

Septic Oligoarthritis Caused by *Klebsiella pneumoniae* and *Acinetobacter baumannii*

To the Editor:

Septic arthritis is an uncommon and potentially fatal emergency associated with significant mortality and morbidity rates, with an incidence in the general population reported to be 2 to 5 per 100,000¹. Bacteria may spread directly from adjacent osteomyelitis or from a local soft-tissue infection, diagnostic or therapeutic procedure, or penetrating trauma¹. Usually, this condition is caused by *S. aureus*, which accounts for two-thirds of the cases, whereas septic arthritis caused by *Klebsiella pneumoniae* or *Acinetobacter baumannii* are rare conditions seldom reported^{2,3,4,5}. We describe a case of an adult male with oligoarthritis septic arthritis due to extended-spectrum beta-lactamase *K. pneumoniae* and imipenem-resistant *A. baumannii* after arthroscopic surgery of the knee. To our knowledge, this is the first report of a patient with septic oligoarthritis simultaneously coinfecting by the pathogens *K. pneumoniae* and *A. baumannii*.

A 52-year-old man underwent arthroscopic surgery of the right knee because of a meniscal lesion. After 5 months, he developed signs of oligoarthritis in both elbows and on the operated knee. Examination showed all 3 articulations were swollen and hot, with signs of articular effusion, periarticular pain, and partial limitation of movement. Blood count and biochemical markers did not show any relevant characteristics. Erythrocyte sedimentation rate and C-reactive protein levels were elevated (95 mm/h and 236 mg/dl, respectively), and remained high throughout the next 7 months. He underwent open surgery of both elbows and arthrocentesis of the right knee to collect material for culture and analysis of the synovial fluid. He then progressed to a septic state and to acute respiratory failure and received broad-spectrum antibiotics, initially oxacillin and meropenem, with the purpose of covering both gram-positive and -negative germs. The bacterial culture of the synovial fluids and Kirby-Bauer antibiotic testing revealed extended-spectrum beta-lactamase *K. pneumoniae* in both elbows and imipenem-resistant *A. baumannii* in the right knee. All the hemocultures were negative. He received a combination of vancomycin and polymyxin B. In consequence of his general condition he was sent to the intensive care unit, where he remained for 45 days. After discharge, he maintained functional capacity of the joints, although he could not fully extend both elbow joints. He did not develop any other complications such as osteomyelitis or pyomyositis.

This case is unusual for several reasons. First, nongonococcal bacterial arthritis usually affects only 1 joint, most commonly the knee, while polyarticular involvement occurs in only 10% to 15% of cases, usually in patients with rheumatoid arthritis, systemic connective tissue disorder, or overwhelming sepsis^{6,7,8,9}. Second, most cases are caused by *S. aureus*, whereas only 15% of cases are caused by gram-negative bacteria, which are most commonly seen in immunocompromised and elderly patients^{2,4,10}. Third, although *K. pneumoniae* is a common cause of

gram-negative bloodstream infection, septic arthritis caused by this pathogen is a rare condition in adult patients. Even though the mortality rate from septic arthritis caused by *K. pneumoniae* is relatively low, around 7.1%, early recognition and treatment of the infection is important to reduce complications such as joint destruction^{3,4}. Finally, septic arthritis caused by *A. baumannii* is hardly ever reported; however, the incidence of nosocomial infections has been increasing, consequently, infections caused by *A. baumannii* must be treated immediately to prevent nosocomial cross-infection and bacterial spread¹¹. It is a challenging task to treat infections caused by antibiotic-resistant bacteria, and such infections are likely to cause multiple organ failure and death¹¹.

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