

Case Histories Document Deadliness of *C. sordellii*

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A healthy 4-year-old boy sustained a closed fracture of the arm and died of *Clostridium sordellii* infection 4 days later. Death occurred despite intravenous antibiotic therapy and aggressive surgical debridement of necrotic tissue.

Dr. Michael Aldape and his colleagues at the Veterans Affairs Medical Center in Boise, Idaho, describe this case and sum-

marize clinical features of 44 additional cases of *C. sordellii* infection reported in the literature (Clin. Infect. Dis. 2006;43:1436-46). Almost all of the affected individuals had been healthy before infection.

About 24 hours after the 4-year-old was discharged from the emergency department in a long arm cast for a closed transverse fracture of the arm, severe pain and swelling of the arm and fingers led to his hospital admission. He was taken to the operating room after intravenous cefazolin

was started. Volar fasciotomy of the superficial and deep compartments of the arm was required. Although he was afebrile, with a blood pressure of 128/82 mm Hg, his pulse increased to 150 beats/min.

Twelve hours later, the boy's pulse increased to 164 beats/min, and his blood pressure dropped to 108/60 mm Hg. He remained afebrile. The left forearm became grossly swollen, so intravenous vancomycin was started. Gentamicin and piperacillin were started when WBC and platelet

counts increased. A second surgery revealed necrotic and foul-smelling muscle, fat, and fascia, with complete stoppage of blood flow to the wrist, Dr. Aldape and his colleagues said. Tissue samples obtained at both surgeries subsequently revealed large, gram-negative rods identified as *C. sordellii*.

The boy's WBC count continued to climb the next day, and by midafternoon he was hemodynamically unstable, with increasing hypotension, tachycardia, metabolic acidosis, and decreased urine output. Hours later, ultrasound-guided pericardiocentesis produced straw-colored liquid. Refractory hypotension developed, and the patient died.

Two other cases involved *C. sordellii* infections in children. One was a 17-day-old infant who developed neonatal toxic omphalitis and died despite aggressive treatment that included multiple debridements and broad-spectrum antibiotics. The third case was a 12-year-old boy who developed *C. sordellii* sepsis following an ear infection but survived after an intensive 2-week course of antibiotic therapy and supportive care, the authors said.

Of the 45 cases of *C. sordellii* infection, 19 occurred following trauma or nongynecologic surgery, with 53% mortality. Ten cases of *C. sordellii* infection in injection drug users were reported, with 50% mortality. Eight cases were associated with normal childbirth, five with medically induced abortion, and two with spontaneous abortion. All 15 of the latter cases were fatal. One case of fatal spontaneous endometritis was reported.

Diagnosis of *C. sordellii* infection is challenging because initial symptoms are nonspecific. Although patients may have deep infection, they are afebrile and lack signs of local infection. "By the time local signs and symptoms appear, patients are hypotensive and organ failure is occurring," the researchers said. A collection of six distinctive clinical features uniquely characterizes *C. sordellii* infection: marked leukocytosis, refractory hypotension, severe tachycardia, profound capillary leak syndrome, hemoconcentration, and persistent absence of fever, they added.

Little information is available concerning appropriate antimicrobial treatment of *C. sordellii* infection. *C. sordellii* is likely to be resistant to aminoglycosides and sulfonamides but susceptible to beta-lactams, chloramphenicol, and tetracycline. There is no commercially available preparation of *C. sordellii* antitoxin, they said.

"Physicians should suspect *C. sordellii* infection in patients who present within 2-7 days after an injury, surgical procedure, drug injection, childbirth, or MIA [medically induced abortion] and...complain of pain, nausea, vomiting, and diarrhea but are afebrile," the researchers concluded. ■

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