

## Acromioclavicular Joint Septic Arthritis Without Any Underlying Disease: A Case Report

### Altta Yatan Herhangi Bir Hastalığı Olmayan Akromioklaviküler Eklem Septik Artrit: Bir Olgu Sunumu

Abdurrahman KAYA<sup>1</sup>, Sibel YILDIZ<sup>1</sup>, Hasan BATTAL<sup>2</sup>, Ali MERT<sup>1</sup>

<sup>1</sup> Department of Infectious Diseases and Clinical Microbiology, Faculty of Cerrahpasa Medicine, University of Istanbul, Istanbul, Turkey

<sup>2</sup> Department of Physical Medicine and Rehabilitation, Faculty of Cerrahpasa Medicine, University of Istanbul, Istanbul, Turkey

#### SUMMARY

*Septic arthritis is an emergency disease. Early diagnosis and appropriate antibiotic therapy are important for preventing morbidity. The acromioclavicular joint is very rarely involved in septic arthritis. We report a case with acromioclavicular joint septic arthritis due to Staphylococcus aureus without any risk factor and the treatment of our patient with antibiotics for eight weeks.*

**Key Words:** Acromioclavicular joint, Septic arthritis, Staphylococcus aureus

#### ÖZET

### Altta Yatan Herhangi Bir Hastalığı Olmayan Akromioklaviküler Eklem Septik Artrit: Bir Olgu Sunumu

Abdurrahman KAYA<sup>1</sup>, Sibel YILDIZ<sup>1</sup>, Hasan BATTAL<sup>2</sup>, Ali MERT<sup>1</sup>

<sup>1</sup> İstanbul Üniversitesi Cerrahpaşa Tıp Fakültesi, Enfeksiyon Hastalıkları ve Klinik Mikrobiyoloji Anabilim Dalı, İstanbul, Türkiye

<sup>2</sup> İstanbul Üniversitesi Cerrahpaşa Tıp Fakültesi, Fiziksel Tıp ve Rehabilitasyon Anabilim Dalı, İstanbul, Türkiye

*Septik artrit acil bir hastalıktır. Erken teşhis ve uygun antibiyotik tedavisi morbiditenin önlenmesi için önemlidir. Akromioklaviküler eklem çok nadiren tutulur. Biz sekiz hafta boyunca antibiyotikle tedavi ettiğimiz ve herhangi bir risk faktörü olmayan Staphylococcus aureus nedeniyle akromioklaviküler septik artrit olan bir olgu sunuyoruz*

**Anahtar Kelimeler:** Akromioklaviküler eklem; Septik artrit; Staphylococcus aureus

## INTRODUCTION

Septic arthritis, the infection of joint space, usually involves the weight-bearing joints, particularly the knee and hip. Acromioclavicular joint involvement is very rare<sup>[1]</sup>. Therefore, considering and establishing the diagnosis of acromioclavicular joint septic arthritis may be very difficult. Initially, when a patient is admitted with the complaints related with that joint, fracture or dislocation may be the presumed diagnosis. The acromioclavicular joint is involved primarily within risk factors such as immunocompromised status or underlying predisposing factors including previous trauma, rheumatoid arthritis, diabetes mellitus, intravenous drug abuse, osteoarthritis, surgery, and prosthetic joint<sup>[2]</sup>. Timely treatment and intervention as joint drainage are critical for morbidity. Here, we report a case with acromioclavicular joint septic arthritis without any of the above-mentioned risk factors.

## CASE REPORT

A 35-year-old male presented with severe left shoulder pain and fever for three days. On physical examination, his body temperature was 38.5°C and pulse was 112/minute. The acromioclavicular joint were swollen, painful, warm and erythematous, and tender to palpation. He was previously healthy and there was no history of trauma. Laboratory tests were as follows: leukocyte 14.700/mm<sup>3</sup> (with neutrophil predominance; 90%) and C-reactive protein 176 mg/L (N: 0-5). There was no fracture or dislocation on the radiographs. Magnetic resonance imaging (MRI) confirmed bone erosion, widening of the joint space and involved soft tissue (Figure 1). Joint aspiration was performed under ultrasound. Purulent fluid (2 mL) was drained from the acromioclavicular joint. In the gram stain of the aspirated sample, abundant polymorphonuclear leukocytes (> 100.000/mm<sup>3</sup>) and gram-positive bacteria were seen. Cefazolin 3 g/day was initiated empirically. The blood cultures were sterile. The aspirated sample cultured methicillin-sensitive *Staphylococcus aureus*, and he was diagnosed as septic arthritis. His human immunodeficiency virus (HIV) serology remained negative. The pain in the acromioclavicular joint improved and swelling and erythema regressed within one week. The joint motion recovered and the abnormal biochemistry returned to normal ranges. The therapy

was continued up to eight weeks. Repeated drainages were not found to be necessary by the orthopedic surgeons. At the six-month follow-up, the patient was doing well, with no recurrence or sequelae.

