Case Report

An Unusual Venous Thrombosis in a Patient with Infective Endocarditis

Masood Faghih Dinevari*, Hamid Noshad**, Hosein Mahmoodi*

*Assistant Professor of Internal Medicine, Sina hospital, Tabriz University of Medical Sciences, Tabriz, Iran
**Associate Professor of Nephrology, Chronic Kidney Disease Research Center, Sina Hospital, Tabriz University of Medical Sciences, Tabriz, Iran

Abstract

A 68 year-old woman presented with sudden onset dyspnea. The first major probability was pulmonary thromboembolism but complementary tests did not confirm this diagnosis. Anticoagulation therapy was continued due to high probability of thrombosis. Heart murmur detected in mitral area and transesophageal echocardiography (TEE) revealed infective vegetation and antibiotics were started. Progressive loss of consciousness was the reason for conducting magnetic resonance imaging (MRI) and then Magnetic resonance venography (MRV) which confirmed cerebral venous sinus thrombosis (CVST). This is considered as a rare complication of infective endocarditis. This initial presentation may mislead physicians managing such cases so there is a need for close monitoring during medical management in order to prevent such fatal complications.

Introduction

Infective endocarditis (IE) is divided into two different categories with various clinical manifestations (acute and sub-acute IE) [1]. This cardiac disease which involves endocardial surfaces of the heart is generally fatal if it is not diagnosed and treated properly [2]. IE has some well-known clinical manifestations like fever which is sometimes low grade, petechiae, splinter hemorrhage, janeway lesions, roth spots and also some neurologic symptoms(embolic stroke with focal neurologic deficits, intracranial hemorrhage and microabcesses) but thrombotic events of central nervous system is unusual [3]. Sometimes other unrelated symptoms may deceive even experienced physicians but clinical manifestations are prior to para-clinical data. This case was interesting to introduce because it was presented with symptoms of pulmonary thromboembolism (PTE) but the final diagnosis was different and so needed different therapy. For this reason we decided to introduce this patient for helping to notify the physicians that having a” tunnel vision” sometimes may be so hazardous.

Case Presentation

A 68 years old woman without any previous history of pulmonary or other known underlying important diseases is presented with sudden-onset dyspnea about one hour later. Her functional class was IV. She had a previous history of hypertension which was controlled. At the admission time blood pressure was 148/90 mmHg, heart rate was 130 beats/min, respiratory rate was 45/min and her body temperature was 39.1°C. In physical examination we found basal coarse crackles and disseminated expiratory wheezing in lungs. Cardiac rhythm was irregular and
a systolic murmur with intensity of IV/VI was heard in mitral valve area. Laboratory data showed elevated serum d-dimmer, Urea and Creatinine level. Because of sudden onset dyspnea (and later elevated d-dimmer level), pulmonary thromboembolism was suspected and heparin infusion was initiated. Furthermore ventilation-perfusion (V/Q) scan was performed. V/Q test was negative for pulmonary thromboembolism. But still heparin perfusion was continued (because of the possibility of thrombosis).

She gradually presented loss of consciousness and became lethargic and sleepy. Because of possible central nervous system (CNS) involvement, brain MRI was requested which showed multifocal bilateral ischemic changes of the brain and cerebellum (Figure 1). Cerebral venous sinus thrombosis (CVST) was suspected. Magnetic resonance venography (MRV) has also similar results and showed thrombosis at left traverse sinus with more details (Figure 2). The patient was febrile and blood culture which was done in first day of hospitalization, detected nonhemolytic streptococci. Antibiogram revealed sensitivity to Vancomycin and Ampicillin, So Vancomycin (2gr twice daily) and ampicillin (1gr qid) were started for clarifying of infection site, trans thoracic echocardiography (TTE) was performed but there was no evidence of infective endocarditis (IE). On the other hand IE was potently suspected, so transesophageal echocardiography (TEE) was requested and IE was reported. This patient full field the Duke criteria (two major), positive blood culture (in two occasions) and oscillating intra-cardiac mass on value was seen during TEE. Figure 3 shows vegetations.

