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CASE REPORT

Coronary artery bypass after Kawasaki disease☆

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KEYWORDS
Kawasaki disease;
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Abstract Kawasaki disease (KD) is a systemic vasculitis of unknown etiology, which is the main cause of acquired heart disease in children in developed countries. The main complications result from the development of coronary aneurysms which can lead to ischemic heart disease.

We present the case of a teenage boy with a diagnosis of KD at the age of seven. He was treated with gammaglobulin and aspirin and echocardiographic evaluation in the acute phase was apparently normal. At the age of 11, he developed chest pain and exertional dyspnea. Nuclear perfusion scans with exercise revealed hypoperfusion of the left anterior descending (LAD) and right coronary artery (RCA) territories. Cardiac catheterization showed occlusion of the proximal segments of both arteries. He underwent coronary artery bypass graft surgery (internal mammary artery bypass graft to the LAD and saphenous vein graft to the RCA), with a good clinical result.

This case report highlights the importance of early diagnosis and treatment of KD and regular cardiological follow-up, bearing in mind the potential late complications of this pediatric disease.

PALAVRAS-CHAVE
Doença de Kawasaki;
Aneurismas coronários;

Cirurgia de revascularização coronária após Doença de Kawasaki

Resumo A doença de Kawasaki (DK) é uma vasculite sistémica, de etiologia desconhecida, constituindo a principal causa de cardiopatia adquirida em idade pediátrica em países desenvolvidos. As principais complicações resultam do aparecimento de aneurismas coronários que podem evoluir para doença coronária isquémica.

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Cirurgia de revascularização coronária

Apresenta-se o caso clínico de um adolescente com diagnóstico de DK aos 7 anos. Efetuou terapêutica com imunoglobulina e ácido acetilsalicílico e a avaliação ecocardiográfica na fase aguda foi aparentemente normal. Aos 11 anos de idade desenvolveu quadro de angor e dispneia de esforço. A cintigrafia de perfusão miocárdica com prova de esforço revelou hipoperfusão dos territórios correspondentes às artérias descendente anterior esquerda (DA) e coronária direita (CD). O cateterismo cardíaco demonstrou oclusão dos segmentos proximais de ambas as artérias. Foi submetido a cirurgia de revascularização coronária (artéria mamária interna para a DA e veia safena interna para a CD) com boa evolução clínica e desaparecimento das alterações isquémicas na cintigrafia.

Este caso clínico vem alertar para a importância do diagnóstico e terapêutica atempados e seguimento posterior na DK, salientando-se a potencial gravidade das complicações cardiovasculares a longo prazo, desta doença pediátrica.

Introduction

Kawasaki disease (KD) is an acute systemic vasculitis of unknown etiology which principally affects children and occasionally adolescents. It is the main cause of acquired heart disease in children in developed countries.[1]

Diagnosis is based on the classical clinical criteria of fever persisting at least five days and the presence of at least four of the following signs: changes in extremities, polymorphous exanthem, bilateral bulbar conjunctival injection without exudate, changes in lips and oral cavity, and cervical lymphadenopathy (>1.5 cm diameter).[2] Incomplete KD should be considered in all children with unexplained fever for more than five days associated with two or three of the principal clinical features of KD; it is more frequent in young infants. Laboratory findings are non-specific, but they may help confirm the diagnosis, particularly in cases of incomplete KD.[1]

The main complications are cardiovascular; coronary aneurysms are found in 15–25% of untreated children, although this can be reduced to 5% by administration of immunoglobulin in the first ten days of the disease.[1] The aneurysms may undergo various alterations: they may regress, stay unchanged, progress to stenotic or obstructive lesions (with or without recanalization or development of collateral vessels) and, very rarely, rupture, develop new lesions, or expand.[3] Stenosis of adjacent arteries can lead to ischemic coronary disease, myocardial infarction or sudden death.[1]

Diagnosis of KD is a challenge, requiring a high degree of clinical suspicion; delay in diagnosis can lead to serious cardiovascular sequelae.

Case report

We present the case of a boy with a diagnosis of KD at the age of seven, in the context of fever of over five days' duration, exanthem of the palms and soles, edema of the face and extremities, cervical lymphadenomegaly, and abdominal distension. Laboratory tests revealed elevated C-reactive protein and erythrocyte sedimentation rate, and thrombocytosis. Two weeks after disease onset, he was treated with IV gammaglobulin and aspirin, which was maintained for two months. Echocardiographic evaluation two weeks after onset of fever showed no alterations. He was followed in the outpatient pediatric clinic for three years, during which he remained asymptomatic; he was not referred for pediatric cardiology consultations, and echocardiography was not repeated.

At the age of 11, he was referred to the pediatric cardiology department due to angina and exertional dyspnea of one month's evolution. The chest X-ray revealed a round area of calcification in the upper left portion of the cardiac silhouette (Fig. 1). There were no alterations on the electrocardiogram (ECG). Echocardiography showed ectasia of the left coronary artery of 4 and 5 mm in the proximal and distal segments, respectively, with no wall motion abnormalities or mitral regurgitation. During nuclear perfusion scan with exercise, the patient reported chest discomfort at peak exercise, when the ECG showed ST-segment depression in II, III, aVF, V5 and V6. The nuclear perfusion scan during exercise showed severe hypoperfusion in the apex and the

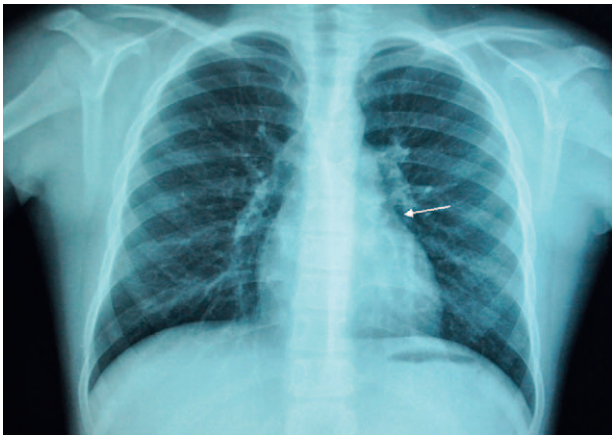

Figure 1 Chest X-ray. A round calcification (arrow) can be observed in the upper left portion of the cardiac silhouette.