Case Report

Protein C deficiency

Bialtrial thrombus presentation

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ABSTRACT

Protein C deficiency is an inherited thrombophilia presented in adults with venous thrombosis at different sites. Symptomatic bialtrial thrombus presentation of protein C deficiency has not, to my knowledge, been described. This report investigates a man with protein C deficiency who presented with dyspnea and recurrent attacks of dizziness associated with bialtrial thrombus. Complete disappearance of the symptoms and thrombi was observed within less than 3 weeks of anticoagulation.

Keywords: Atrial thrombus, protein C, echocardiogram.

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Transesophageal ECG, at presentation showed pedunculated biatrial large masses floating freely in both atrium with intermittent protrusion through mitral and tricuspid valves attached to the interatrial septum at area of fossa ovali, no other masses, left atrial appendage is clear, no valvular incompetence, and good left ventricular function (Figure 1). Lower limb ultrasound was negative for deep veins or arterial thrombosis. The differential diagnosis was in favor of biatrial thrombus more than myxomas. Thrombophilia screening was carried out before any treatment and cardiac surgical consultation was arranged. The patient was unable to undergo the operation at that time, and started on heparin and warfarin to keep international normalized ratio (INR) 2.5-3. One week later thrombophilia screening result showed normal antithrombin 111, protein S level, and protein C level of 30% (normal value 60-120%).

Sixteen days later the patient reported one attack of severe right leg pain lasting for a few minutes resolving spontaneously. Eighteen days later the patient was asymptomatic, no dizziness, dyspnea, no history of neurological deficit, and on examination all peripheral pulses were intact, and normal heart auscultation. Eighteen days later transesophageal ECG showed complete disappearance of biatrial masses with no evidence of patent foramen ovale and normal mitral and tricuspid valves (Figure 2). Repeated lower limb ultrasound was normal. Patient was doing well and followed in outpatient clinic over the last 30-months on warfarin to keep INR 2.5-3 with no complaints. Family screening for protein C level was advised.

Discussion. This case represents, for the first time, the presentation of protein C deficiency as biatrial thrombus that completely disappeared within less than 3-weeks of anticoagulation. In the literature, intracardiac thrombus caused by protein C deficiency has not been reported. Atrial thrombus may be seen in different clinical situations in the right or the left atrium. Right atrial thrombus mostly originates from venous thromboemboli trapped in the right atrium.8-11 In situ thrombus is found in conditions associated with blood stasis as right atrial dilatation12,13 atrial arrhythmias, cardiomyopathy, or both12-14 or foreign bodies in right atrium as central venous catheter,10,15,16 transvenous electrodes17,18 and swan-ganz catheter.19 Left atrial thrombus is associated with blood stasis in the left atrium as atrial fibrillation, mitral valve disease and low cardiac output.20 Occasionally free floating ball thrombi in the atrium can intermittently be seen to drift into atrioventricular orifices during diastole completely or partially obstructing flow across the atrioventricular valve.

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References


