Abdominal Pain and Fever—An Unusual Presentation of Meningococcemia

It is rare, although not unheard of, for meningococcal disease to present with focal extraneurological manifestations. Peritonitis caused by Neisseria meningitidis without any signs of either meningitis or meningococcemia has been reported [1, 2], and a case of pelvic inflammatory disease associated with N. meningitidis bacteremia and Fitz-Hugh–Curtis syndrome has also been reported [3].

We describe two patients with N. meningitidis bacteremia who presented with severe abdominal pain and fever but without meningococcal signs, hypotension, or cutaneous manifestations of meningococcemia.

A 37-year-old previously healthy male roofer presented to the hospital with a 7-hour history of severe right upper quadrant abdominal pain radiating to his shoulders that was associated with an abrupt onset of fever, chills, and nausea. He had not vomited but had had two loose bowel movements in the 12 hours preceding the onset of fever. At the time of admission, the rectal temperature was 103.5°F, apical heart rate was 107, and blood pressure was 156/56 mm Hg. No rash was noted, and the neck was supple. Cardiovascular examination was unremarkable. Breath sounds were noted to be somewhat decreased at the right lung base, but results of the lung examination were otherwise normal. Abdominal examination was remarkable for severe epigastric and right upper quadrant tenderness with a positive Murphy’s sign and localized guarding; bowel sounds were present.

At admission, the WBC count was 5,100 × 10^9/L with 79% neutrophils and 15% band forms, and, 12 hours later, it increased to 27,500 × 10^9/L with 74% neutrophils and 15% band forms. Levels of serum electrolytes, amylase, and lipase and results of liver function tests were normal. Testing for antibody to HIV was negative. Therapy with trovafloxacin (300 mg iv daily) and tobramycin (one 300-mg dose iv) was started, and surgical consultation was obtained for treatment of presumed acute cholecystitis. A chest roentgenogram, CT scan of the abdomen with iv contrast, and a DISIDA hepatobiliary scan were normal.

The patient’s fever and abdominal pain resolved within 36 hours of the beginning of antimicrobial therapy. Cultures of blood obtained at admission yielded N. meningitidis. Serotyping of the isolate was not performed. A lumbar puncture, prompted by the onset of headache, was performed on hospital day 6, and analysis of CSF was unremarkable. The patient was discharged on hospital day 7 and received oral trovafloxacin for a total of 14 days. Household contacts received ciprofloxacin prophylaxis. Predischarge levels of terminal complements (C5–C9) were determined, and pro-perdin assay was performed; all findings were supranormal.

A 34-year-old housewife with a medical history of mild-to-moderate hypertension was admitted to the hospital with a 48-hour history of fever, nausea, vomiting, and right upper quadrant abdominal pain extending into the lower right chest. At the time of admission, she looked ill, with an oral temperature of 103.9°F, apical heart rate of 135, blood pressure of 190/124 mm Hg, and respiratory rate of 20. No skin rash was noted, and the neck was supple. Cardiovascular examination was notable for tachycardia. The chest was clear during auscultation, and no splinting was noted. Abdominal examination revealed severe right upper quadrant tenderness on palpation but no organomegaly, rebound, or guarding. Bowel sounds were present.

The peripheral WBC count was 8,100 × 10^9/L with 87% neutrophils. Levels of serum electrolytes and a urinalysis were normal, and a pregnancy test was negative. A chest roentgenogram, plain abdominal films, and abdominal ultrasonogram obtained at admission were also normal. Levofloxacin (500 mg iv daily) and metronidazole (250 mg iv every 6 hours) were administered for treatment of presumed intraabdominal infection.

The patient’s condition improved dramatically over the following 12 hours with near-complete resolution of the abdominal pain and defervescence. Cultures of two sets of blood specimens obtained at admission yielded β-lactamase-negative N. meningitidis. Serotyping of the isolate was not performed. Metronidazole therapy was discontinued, and iv levofloxacin treatment was continued for 3 days. The patient was discharged home on hospital day 4 and received oral levofloxacin for a total of 10 days. Rifampin prophylaxis was administered to all household contacts. The predischarge serum level of total hemolytic complement was normal.

The source of N. meningitidis was not established in either case. The choice of empirical antibiotics was dictated by the initial clinical presentation. Rapid clinical response to fluoroquinolone therapy precluded the need for more invasive diagnostic procedures (laparotomy) and thus the opportunity to document intraperitoneal infection. It is tempting to consider hematogenous seeding of the peritoneum as a possible cause of the Fitz-Hugh–Curtis–like syndrome.

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References