was significant for tachycardia. She had strong peripheral pulses, good distal perfusion, and a normal pulmonary examination result. Her abdominal examination result was significant for obesity, with tenderness to palpation in bilateral upper quadrants, as well as the epigastric and periumbilical areas, with voluntary guarding. There was no lower quadrant or suprapubic tenderness and no rebound tenderness. Tanner staging was III to IV.

An abdominal radiograph revealed a mild stool burden with a few air or fluid levels. Pertinent laboratory study

results were as follows: WBC count 21,600/μL (reference range 4,500 to 13,500/μL) with 67% segmented neutrophils and 21% bands, erythrocyte sedimentation rate 22 mm/hour (reference range 0 to 10 mm/hour), C-reactive protein level 31.8 mg/dL (reference range ≤0.30 mg/dL), creatinine level 1.34 mg/dL (reference range 0.42 to 0.71 mg/dL), and blood urea nitrogen level 25 mg/dL (reference range 8 to 18 mg/dL). The rest of her laboratory results were normal, including a hepatic profile and pancreatic enzyme levels. Her urinalysis was significant for large blood and leukocyte esterase with greater than 50 WBCs and greater than 50 RBCs per high-powered field and trace bacteria; it was negative for nitrites. A urine pregnancy test result was negative.

Because of the elevated creatinine, WBC, and C-reactive protein levels; urine suspicious for a urinary tract infection; and fever, the patient underwent renal ultrasonography to evaluate the structural anatomy of her urinary tract. The result was normal except for trace free fluid in the right upper abdomen and perihepatic space that was noted to be nonspecific but unusual.

The patient received 2 L of normal saline solution in the pediatric ED, and her pulse rate improved. She also received acetaminophen and morphine for pain with improvement. She received intravenous ceftriaxone for presumed pyelonephritis and was admitted to the hospital for further treatment.

In the first 24 hours of hospitalization, the patient was persistently febrile, tachycardic, and tachypneic. She received additional intravenous fluid hydration and pain control and subsequently developed an oxygen requirement. A chest radiograph demonstrated diffuse hazy opacities likely related to atelectasis and hypoinflation. In the hospital, the abdominal pain worsened and migrated to the right lower quadrant. Ultrasonography was obtained to assess for ruptured appendicitis. The appendix was not visualized on the ultrasonograph, but a moderate amount of free fluid in the pelvis was observed. Surgery was consulted, intravenous piperacillin and tazobactam was administered empirically, and abdominal computed tomography (CT) was recommended.

During hospital day 2, the patient developed further respiratory distress and was transferred to the pediatric ICU for management of presumed sepsis. Abdominal CT was obtained, which demonstrated marked pelvic inflammatory fat stranding and fluid, including at least 1 rim-enhancing collection adjacent to the right adnexa, as well as a hypoattenuating linear object of approximately 3 cm. The radiologist thought that the linear object was most likely within the vagina, suggestive of retained vaginal foreign body (Figure 1). Adolescent gynecology was consulted, and the patient was taken to the operating room for an examination under anesthesia.

The examination under anesthesia with the addition of vaginoscopy and hysteroscopy demonstrated a uterine foreign body. Initial cervical dilatation with attempts to remove the uterine foreign body vaginally failed; thus, removal required open hysterotomy. Gynecology performed intra-abdominal abscess drainage with abdominal washout and drain placement. An orange tee similar to either a golf tee or a tee used for games was removed by gynecology (Figure 2). The patient had normalization of her blood urea nitrogen and creatinine levels by postoperative day 1 and was weaned from supplemental oxygen by postoperative day 3, with improvement in her respiratory distress. She was discharged home on postoperative day 5. Postoperative antibiotics were continued after the procedure, and she was discharged home receiving a total 14-day course of ciprofloxacin and metronidazole. Because of the unclear

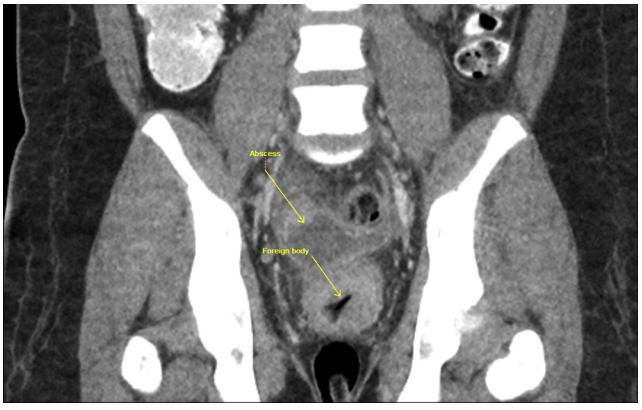

Figure 1. CT abdomen and pelvis, coronal view. Proximal arrow showing abscess; distal arrow showing foreign body.

Figure 2. Intrauterine foreign body.