A case of Aggregatibacter actinomycetemcomitans endocarditis presenting as quadriceps myositis

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Abstract

An 80 year old female was admitted with an eight week history of fever associated with painful swelling of her right thigh, and a long history of poor dentition. Culture of blood stained fluid aspirated from the abscess grew Aggregatibacter actinomycetemcomitans (Aa) sensitive to ampicillin and cephalosporins. Transesophageal echocardiography indicated endocarditis. Four weeks treatment with intravenous ceftriaxone and appropriate dental care was followed by full recovery.

Discussion

Aggregatibacter actinomycetemcomitans (previously Actinobacillus actinomycetemcomitans) is a gram-negative coccobacillus, found as an oral commensal, which may also cause severe infections in the oral cavity, particularly periodontitis. It is one of the HACEK group of microorganisms which cause 3% of all cases of infective endocarditis (IE)1. A.actinomycetemcomitans is a virulent microorganism with many protective mechanisms; it produces a leukotoxin which kills neutrophils and monocytes, it inhibits antibody production and activated T-suppressor cells, it is resistant to complement mediated killing, and has immunosuppressive factors that inhibit blastogenesis. The micro-organism is relatively susceptible to antibiotics active against gram negative bacteria.2

Figure 1. Magnetic resonance imaging scan (T1 fat saturated image) detected diffuse oedema with contrast enhancement involving the right extensor thigh muscles compatible with infection or myositis.

Cases of A.actinomycetemcomitans where infection was confined to the head or cardiac valves or lower respiratory tract, and reported that 21 out of 57 documented up to 1989 had poor dentition. Pasturel recorded 99 cases of endocarditis reported up to 2004, and found 75% of patients had previous heart disease before infective endocarditis, the portal of entry of which was usually the oral cavity. The aortic valve is most commonly involved.

The onset of endocarditis is usually insidious, with a mean duration of 13 weeks symptoms before diagnosis is confirmed by blood cultures incubated for >5 days. Intermittent fever, weight loss, peripheral signs of endocarditis, anaemia and microscopic haematuria were frequently noted.

Complications occurred in 63% of patients, with emboli being the most common. The sur-
The overall mortality rate was 23.5%. Of the cases, 76.5% were cured with antibiotics alone, including a third-generation cephalosporin, the current recommended therapy, or a combination of a penicillin and an aminoglycoside. Antibiotic therapy duration of at least 4 weeks is recommended. Surgical therapy is usually required for haemodynamic reasons.

The presence of *A. actinomycetemcomitans* on aspiration of the thigh abscess raised the possibility of endocarditis, though no murmur was clinically detectable and blood cultures were negative. This case is a most unusual initial presentation of *A. actinomycetemcomitans* endocarditis.

**References**