Moreover, patient had some minor criteria like Temp >38° C. According to Duke Criteria, blood culture and absence of other clinical and laboratory findings for other problems such as connective tissue disorders, IE was the most probable problem and blood cultures confirmed the infective source of disease. The causative factor was detected and other laboratory data for SLE, anti-phospholipid antibody and other connective tissue disorders were excluded, based on rheumatology consultation.

For further therapies and possible intervention she was transferred to a CCU in Shahid Madani heart hospital. Aortic and mitral values were completely destroyed and sever regurgitation occurred so value replacement was planned.

Her mitral and aortic valves were replaced with metallic cardiac valves. After valve replacement pathologist reported existence of vegetations in mitral and aortic valves with bacteria and extensive revascularization.

Twenty days after operation the patient discharged so considering drug administration in internal medicine word, this patient received medication for more than 4 weeks (a full course of preoperative plus post-operative therapy), and according to blood cultures which all of them were negative (confirmed the irradiation of microorganism) and finishing of treatment period, our patient discharged in a good condition. She received warfarin 5 mg/d.

Discussion
In some instances clinical manifestations of diseases may deceive the physicians [4]. One the other hand some laboratory data may be misleading in the first days of the disease initiation [5]. One of them that we must be aware about it, is infective endocarditis. As it is mentioned in our case, the first chief complaint was sudden onset dyspnea. Most of the time it is due to life-threatening events which must be treated immediately and after appropriate paraclinical diagnostic methods like measurement of D-dimer or CT angiography [6] we continue or stop our therapeutic strategy. D-dimer blood level was elevated but V/Q mismatch test did not confirm the diagnosis of PTE. On the other hand D-dimer is not specific for PTE [7] but due to high probability fortunately we did not discontinue anticoagulation.
Because of continuous febrile status and incidental finding of a systolic cardiac murmur, presence of a cardiac problem was suspected. So TTE and TEE were done and vegetation of IE was detected and antibiotics therapy with Vancomycin and Amoxicillin [8] was continued and patient referred to a heart hospital and they made a decision for valve replacement.

IE is divided into two groups (acute and sub-acute) forms according to severity and duration of disease [1]. It depends on microorganism and underlying heart disease. But it may also be appeared in healthy hearts [9]. The physician must have a good clinical insight for diagnosing and choosing of better diagnostic method like TEE in his or her approach to disease [10]. TEE in comparison with TTE gets better quantitative and qualitative data regarding presence of IE and level of value dysfunction [11]. Staphylococci and streptococci are the most frequent germs and medication for covering of both of them was started initially (due to clinical suspicious) [8]. Infective endocarditis is sometimes complicated with infective emboli to lung, spleen, kidney and brain. The point is that early diagnosis is essential [11], sometime surgical interventions or also valve replacement is required [8]. In our patient also due to severity of mitral valve involvement, it was replaced with a metal one.

Endocarditis is sometimes complicated with infective emboli to lung, spleen, kidney and brain. The point is that early diagnosis is essential [11], sometime surgical interventions or also valve replacement is required [8]. In our patient also due to severity of mitral valve involvement, it was replaced with a metal one. Cerebral venous sinus thrombosis (CVST) is rare (less than 2%) but, it was occurred in our studied patient [12]. CVST may be presented with various symptoms and signs like headache, visual defects, pupil edema, convulsion and loss of consciousness and so on [13]. But in this patient progressive decreasing of consciousness was dominant and it was a clue for central nervous system involvement. There are so many unusual risk factors for CVST like hypercoagulability, dehydration, ketoacidosis, polycytemia, hyperviscosity, pregnancy, oral contraceptive pills (OCP), hormone replacement therapy, malignancies [14] but none of them were detected in this patient. Our patient was a case of IE complicated with CVST which mimicked pulmonary thromboembolism but when all of the data gather with together exact diagnosis was confirmed. It shows importance of careful physical examination, history taking and suspicion. Tunnel vision and focusing on a single sign or symptom sometimes may deceive the physician and threaten the life of the patient.

This case is considered as a rare complication of infective endocarditis. This initial presentation may mislead physicians managing such cases so there is a need for close monitoring during medical management in order to prevent such fatal complications.

**References**
