Atypical Presentation of Rheumatic Carditis in Pregnancy

Lurildo Cleano Ribeiro Saraiva, Aluísio Macedo, Ana Elizabeth M. Batista
Serviço de Cardiologia da Universidade Federal de Pernambuco, Recife, PE - Brazil

We report the case of a 31-year old woman presenting with atypical rheumatic disease in the 28th week of the second pregnancy. Questions related to prevention of the disease and its treatment during the pregnancy-puerperium cycle are discussed.

Introduction

The endemic persistence of rheumatic disease (RD) in Pernambuco has resulted in the emergence of unusual clinical forms in more developed regions, as observed for instance for rheumatic pneumonia[1].

With a prevalence of 0.65%, rheumatic disease is very rarely diagnosed in pregnant women, allowing the investigation of specific aspects relative to its prevention and treatment[2]. The present work aims to report a case of possibly recurrent rheumatic disease during the pregnancy-puerperium cycle.

Case report

Thirty-one-year old woman from Recife, presenting with rheumatic heart disease, until then asymptomatic, with complaints of progressive dyspnea on exertion and tachycardia/palpitations beginning in the 28th week of pregnancy. She reported having had a sore throat and hoarse voice around the 20th week of pregnancy, which lasted for four days, despite the regular use of penicillin benzathine every three weeks. The patient had developed migratory arthritis of major joints at age 13, following an oropharyngeal streptococcal infection. When she was 19 years old, she had a recurrent arthritis on the 12th day of puerperium, when a heart murmur was detected. During adolescence, the secondary prophylaxis of RD presented gaps.

Previous to the current pregnancy, she had had a clinical-echocardiographic diagnosis of mild double mitral lesion and aorta failure. Radiographic evaluation of the heart (fig. 1A) showed a normal heart area, with a cardiothoracic index of 0.44.

Key Words

Rheumatic fever; pregnancy; tricuspid valve insufficiency.

Mailing address: Lurildo Cleano Ribeiro Saraiva•
Estrada do Arraial, 2405/205 – Tamarineira - 52051-380 – Recife, PE - Brasil
E-mail: lurildo@cardiol.br, lurildocleano@hotmail.com
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Examination of the patient showed, beside pregnancy, tachypnea and a mild lower limb edema. The following data were collected: AP = 130 x 70 mmHg; heart frequency of 120 beats/min; regular cardiac rhythm (B3) with a loud holosystolic murmur over the mitral area (MA) and an intense systolic murmur in the tricuspid area (TA); and moderate painful hepatomegaly. The echodopplercardiographic evaluation was compatible with severe mitral failure and mild tricuspid failure. The hemogram showed hypochromic anemia (hemoglobin = 11.1 g/dl), moderate leukocytosis (13,000/mm^3) and accelerated erythrocyte sedimentation rate (37 mm/1st hour). Normal levels of antistreptolysin O (AEO) were observed. The patient was treated with digital and diuretic agents, showeing improvement. After caesarean delivery and hospital discharge, the medication was suspended.

On the second puerperal month, the patient was received in the service in an urgency situation, presenting dyspnea, lower limb edema, prominent jugular stasis, precordial pressure compatible with hypertrophic growth in both ventricles, heart auscultation showing a gallop rhythm (B3), a severe holosystolic murmur in the MA and a musical systolic murmur in the TA. The liver was palpable at 8 cm from the right costal margin. The thorax radiography showed severe cardiomegaly (fig. 1B), and the electrocardiography revealed overload of the four heart chambers. The echodopplercardiography (fig. 2) showed thickened mitral, aortic and tricuspid valves, with a rheumatic aspect. Left ventricle (LV) ejection fraction was 64%. The LV diastolic and systolic diameters were 6.0 cm and 3.8 cm, respectively, and the estimated systolic pressure of the pulmonary artery was 54 mmHg.

All analyses of inflammatory activity had normal results, except for ultrasensitive C-reactive protein levels which were above normal (1.72 mg/dl, normal value ≤ 0.50 mg/dl). AEO level was 59 UI/ml.

Following treatment with digoxin, furosemide and captopril, the physical capacity of the patient was normalized, and heart frequency was back to normal levels. The associated use of 30 mg prednisone resulted in recovery of heart failure (HF), and congestive symptoms disappeared after 20 days.

Discussion

The incidence of acute rheumatic disease during pregnancy is very low, and of difficult diagnosis. Inflammatory reactions, usually of a non-specific nature, are still less specific during pregnancy, when they are generally more severe[2]. Hypervolemia and anemia, inherent to the condition, may simulate HF in a patient with established rheumatic valvular disease. In the present case, however, the patient had moderate valvular disease