## DISCUSSION

Septic arthritis is a medical emergency and a rapidly destructive disease. Its incidence is 2-10 per 100.000 in the general population<sup>[2]</sup>. It involves several joints in order of knee (50%), hip (20%), shoulder (8%), ankle (7%), and wrist (7%)<sup>[3,4]</sup>. Acromioclavicular joint involvement is very rare and is generally an atypical localization for septic arthritis. The acromioclavicular joint is localized in the shoulder, and can be affected by different conditions such as traumatic synovitis, degenerative arthritis, rheumatoid arthritis, tuberculous osteoarthritis, calcium pyrophosphate, dihydrate arthritis, osteomyelitis, and rarely septic arthritis<sup>[4]</sup>. In the literature, there are limited case reports of acromioclavicular joint septic arthritis, most of which were associated with a specific underlying disease, which was not the case in this report. Clinically, septic arthritis usually presents as a hot swollen joint, with serious pain that causes restriction of movement and high systemic fever. Septic arthritis can occur by direct inoculation or hematogenous spread of the microorganisms to the joint. Most predisposing factors described for septic arthritis include advanced age, injection drug use, indwelling catheters, trauma, local infection, and immunocompromised status such as HIV infection, none of which was present in our case<sup>[5]</sup>. *Streptococ-*

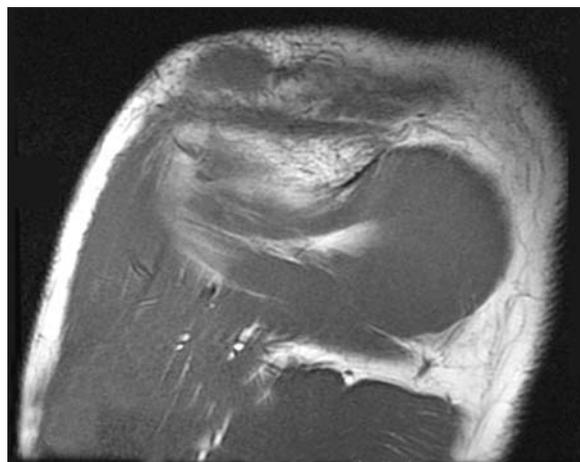


Figure 1. Bone erosion, widening the joint space and involved soft tissue.

*cus* spp. and *S. aureus* are the most common causative organisms in acromioclavicular joint septic arthritis, as in other types of septic arthritis<sup>[4]</sup>. The imaging procedures (MR/ultrasound) can be helpful for localized anatomical involvement of the joint, differential diagnosis and aspiration<sup>[4]</sup>. The isolation of the microorganism in the synovial fluid aspirate is the gold standard in the differential diagnosis and treatment. The definitive diagnostic test is an isolated microorganism in the synovial fluid. Because of its localization, aspiration of the acromioclavicular joint is difficult, and ultrasonography can be helpful at this point. For this reason, we aspirated the joint under ultrasound and the drainage sample was cultured. In the literature, there are two treatment choices for acromioclavicular septic arthritis: joint drainage by needle or surgical aspiration of joint; both are combined with antimicrobial therapy<sup>[6]</sup>. We performed aspiration (2 mL) under ultrasound, and the patient recovered with antibiotherapy without any need of irrigation. The duration of the treatment, as well as in the other forms of septic arthritis, is 6-8 weeks.

In conclusion, diagnosis of acromioclavicular septic arthritis, which has high morbidity, can be delayed because of its rarity. The diagnosis of acromioclavicular septic arthritis should come to mind in the presence of typical symptoms and in the absence of risk factors, as described in this report.

## REFERENCES

1. Tan V, Pepe MD, Esterhai JL. Sepsis of the shoulder girdle. In: Iannotti P, Williams GR (eds). *Disorders of the Shoulder: Diagnosis and Management*. Philadelphia, PA: Lippincott, Williams and Wilkins, 1999:951-73.
2. Iyengar KP, Gudena R, Chitgopkar SD, Ralte P, Hughes P, Nadkarni JB, et al. Primary septic arthritis of the acromioclavicular joint: case report and review of literature. *Arch Orthop Trauma Surg* 2009;129:83-6.
3. Hammel JM, Kwon N. Septic arthritis of the acromioclavicular joint. *J Emerg Med* 2005;29:425-7.
4. Laktasic-Zerjavic N, Babic-Nagic D, Curkovic B, Potocki K, Soldo-Juresa D. Septic acromioclavicular arthritis in a patient with diabetes mellitus. *Coll Antropol* 2005;29:7436.
5. Noh KC, Chung KJ, Yu HS, Koh SH, Yoo JH. Arthroscopic treatment of septic arthritis of acromioclavicular joint. *Clin Orthop Surg* 2010;2:186-90.
6. Mathews CJ, Weston VC, Jones A, Field M, Coakley G. Bacterial septic arthritis in adults. *Lancet* 2010;6:846-55.

## Yazışma Adresi/Address for Correspondence

Dr. Abdurrahman KAYA

İstanbul Üniversitesi Cerrahpaşa Tıp Fakültesi,  
İnfeksiyon Hastalıkları ve  
Klinik Mikrobiyoloji Anabilim Dalı,  
Cerrahpaşa, İstanbul-Türkiye

E-posta: dr.abdkaya@hotmail.com