Short communication

Multiple intracardiac thrombus in a young patient with peripartum cardiomyopathy

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ABSTRACT

Peripartum cardiomyopathy (PPCM) is a rare form of dilated cardiomyopathy that is associated with high maternal morbidity and mortality. Intracardiac thrombus with PPCM could be challenging and proper management of is not well known yet. Herein we report a case of PPCM in a previously healthy 19-year-old woman who presented with dyspnea for 2 weeks and then who was diagnosed with multiple intracardiac thrombus and postpartum cardiomyopathy.

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Introduction

Peripartum cardiomyopathy (PPCM) is a rare form of heart failure that is associated with high maternal mortality and morbidity. Onset is usually between the last month of pregnancy and up to the fifth month postpartum.¹ Reported incidence of 1 per 3000 to 1 per 4000 live births and a fatality rate of 20%–50%.¹ PPCM is associated with a hypercoagulable state, which can cause thromboembolic complications, such as intracardiac thrombus or pulmonary embolism.² The clinical course and proper management of intracardiac thrombus with PPCM is not well known yet. We report a young patient of multiple intracardiac thrombus with PPCM.

Case report

19 years old woman admitted our emergency department with dyspnea for 2 weeks. She had had normal vaginal delivery three months ago. Her medical history was unremarkable and her labor was uneventful. The patient had a blood pressure of 110/74 mm Hg, a respiratory rate of 18 breaths per minute and oxygen saturation of 94%. Physical examination showed jugular venous distention, S3 heart sound and bibasilar rales. Chest X-ray revealed increased cardiothoracic ratio (Fig. 1). Electrocardiography showed normal sinus rhythm with 98 beats per minute (Fig. 2). Laboratory tests revealed that C-reactive protein (6.3 mg/L, normal value <5.0 mg/L) and troponin levels (0.11, normal value <0.05 ng/mL) were elevated. Complete blood count was

unremarkable. Transthoracic echocardiogram (TTE) showed global left ventricular hypokinesis, left ventricular ejection of 20% and multiple intracardiac thrombus (Fig. 3). Because of the elevation of troponin levels coronary angiography was performed and it revealed normal coronary arteries. Right ventricular functions were moderately affected (tricuspid annular plane systolic excursion was 1.7 cm, systolic pulmonary artery pressure was 40 mm Hg) and moderate right ventricular dilatation

Fig. 1. Chest X-ray revealed increased cardiothoracic ratio.

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Fig. 2. Electrocardiography showed normal sinus rhythm with 98 beats per minute.

was found. No identifiable cause for the cardiac failure was found except the PPCM. The patient was subsequently diagnosed with PPCM with heart failure and multiple intracardiac thrombus. The patient admitted to the intensive care unit to make close follow-up because of the younger age and very low ejection fraction. Therapeutic dose of diuretics (furosemide 80 mg), beta blocker (metoprolol 50 mg), spironolactone 25 mg, ACE (ramipril 5 mg) inhibitor and anticoagulation therapy with unfractional heparin was started. During the follow-up the patient's blood pressure was depleted although the medical therapy was adjusted. We did not encounter any embolic complication and

tried to stabilize activated partial thromboplastin time (aPTT) at therapeutic level. In the following days the patient denied the treatment in our hospital and she was discharged with medical therapy.

Discussion

The patients with PPCM present usually with signs and symptoms of heart failure and some patients admitted with thromboembolic complications.³ Early diagnosis and treatment of PPCM is crucial for successful outcome. There were some poor prognostic factors like parity,

Fig. 3. A. Transthoracic echocardiography, parasternal short axis view at aortic valve level, showing large thrombus at the right ventricle (arrow) B. Transthoracic echocardiography, apical four chamber view, showing multiple thrombus in left ventricle and right ventricle (arrows) C. Transthoracic echocardiography, parasternal short axis view, showing thrombus at the septal wall of left ventricle (arrow) LV: left ventricle RV: right ventricle, RA: right atrium, LV: left ventricle, Ao: aorta, LA: left atrium.

twin gestation, increased age, low socioeconomic status and a late onset of symptoms after delivery. The death occurs as a result of progressive heart failure, arrhythmias and thromboembolism. Women with PPCM are treated with similar medications as the general heart failure population including beta blockers, nitrates, hydralazine and digoxin.⁴

The tendency to thromboembolism in PPCM may be due to the hypercoagulable state of pregnancy and the left ventricular dysfunction which causes a relative blood stasis.⁵ The true incidence of thromboemboli in PPCM is unknown,⁴ however in some reports left ventricular thrombus (LVT) was found up to 17% of patients, in whom the risk of systemic embolization was high.⁶ Although two-dimensional TTE is adequate in most of cases, the contrast echo and cardiac magnetic resonance imaging (CMR) may improve thrombus identification.⁷ There were two reported case that of rapid resolution of LVT during PPCM following parenteral anticoagulation.^{2,8} Anticoagulation therapy should be thought when the left ventricular dysfunction is severe.

Although, the return of the left ventricle function in patients with PPCM to normal in the first 5 months of the postpartum period is a good prognostic factor, this occurs only 50% of patients with PPCM.¹ Our patient was denied to therapy and was discharged with medical therapy.

Any relationship with industry

No.

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