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CASE REPORT

Infective endocarditis as a form of late presentation of congenital heart disease☆

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KEYWORDS
Infective endocarditis;
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Abstract A diagnosis of congenital heart disease is usually established at an early age, so infective endocarditis is a rare form of presentation.

The authors describe the case of a male adolescent with a week-long history of intermittent fever and unquantified weight loss. Physical examination detected pansystolic and diastolic murmurs, and an associated precordial thrill. Laboratory tests showed evidence of an active infection. Etiological investigation revealed a perimembranous ventricular septal defect, aortic regurgitation, and aortic and mitral valve vegetations. A diagnosis of mitral-aortic infective endocarditis was made and he was started on intravenous antibiotics and anticongestive therapy. After initial clinical improvement, he developed symptoms and signs of congestive heart failure. Repeat echocardiography showed an extensive mitral-aortic paravalvular abscess. The antibiotics were changed and anticongestive therapy was intensified, and he subsequently underwent surgery. The outcome has been generally favorable, and at present he is asymptomatic under anticongestive therapy.

PALAVRAS-CHAVE
Endocardite infecciosa;
Comunicação interventricular;
Staphylococcus aureus

Endocardite infecciosa como primeira manifestação de cardiopatia congénita de apresentação tardia

Resumo O diagnóstico de cardiopatia congénita é estabelecido habitualmente em idade precoce, logo, a endocardite infecciosa é uma forma de apresentação rara desta patologia.

Descreve-se um caso clínico de um adolescente com febre intermitente com uma semana de evolução e perda ponderal não quantificada. A observação detetou um sopro holossistólico rude e um sopro diastólico, associados a um frémito na região precordial. Analiticamente, apresentava sinais sugestivos de um processo infeccioso ativo. A investigação etiológica revelou a presença de uma comunicação interventricular perimembranosa restritiva, bicuspidia aórtica com regurgitação aórtica e vegetações a nível da válvula mitral e aórtica. Perante o

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diagnóstico de endocardite mitroaórtica, iniciou antibioterapia endovenosa associada a terapêutica anticongestiva. Após melhoria clínica inicial, desenvolveu quadro de insuficiência cardíaca congestiva. Repetiu o ecocardiograma, que mostrou abcesso paravalvular aórtico e mitral extenso. A antibioterapia foi substituída e a terapêutica anticongestiva foi intensificada. Foi posteriormente submetido a cirurgia cardíaca. A evolução tem sido favorável, mantendo-se assintomático sob terapêutica anticongestiva.

Introduction

Infective endocarditis (IE) accounts for 0.5–1 of every 1000 hospital admissions (excluding postoperative endocarditis). Around 70% of cases at pediatric ages occur in children with congenital heart disease (CHD),[1] especially ventricular septal defect (VSD).[2]

We present the case of a previously apparently healthy adolescent with a late diagnosis of CHD, in which IE was the first manifestation of the disease.

Case report

We describe the case of a 12-year-old boy, of Roma ethnicity and adverse socioeconomic status, with no known personal history of disease (there was no record of medical check-ups during childhood) or previous diagnosis of a heart defect. He was brought to the emergency department of his local hospital seven days after the onset of intermittent fever, coughing fits and unquantified weight loss, but no other symptoms. Cardiac auscultation revealed a harsh pansystolic murmur at the left sternal border and a diastolic murmur at the right second intercostal space, together with a precordial thrill. Physical examination showed multiple untreated caries, but no other relevant alterations including signs of congestive heart failure (CHF). Laboratory tests showed an active infection (neutrophilic leukocytosis: 24 $10^3/\mu l$, with $20 \times 10^3/\mu l$ neutrophils, and C-reactive protein 5.6 mg/dl). Transthoracic echocardiography with Doppler study was performed via a telemedicine link to our department, which revealed a small perimembranous restrictive VSD, a bicuspid aortic valve without stenosis but with moderate regurgitation (grade III/VI), and aortic and mitral valve vegetations. Left ventricular function was preserved.

In view of the diagnosis of mitral-aortic infective endocarditis, empirical intravenous antibiotic therapy was begun with vancomycin (30 mg/kg/day) and gentamicin (5 mg/kg/day), together with oral anticongestive therapy with diuretics (furosemide 1 mg/kg and 25 mg spironolactone every 12 hours) and an angiotensin-converting enzyme inhibitor (captopril 1 mg/kg every eight hours). *Streptococcus mitis*, susceptible to the antibiotics prescribed, was isolated in blood samples collected before the start of antibiotic therapy. The initial clinical course was favorable, the fever subsiding on the sixth day of treatment. However, fever recurred during the second week of hospital stay, together with signs and symptoms of CHF. The antibiotics were changed to ceftriaxone (60 mg/kg/day) and teicoplanin (10 mg/kg/day), and diuretic therapy was intensified, furosemide being increased to 1 mg/kg every six hours and administered intravenously; the dosage and form of administration of other therapy was unchanged. Cultures of blood samples collected before the change in antibiotics were negative. Transesophageal echocardiography was also performed at this stage, which showed aortic and mitral valve vegetations (Figures 1 and 2), as well as a mitral-aortic paravalvular abscess. Left ventricular function was also mildly impaired. Rifampicin (15 mg/kg/day) was added to the antibiotic regime.

Despite optimized anticongestive therapy, the patient remained clinically unstable and in New York Heart Association functional class II–III/IV with signs of low cardiac output, requiring inotropic support. Four days after this

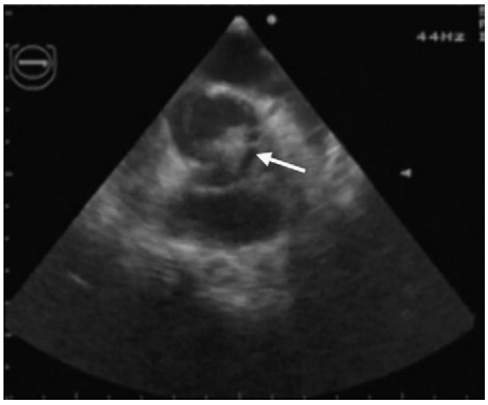

Figure 1 Transesophageal echocardiogram in short-axis view, showing a large vegetation (arrow) on a bicuspid aortic valve.

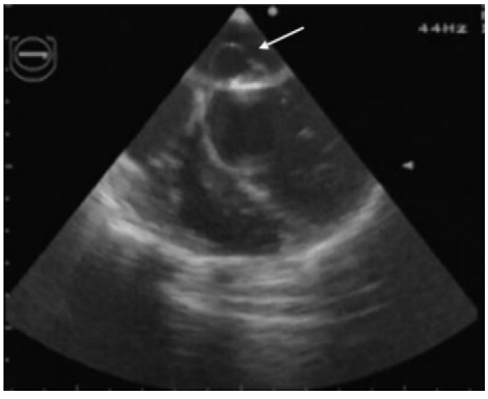

Figure 2 Transesophageal echocardiogram in 4-chamber view, showing an image suggestive of an abscess (arrow) on the anterior leaflet of the mitral valve.