



## EDITORIAL COMMENT

# Pericarditis: Characteristics of a pediatric population

## Pericardite: Apresentação e características numa população pediátrica



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Pericarditis is an inflammatory condition of the pericardium, mostly with a viral or autoimmune etiology. Idiopathic, presumed viral, causes are responsible for 80-90% of cases.<sup>1</sup> Acute pericarditis may occur secondary to collagen vascular disease, cardiac surgery or drug therapy, as a manifestation of rheumatic fever, or in association with chronic renal failure and dialysis. However, worldwide, the most common cause of acute pericarditis is tuberculosis, due to its high frequency in developing countries, where it is often associated with human immunodeficiency virus infection.<sup>2</sup>

The diagnosis is based on clinical criteria, including chest pain, pericardial rub, high temperature, electrocardiographic and echocardiographic changes and, in some cases, pericardial effusion.<sup>1</sup> In children, clinical recognition will depend heavily on the type and severity of the pericardial reaction. Of physical findings, a pericardial friction rub is pathognomonic of acute pericarditis. This is a scratching sound caused by abrading of inflamed pericardial surfaces with cardiac motion. However, in the presence of a large pericardial effusion the rub may disappear.

In children, the predominant symptom of acute pericarditis is precordial chest pain, frequently exacerbated by breathing, coughing or movement.

There are few characteristic radiographic findings, and these vary depending on the nature of the pericardial disease. If effusion is absent, the cardiac silhouette may be normal. In borderline cases, comparison with a previous radiograph can be helpful.<sup>3</sup>

Changes in the electrocardiogram associated with pericarditis depend on the effect of the injured pericardium on the underlying myocardium, and may include changes in the QRS complex, ST segment or T wave. In the initial stage of the disease the ST segment is elevated in most leads except for V1 and aVR, which often remain unaltered.

Cross-sectional echocardiography is the most important diagnostic technique. In pericardial effusion, echocardiography will show an echo-free space surrounding the heart. Tamponade caused by fluid accumulation may present with cardiac wall motion abnormalities.<sup>3</sup>

The treatment of pericarditis depends on its origin. Antibiotic therapy is used to treat bacterial pericarditis and other drugs are used according to the etiology. Treatment of pericardial tamponade includes drainage of the pericardial fluid in patients with hypotension or low cardiac output.

In this issue of the *Journal*, Perez-Brandão et al.<sup>4</sup> review the clinical presentation and characteristics of a pediatric population with pericarditis, performing a retrospective analysis of children admitted to a pediatric cardiology unit with pericarditis between 2003 and 2015. In agreement with published studies, the predominant symptom of acute pericarditis was precordial chest pain, in 70% of the patients. Forty-eight percent of children presented with infectious pericarditis, and postpericardiectomy syndrome was diagnosed in five cases. Pericardiocentesis was performed in 12 patients, 11 of them with cardiomegaly identified on the chest X-ray. Seventeen children had myocarditis accompanied by viral pericarditis. A variety of symptoms ranging from mild to overt heart failure and shock were observed.

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Treatment of viral pericarditis is predominantly symptomatic, including bed rest. Medical therapy may include nonsteroidal anti-inflammatory drugs and colchicine. In their review, the authors emphasize the use of colchicine as a useful drug in recurrent cases.

In conclusion, pericarditis in children is relatively rare. A judicious analysis of the clinical findings, treatment and follow-up are mandatory.

### Conflicts of interest

The author has no conflicts of interest to declare.

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