

Systemic Thromboembolisation as an Uncommon Manifestation of Dilated Cardiomyopathy in Sinus Rhythm

Short Title: Systemic Thromboembolisation in Dilated Cardiomyopathy

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Abstract

Systemic thromboembolism in cases with dilated cardiomyopathy in sinus rhythm has been rarely described. We report a middle-aged man, who had splenic as well as cerebral thromboembolism, with a background of dilated cardiomyopathy in sinus rhythm.

Keywords: Systemic Thromboembolisation; Manifestation; Cardiomyopathy; Sinus Rhythm

Case Report

A 40 year old man presented with severe pain localized to the left upper abdomen for the past 7 days, which was dull aching, and not associated with vomiting, dysphagia or heartburn. At the time of admission, he developed sudden onset right sided complete hemiparesis. He had a history of progressive exertional dyspnea for the last 6 months, which was partially controlled by oral medications. There was no history of similar episode in the past, seizure, loss of consciousness, jaundice or previous abdominal surgery. There was no family history of similar illness, and he denied consumption of alcohol or tobacco. On examination, he was alert and co-operative, with stable vitals (pulse rate – 90 per minute, regular, blood pressure – 100/70 mm Hg, respiratory rate – 14 per minute, regular). Systemic examination revealed diffuse tenderness over the left hypochondrium, apex beat shifted downwards and outwards, and normally heard heart sounds. Neurological examination was suggestive of left sided facial nerve weakness (upper motor neuron type), left hemiplegia with extensor plantar response, without any evidence of raised intracranial pressure. Complete blood count, renal and liver function tests were within normal limits. 12 lead electrocardiogram was suggestive of left axis deviation, left ventricular hypertrophy and non-specific ST segment changes in left precordial leads. Chest X ray showed cardiomegaly with blunting of bilateral costophrenic angles. Transthoracic echocardiography showed dilated cardiac chambers (left ventricular end diastolic dimension – 58 mm), global hypokinesia with ejection fraction of 22%. No clots or vegetations could be identified (Figure 1A and B).

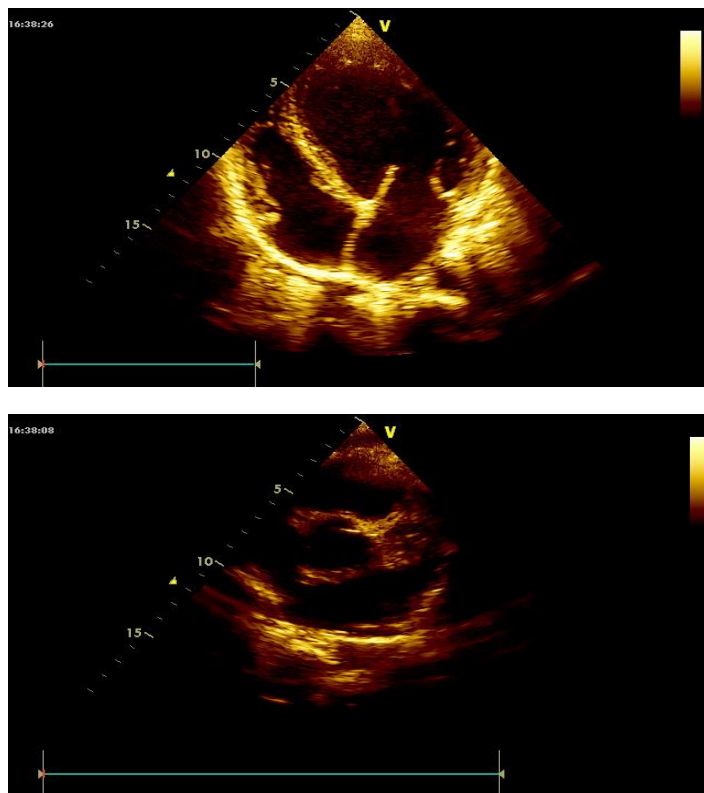


Fig 1A and B – Transthoracic echocardiogram showing dilated cardiac chambers with no clot in left atrium or left atrial appendage

Ultrasound of the abdomen showed mild hepatomegaly, dilated inferior vena cava with loss of respiratory variation, bilateral mild pleural effusion, and peripheral wedge shaped hypoechoic lesion in the spleen, which was confirmed to be an infarct of computed tomography (Figure 2A).



Fig 2A – Computed tomographic image (axial section) showing hypodense area in spleen suggestive of infarct

Magnetic resonance imaging of brain was suggestive of acute infarct in left parieto-temporal area with diffusion restriction (Figure 2B).

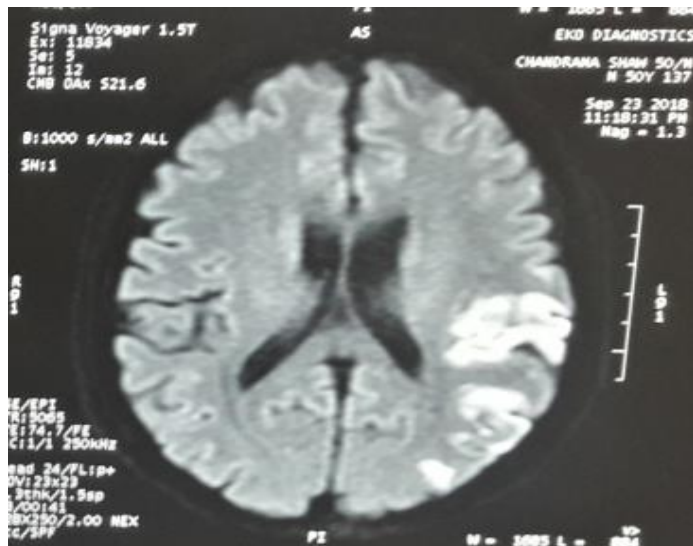


Fig 2B – Diffusion weighted axial section of magnetic resonance image of brain showing diffusion restriction of left parieto-occipital area suggestive of acute infarct

Coagulation profile was normal. Prothrombotic workup was also normal, with negative anti-phospholipid workup. Warfarin was initiated for thromboembolism, with a target International Normalized Ratio (INR) of 2.5. He was continued on diuretics and ramipril for cardiomyopathy, and started on comprehensive neuro-rehabilitation. At followup after 3 months, he has minimal residual neurological weakness and controlled heart failure with functional class II.

Discussion

Although there are several reports of thromboembolism in patients with dilated cardiomyopathy, [1] [2] those with the patient in sinus rhythm is extremely rare. Simultaneous demonstration of evidence of two distant sites of systemic embolization (here brain and spleen) has been hardly reported in scientific articles. Intramural thrombi are rarely demonstrable on echocardiography after embolization, hence it should not preclude initiation of anticoagulation. [3]. There is no consensus regarding the use of anticoagulation in those with reduced LV function in sinus rhythm, but the risk of thromboembolism is incontrovertible. Since the risk further increases with initiation of diuretics, one must be careful and prefer early initiation of anticoagulation [4].

Declaration

Conflicts of interest: none

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