Yersinia enterocolitica endocarditis on a prosthetic valve

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Summary: Yersinia enterocolitica endocarditis has rarely been described before. This is the first report of prosthetic valve Yersinia enterocolitica endocarditis, complicated by infected brain embolization. The patient, however, completely recovered after 6 weeks of combined therapy with ceftriaxone and gentamicin.

Introduction

Yersinia enterocolitica causes several clinical syndromes. In children the predominant manifestation is acute watery diarrhoea of 3–15 days duration. In young adults, it may cause right lower quadrant abdominal pain mimicking appendicitis. Erythema nodosum and arthritis have been implicated with Yersinia infections, the latter in connection with the HLA B-27 histocompatibility antigen. Generalized septicemia by Y. enterocolitica is a condition which usually accompanies chronic diseases, especially liver cirrhosis, and has a poor prognosis. Only six cases of endocarditis have been previously described. We report a patient with Yersinia endocarditis on a prosthetic valve.

Case report

A 56 year old male was admitted with left hemiparesis and fever. Three months earlier a prosthetic mitral valve (Starr Edwards M-3) was implanted because of rheumatic heart disease. The operation was successful without fever or any complication in the following 3 months. The patient was regularly treated with frusemide, digoxin and coumarin. Five days prior to admission he began to suffer from fever, shaking chills, vomiting and watery diarrhoea. On the day of admission, a left hemiparesis appeared with deterioration in his mental status.

Examination revealed temperature 39.7°C, blood pressure 130/80 mmHg, heart rate 110/min with atrial fibrillation. Prominent signs of right and left heart failure were found. There was a grade 3/6 systolic murmur over the apex radiating to the left axilla. The liver was palpated 3 cm below the right costal margin and there were multiple splinter haemorrhages. Neurological examination revealed motor and sensory aphasia, and left hemiparesis. The erythrocyte sedimentation rate was 84/hour, haemoglobin of 12.5 g/dl, white blood cell count of 13,400/mm³ with a shift to the left. Urinalysis disclosed granular casts. Echo Doppler showed normal movement of the prosthetic mitral valve; no vegetations were demonstrated. The aortic valve was normal. Brain computed tomographic (CT) scan showed a large right parietal infarction. Five out of six blood cultures grew Yersinia enterocolitica (serotype 0.3, biotype IV, phago-type VIII). Intravenous frusemide, digoxin, ceftriaxone 2 g and gentamicin 80 mg three times a day, were initiated. After an initial improvement, on the tenth day of hospitalization the patient's mental status deteriorated again. A repeated brain CT showed the development of a brain abscess with a marked mass effect in the region of the infarct. The ceftriaxone dose was doubled to 2 g twice a day, and mannitol and dexamethasone were added. Gradually the patient's condition improved. Treatment was continued for 6 weeks. Repeated CT scans showed shrinkage of the brain abscess. The patient was discharged to a rehabilitation centre, and after 18 months he is well, with minimal neurological residue.

Discussion

The frequency of Y. enterocolitica infections has greatly increased in the last two decades due to increased awareness of physicians to the clinical syndromes caused by this organism and better techniques of laboratory diagnosis. Considering the uncomplicated postoperative course, the 3 month gap, and the more recent acute onset of
References

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