Abstract:
A 13-year-old African American female presented to our emergency department with weight loss, acute on chronic abdominal pain, and a palpable pelvic mass on physical examination. A hemorrhagic ovarian cyst was noted on transvaginal ultrasonography, whereas laboratory evaluation confirmed a final diagnosis of human immunodeficiency virus type 1. This article briefly reviews the emergency department approach to the differential diagnosis of weight loss, pelvic pain, and adnexal masses in adolescent girls with a concise summary of the clinical manifestations and laboratory testing for human immunodeficiency virus among adolescents.

Keywords:
adolescent; pelvic pain; adnexal mass; human immunodeficiency virus (HIV)

Presented during the American Academy of Pediatrics (AAP) Section on Emergency Medicine Emergi-Quiz Case Competition held at the AAP National Convention and Exhibition, Washington, DC, October 2015.
Carman and Ann Adam Department of Pediatrics, Division of Emergency Medicine, Children's Hospital of Michigan, Wayne State University, Detroit, MI.
Reprint requests and correspondence: Amy M. DeLaroche, MBBS, Carman and Ann Adam Department of Pediatrics, Division of Emergency Medicine, Children's Hospital of Michigan, 3901 Beaubien St, Detroit, MI 48201.
(E-mail: adelaroc@dmc.org)

1522-8401

Adolescent With Weight Loss and Abdominal Pain

Amy DeLaroche, MBBS, Helene Tigchelaar, MD, Nirupama Kannikeswaran, MD, Usha Sethuraman, MD

A 13-year-old African American girl presented to our emergency department (ED) accompanied by her mother for evaluation of weight loss. Her initial symptoms started approximately 8 months prior with intermittent nonbilious, nonbloody vomiting associated with diarrhea. After 1 month of symptoms, she was evaluated at an outside hospital and discharged without any intervention or a specific diagnosis. Since that initial evaluation, she continued to experience intermittent nausea, vomiting, diarrhea, generalized abdominal pain, and markedly decreased appetite. Six months into her illness, she was again evaluated at an outside hospital for abdominal pain. She was diagnosed as having anemia and constipation and started on iron supplementation and polyethylene glycol.

The impetus for a third evaluation was significant weight loss and acute worsening of her abdominal pain over the past 1 week. The patient reported that over the course of the past 8 months, she had unintentionally lost approximately 22 kg from a self-reported weight of 86 kg prior to the onset of her symptoms. She denied any history of purging, use of stimulants or laxatives, or increased exercise. Her abdominal pain varied in severity and was described as "punching" and "cramping" in nature, and was unrelieved by simple analgesics. The pain was localized to the lower abdomen, without radiation, and was associated with mild dysuria and a yellow/green vaginal discharge. Her last menstrual period was 1 month prior and was reported as being normal. A complete review of systems was notable for the following: occasional night sweats without fever, fatigue and weakness,

abdominal pain, vaginal discharge with dysuria, intermittent nausea, vomiting, diarrhea, weight loss, hair loss, and dry skin.

Her medical history was unremarkable and she was fully immunized. Her medications included polyethylene glycol, iron, and a multivitamin. Family history was significant only for hypertension and asthma. She resided with her mother and 2 younger siblings. She attended the seventh grade and admitted to one previous consensual sexual encounter 4 months prior. She denied any tobacco, alcohol, or recreational drug use.

On arrival to the ED, the patient's vital signs were as follows: temperature, 36.6°C; heart rate, 116 beats/min; respiratory rate, 20 breaths/min; blood pressure, 110/74 mm Hg; and oxygen saturation of 98% on room air. She weighed 54.6 kg, which placed her at the 78th percentile for age. Her physical examination was significant for loose skin folds, consistent with marked weight loss, and a firm, tender suprapubic mass. The mass was approximately 5 cm in diameter, smooth in texture, and with a regular superior border and an unappreciable inferior border. The mass was not mobile, ballotable, or pulsatile. The rest of her abdominal examination was otherwise unremarkable. The genitourinary examination revealed a closed cervical os with moderate purulent vaginal discharge. The uterus was felt to be enlarged on bimanual palpation with no adnexal masses appreciated. There was no tenderness noted on bimanual palpation. The remainder of her physical examination was within normal limits.

A complete blood count (CBC) revealed a white blood cell (WBC) count of 12 200/mm^3, hemoglobin of 9.9 g/dL, hematocrit of 32.6%, mean corpuscular volume of 65.3, and platelets of 447 000/mm^3. The differential on the CBC revealed a total lymphocyte count of 1800/mm^3, monocytes 400/mm^3, neutrophils 9500/mm^3, eosinophils 500/mm^3, and no basophils or nucleated red blood cells. Her reticulocyte count was 57 000/mm^3. Her electrolytes, blood urea nitrogen, creatinine, alanine aminotransferase, aspartate aminotransferase, uric acid, and thyroid-stimulating hormone were all within reference range. Her total protein was elevated at 9.2 g/dL, and her albumin and prealbumin were both decreased at 3.3 g/dL and 14.1 mg/dL respectively. Amylase, lipase, and lactate dehydrogenase were all mildly elevated at 166, 317, and 277 U/L respectively. Inflammatory markers including erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) were also elevated at 54 mm/h and 39 mg/L respectively. A urine pregnancy test showed a negative result. Her urinalysis was suggestive of a urinary tract infection with trace ketones, 1+ bilirubin, 2+ blood, 3+ protein, 2.0 urobilinogen, 3+ leukocyte esterase, negative nitrite, 50 to 100 red blood cells/hpf, and >100 WBC/hpf without any bacteria. A urine culture was sent. Her chest radiograph was within normal limits, and an abdominal ultrasound demonstrated a large well-circumscribed heterogeneous pelvic mass just superior to the bladder measuring 6.3 cm × 5.5 cm × 7.0 cm with moderate abdominal and pelvic ascites (Figure 1). A transvaginal ultrasound was requested, and the patient was started on cefoxitin and doxycycline for treatment of pelvic inflammatory disease (PID). She was admitted to the pediatric service for further evaluation.

DIFFERENTIAL DIAGNOSIS

This patient's most notable complaints were weight loss and gastrointestinal symptoms, coupled with a palpable pelvic mass on physical examination. Weight loss is a significant finding in pediatrics, and the broad differential diagnosis is best conceptualized by considering etiologies that lead to decreased oral intake, decreased absorption, or increased metabolic requirements (Table 1).[1] Acute weight loss is more suggestive of a potentially life-threatening etiology requiring urgent intervention, whereas chronic weight loss, occurring for 2 weeks or more, is more likely related to an underlying medical problem with or without superimposed psychosocial/psychiatric features. Primary diagnostic considerations with chronic weight loss include infectious, inflammatory, or neoplastic processes (Table 1). A detailed history, focusing on the patient's age, the severity and duration of the weight loss, and associated symptoms, along with a complete physical examination is essential to narrowing down the differential diagnosis. Screening laboratory tests are not warranted, but the following first-line investigations may be considered as indicated: CBC, ESR, CRP, and metabolic panel including electrolytes, renal and liver function tests, serum protein profile, urinalysis with culture, and chest radiograph.[1]

Unlike weight loss, abdominal pain is a very common ED complaint. Lower abdominal or pelvic pain in the adolescent girl can represent a broad range of potential diagnoses, categorized as acute or chronic in nature (Table 2).[2] Similar to the ED approach to weight loss, a complete history and physical examination is essential. Although difficult in adolescents, an accurate description of the pain along with its association with menses, sexual activity, urination, and defecation can provide some insight into the potential etiology. A thorough