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Aerococcus Viridans Endocarditis

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Aerococcus viridans is an infrequent human pathogen. Bacterial endocarditis caused by this Gram positive coccus is extremely rare and hence this case report.

Case Report

A ten-year-old boy was admitted with complaints of fever of one month, dyspnea and fleeting arthralgia of 7 days as well as hematuria of one day duration. The fever was high grade intermittent without any chills and rigors. General physical examination revealed a pale child with heart rate of 140/min, temperature of 102°F, blood pressure of 100/70 mm Hg in the left upper

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limb and respiratory rate of 36/min with intercostal and subcostal retractions. There was clubbing and bilateral pitting pedal edema. Systemic examination revealed jugular venous pulse at 6 cm above the manubrium sternii and apex beat in left seventh intercostal space 1 cm lateral to the midclavicular line, with no palpable thrill or any parasternal heave. The heart sounds were normal with a Grade III pansystolic murmur at the apex conducted to the axilla. Respiratory system revealed bilateral basal crepitations. Liver (3 cm-soft and tender) and spleen (1 cm soft) were palpable. Central nervous system was normal.

Hemoglobin was 9.5 g/dl with polymorphonuclear leucocytosis (TLC 20,000/mm³, DLC - N₇₇ E₃ L₂₀), adequate platelets and ESR 50 mm at the end of the first hour, ASLO titre was 400 todd units and normal urea and serum electrolytes. Chest *X-ray* showed cardiomegaly. Electrocardiography revealed sinus tachycardia with left ventricular hypertrophy. Left atrial and left ventricular dilatation with mitral regurgitation and vegetations on the mitral valve leaflet were demonstrated on echocardiography. Blood cultures grew *Aerococcus viridans* resistant to penicillin, ampicillin, cefotaxime and gentamicin and intermediately sensitive to ciprofloxacin. A higher antibiogram showed it to be sensitive to norfloxacin, ceftazidime and amikacin.

The child received ampicillin (200 mg/kg/day) and gentamicin (7.5 mg/kg/day) besides decongestive measures. Since the patient's condition deteriorated during hospital stay, amikacin (15 mg/kg/day) and norfloxacin (15 mg/kg/day) were started on 6th day based on antibiogram. Improvement was noticed from 11th day of hospital stay with a gradual return of fever to baseline. However, at this point the patient

developed severe chest pain and a pericardial rub. Echocardiography confirmed the presence of a pericardial effusion. The pericardial fluid was tapped. It was found to be sterile on culture and hence steroids were started. The effusion gradually disappeared over the next five days and the cardiac failure was also controlled. Amikacin and Norfloxacin were continued for a total duration of three weeks. Repeat echocardiography before discharge did not show any valvular vegetations or pericardial effusion. The child on follow up has compensated mitral regurgitation.

Discussion

Aerococcus viridans, a Gram positive bacteria, is rarely incriminated as a cause of human infection. It was first described as a potential human pathogen in 1967(1). It has since been reported as a causative agent of childhood meningitis(2) and increasingly incriminated as a cause of urinary tract infection(3). The role of *Aerococcus viridans* in infective endocarditis has also been recently reported(4-6). Since *Aerococcus viridans* is usually sensitive to penicillin, its treatment protocol should be similar to that for endocarditis caused by penicillin susceptible streptococci(6). However, in our patient, the isolate was resistant not only to penicillin but also to other commonly used antibiotics. As far as we could ascertain from available literature this appears to be the first reported case of *Aerococcus viridans* endocarditis from India. Thus, the present case besides yielding a rare causative agent (*Aerococcus viridans*) which was resistant to penicillin and other commonly used antibiotics had co-existent rheumatic pericardial effusion (raised ASLO titre with sterile pericardial fluid) which responded to steroid administration. Steroids were started for rheumatic

pericardial effusion under proper antibiotic coverage for the infective endocarditis.

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