ENDOCARDITIS DUE TO STREPTOCOCCUS BOVIS — A CASE REPORT

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SYNOPSIS

Endocarditis due to *S. bovis* which is a nonenterococcal group D streptococci, is infrequently recognised and reported. Identification of this species is necessary for proper antimicrobial therapy as well as for the implications of associated underlying diseases. This report of *S. bovis* endocarditis brings to attention these factors.

Keyword: S. bovis endocarditis

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INTRODUCTION

Streptococcal endocarditis is classically divided into two distinct aetiologic categories — the "viridans" group and the enterococcal, group. The group D streptococci, besides the entrerococci, includes two nonenterococcal species, *Streptococcus bovis* and *Streptococcus equinus*.

Human infections with *S. equinus* are rare but *S. bovis*, a common inhabitant of the gastrointestinal tract of animals, has been reported to cause 15% of all streptococcal endocarditis and 5-27% of the "viridans" endocarditis.[1, 2] However, in the University Hospital, Kuala Lumpur, of 32 cases of streptococcal endocarditis seen from December 1983 to December 1986, only one was due to *S. bovis*. We report this case to highlight the therapeutic implications and associated underlying diseases of *S. bovis* endocarditis.

CASE REPORT

A 62 year old Chinese male presented with a history of low grade fever and general malaise of two months' duration. On examination, the patient was febrile and had marked pallor. The cardiovascular system was normal and there were no other physical findings of note.

Investigations showed a normochromic, normocytic anaemia with a haemoglobin level of 7.0gm%. The ESR was raised (100mm/hr). Stool was positive for occult blood. Other investigations were essentially normal.

While in hospital, the patient developed splenomegaly and a nonhaemolytic streptococci was isolated from two blood culture sets after 48 hours incubation. The isolate was identified as *S. bovis* by the API 20 STREP system (La Balme Les Grottes, Montalieu — Vercieu, France). The minimum inhibitory concentration of the isolate to penicillin was 0.12 mg/L and the minimum bactericidal concentration was also 0.12mg/L. The patient was treated with crystalline penicillin for 10 days with subsidence of fever and a return of general well-being.

Colonoscopy performed to investigate the occult bleeding showed the presence of a sessile polyp, approximately 1 cm in diameter in the sigmoid colon and this was removed via the endoscope. The patient had an uneventful recovery and was discharged. However, he was readmitted a week later with acute pulmonary oedema and passed away soon after admission.

At autopsy, the significant pathological findings were cardiomegaly with calcific bicuspid aortic valves. Large craggy vegetations were present on the ventricular surface of the aortic valve cusps. Both lungs were congested and oedematous and bilateral pleural effusions were present. The spleen was large, soft and congested. The kidneys were of normal size and weight, but the subcapsular surfaces showed a typical "flea-bitten" appearance, with focal infarcts surrounded by haemorrhages. An interesting finding was the presence of four additional polyps in the large bowel varying in size from ½ to 2cm in diameter. Histologically, these (like the one removed ante-mortem) were adenomatous polypi; the largest showed pronounced dysplastic change, but there was no evidence of malignant invasion of the stalk.

DISCUSSION

Endocarditis due to streptococcal species remains an important cause of morbidity and mortality. Documentation of *S. bovis* endocarditis has been hindered by a failure to recognize it as a non enterococcal group D streptococcus. The failure to differentiate between the enterococcal and nonenterococcal group D streptococci has important consequences regarding management of the patient. While the enterococci are moderately resistant to penicillin and require the use of synergistic combination therapy, *S. bovis* is susceptible to penicillin and for therapeutic and prognostic purposes resembles the viridans streptococci. Several workers have used penicillin alone successfully for the treatment of *S. bovis* endocarditis.[3, 4] Although our patient was treated for *S. bovis* bacteraemia with penicillin for 10 days, endocarditis was not clinically apparent and therefore antibotic therapy was inadequate.

The portal of entry in our patient seems to have been the gastrointestinal tract. Other reports have documented the gastrointestinal tract[3, 5] the genitourinary tract[3] and the

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oral cavity.[4] Furthermore, there are published reports associating *S. bovis* with carcinoma of the colon and other underlying gastrointestinal lesions such as potentially malignant villous adenoma of the colon and benign colonic polyps.[5, 6] Moreover, a small group of patients had serious or potentially serious lesions in the gastrointestinal tract that were clincially recognized only at the time or shortly after documentation of *S. bovis* bacteraemia.[5] While our patient had multiple adenomatous polypi, Tuazon, Gill & Gill[7] did not find any gastrointestinal malignancies or abnormalitis in six cases of *S. bovis* endocarditis.

Thus, speciation of the group D streptococci from endocarditis or bacteraemia is valuable in terms of therapy and prognosis. Isolation of *S. bovis* from blood cultures should also lead to prompt investigation of the gastrointestinal tract for presence of any underlying disease.

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