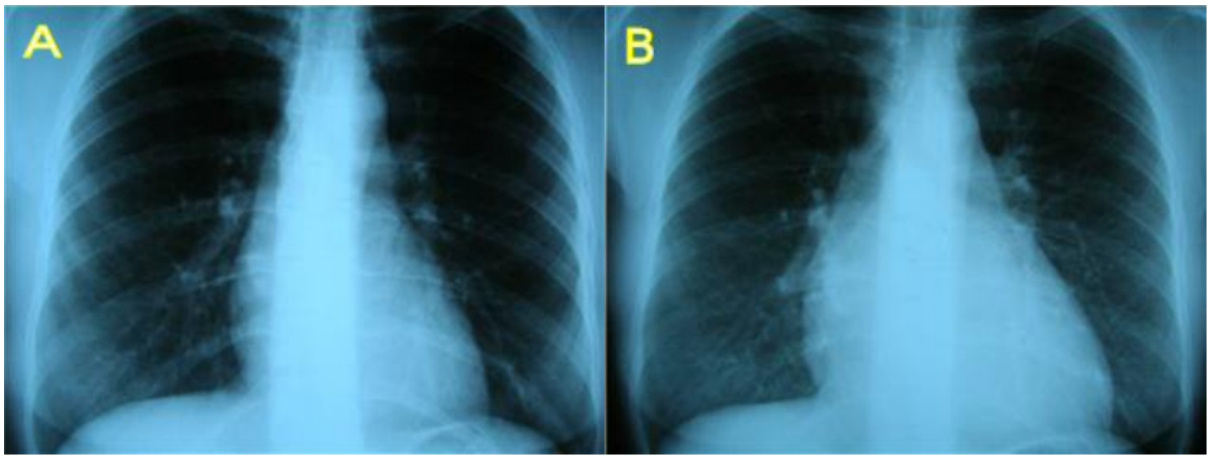

Figure 1 - Thorax radiography: before pregnancy (A) and on the second puerperal month (B). The cardiothoracic index improved from 0.44 to 0.55.

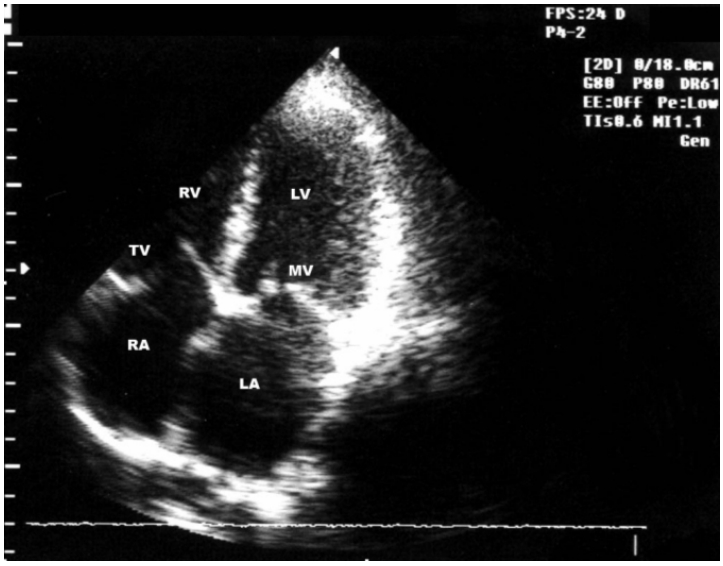

Figure 2 - Bidimensional echocardiography in four-chamber view. The rheumatic involvement of the mitral valve is observed, with some calcification of the leaflets and thickened tricuspid valve; RV - right ventricle; LV - left ventricle; TV - tricuspid valve; MV - mitral valve; RA - right atrium; LA - left atrium.

before pregnancy, but after delivery presented a severe mitral valvulopathy, aggravated by tricuspid failure which she did not have previously. Pregnancy does not result in anatomical lesions of human cardiac valves (fig. 2). In cases of stenosis, on the other hand, the dyspnea may become progressively more severe during pregnancy and improve after delivery. In the present case, HF appeared around the 7th month of pregnancy, after a process of oropharyngeal inflammation, was followed by a new valvular lesion and resulted, in the puerperal period, in severe cardiomegaly (fig. 1B).

Two instructive aspects may be stressed in this case. The first one is related to recurrence of the RD in two different periods of the pregnancy-puerperium cycle. The second aspect is duration of prophylaxis for rheumatic disease, which recurred when the patient was 31 years old, age at which it is generally agreed that secondary prophylaxis for the disease should have ended.

The susceptibility of the pregnant patient to oropharyngeal streptococcal infection cannot be presently explained, since penicillin benzathine was used as recommended with intervals of 21 days[3]. Interestingly, this susceptibility was not followed by increased serum levels of antistreptolysin O, as expected in this type of situation due to the increasing severity of recurrent cases[4].

Recent reports of RD during pregnancy are scarce, which is partly explained by a slight decrease in the incidence of the disease in our population. Series of isolated cases are described in the literature[2]. In a review by Décourt (1986)[2], some aspects

pertinent to the present case were emphasized, such as the usual recurrence of the disease, the difficulty experienced by patients in identifying their own HF symptoms, and the careful treatment with antiinflammatory drugs.

The use of prednisone to treat our patient may by discussed, since the evaluation of inflammatory activity had generally normal results, even when pregnancy may lead to modifications in the serum reactions during the acute phase[2]. The many clinical signs suggesting severe cardiopathy, cardiomegaly (fig. 1B), the high C-reactive protein levels and the acute valvular involvement shown by echocardiography, particularly affecting the tricuspid valve (fig. 2), have however indicated its use. Prudent doses were used, considering that the patient was nursing and the baby could be affected. The results were positive, with restoration of good physical conditions to the patient in a short period. The patient remains asymptomatic.

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Potential Conflict of Interest

No potential conflict of interest relevant to this article was reported.

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Study Association

This study is not associated with any post-graduation program.

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