

## Acute rheumatic fever at first glance, Brucella with a glance in depth

### *İlk bakışta akut romatizmal ateş, derinlemesine bakışta Brusella enfeksiyonu*

Acute rheumatic fever (ARF) is a systemic immune-mediated response to primary infection of throat by highly virulent strains of Group A  $\leq$  hemolytic Streptococcus (1). Decision-making on both primary and secondary prevention is important especially to prevent the major long-term sequelae: rheumatic heart disease (2). Diagnostic criteria first defined by Jones are being employed today as well, however even the revisions made by American Heart Association in 1992 and 2000 don't intend to apply to recurrent attacks of rheumatic fever (3). Knowing the fact that not all cases fulfill the necessary number of major and minor criteria for the diagnosis, physicians are recommended to maintain a high index of suspicion for recurrent rheumatic fever in patients with a history of a previous attack.

A 22-year-old woman was seen in the outpatient clinic with malaise, backache and joint pain in both ankles and knees. Her pain was "aching" in nature and was non-migratory. She did not define any arthritis or rash nor a sore throat signs within last three weeks. The medical history comprised ARF (diagnosed 4 years ago, with similar complaints) and rheumatic mitral valve disease (3 years ago). She had received penicillin prophylaxis for the last four years. She mentioned that she suffered a recurrent attack of rheumatic fever a year ago -treated with aspirin-when she had a monoarthritis of her right ankle together with a slightly high anti-streptolysin O (ASO) titer. Physical examination was normal except a grade 2/6 holosystolic murmur heard best over cardiac apex. Laboratory findings revealed a hypochromic microcytic anemia (hemoglobin: 11.5g/dL) which was consistent with iron deficiency (transferrin saturation: 9.5%) but with normal ferritin level (88.3ng/mL, range: 6-159 for women). Other laboratory values of the patient were as follows: white blood cell: 10700/ $\mu$ L, erythrocyte sedimentation rate: 10 mm/h, ASO: 210 IU/ml (0-200), C-reactive protein: 2.36 mg/dl (0-0.8). Serum biochemistry was normal; rheumatoid factor, anti-DNA and anti nuclear antibodies were all negative. On echocardiography, mitral regurgitation of 2nd degree was persistent but any findings of acute carditis were not present. Since arthralgia, a normal-high ASO titer and a history of acute rheumatic fever were not fully suggestive of a recurrent attack, we have performed Brucella agglutination test, which was found to be positive

(1:160). A two-drug regimen (doxycycline 200 mg/day and rifampicin 600 mg/day) was administered to patient. After the treatment (6 weeks), she reported relief of her symptoms.

Criteria for the diagnosis of a recurrent attack in ARF are not well defined. However, the medical history with previous ARF, ASO titer and an antecedent pharyngitis are the main clues for the diagnosis of a recurrent attack in patients with similar joint complaints. In our case ASO titer was borderline, CRP was high and ferritin value was normal despite iron deficiency anemia. These led us to seek another underlying pathology responsible for the clinical findings. As the serological evaluations failed to uncover a likely rheumatic disorder, we have performed Brucella agglutination test, which we believe that should indisputably be carried out in relevant countries where the disease is still endemic. Since it was found to be positive and seemed to explain the clinical scenario of our patient, we have treated her accordingly. Overall, we underscore that other likely pathologies -depending on the disease spectrum of the countries- should not be overlooked in patients with ARF whereby an established diagnostic criteria for a recurrent attack yet does not exist.

**Gulay Sain Guven, Mehlika İşıldak,  
Levent Özçakar\*, Enver Atalar\*\*  
From the Departments of Internal Medicine,  
\*Physical Medicine and Rehabilitation, and  
\*\*Cardiology, Medical School,  
Hacettepe University, Ankara, Turkey**

### References

1. Stollerman GH. Rheumatic fever in the 21st century. Clin Infect Dis 2001; 33: 806-14.
2. Cooper RJ, Hoffman JR, Bartlett JG, Besser RE, Gonzales R, Hickner JM, et al. Principles of appropriate antibiotic use for acute pharyngitis in adults: background. Ann Intern Med 2001; 134: 509-17.
3. Ferrieri P; Jones Criteria Working Group. Proceedings of the Jones criteria workshop. Circulation 2002; 106: 2521-3.