

Recurrent Septic Shock Due to *Streptococcus suis*

Streptococcus suis is a commensal microorganism in pigs but can lead to disease in these animals as well as in humans. Although uncommon, purulent meningitis, bacteremia, and fatal septic shock have been reported. However, recurrent human disease has not yet been described. We report a case of fatal recurrent septic shock due to *S. suis* type II 15 years after the initial infection.

A 49-year-old butcher was referred to Dupuytren Hospital, Limoges, France, for acute-onset fever (41°C), vomiting, headache, and abdominal pain. The patient had a history of post-traumatic splenectomy and was hospitalized in 1981 for severe *S. suis* infection (type II) with associated septic shock and purulent meningitis. A total recovery was made, and the episode was considered an occupational disease. Upon the patient's second admission 15 years later, he was drowsy and disoriented. Results of a neurological examination were normal, and there was no evidence of neck rigidity. Unstable hemodynamics and oliguria were noted. Small scars and fresh cuts were observed on both hands. A severely compensated metabolic acidosis (pH = 7.44; PaCO₂ = 16.5 mmHg; base excess = -14.4 mmol/liter) and multiple-organ failure associated with acute renal failure, liver abnormalities (alanine aminotransferase = 476 IU/liter; aspartate aminotransferase = 265 IU/liter), disseminated intravascular coagulation, and leukopenia (3,900/mm³) were evidenced. Results of a chest roentgenogram and cerebral computed tomography were normal. Lumbar puncture revealed normal cerebrospinal fluid. Antibiotic treatment consisted of intravenous administration of amoxicillin (2 g every 6 h). Despite a large volume expansion and the administration of increasing doses of catecholamines, refractory shock led to death 12 h after admission. Penicillin G-sensitive *S. suis* (type II) was isolated retrospectively from blood cultures (five samples) and cerebrospinal fluid. Necropsy showed gross hemorrhage in the stomach, adrenal glands, lungs, and kidneys secondary to prolonged shock but no evidence of endocarditis or intracerebral abscess formation. A functional ectopic spleen was found.

Many serotypes of *S. suis* have been identified. Type II may be responsible for human infections, almost exclusively in persons exposed to pigs or to unprocessed pork, such as butchers (3). Although little is known about the pathogenesis of this infection, the portal of entry is frequently through occupational wounds. Human *S. suis* type II infection is usually re-

sponsible for purulent meningitis occurring after a brief pseudoinfluenzal syndrome (1). The meningitis is usually nonfatal, but severe neurological sequelae, such as perceptive nerve deafness and dizziness, may be observed. Although rare, septicemia and fulminant septic shock with multiple organ failure and fatal outcome have been reported (4, 5). In these cases, intensive therapy in conjunction with immediate intravenous administration of antibiotics is mandatory.

As far as we know, this is the first reported case of repeated *S. suis* septic shock in a human. No chronic or recurrent infections have so far been reported in the literature. In 1981, our patient had been treated with penicillin for 3 weeks and fully recovered from this first episode. The fatal septic shock occurred 15 years later after a period when he was free of symptoms. Therefore, this second episode can be considered a reinfection rather than a recurrence of the infectious disease. Splenectomy is a well-established risk factor for infections. However, in the present case, a functional ectopic spleen was evidenced during necropsy. In addition, *S. suis* infections have been described to occur mainly in immunocompetent hosts.

In conclusion, this report confirms the absence of immunity after a human *S. suis* infection and stresses the utmost importance of constant prevention in exposed workers (2).

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