RARE CAUSE OF CARDIOEMBOLIC STROKE IN FORMER ATHLETE WITH DILATED CARDIOMYOPATHY

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ABSTRACT

We present the case of a 50 year-old male, a former athlete with important cardiologic history who presented to our emergency department with sudden onset left side hemiparesis and dysarthria. The cerebral computed tomography showed a recent ischemic lesion in the right temporo-insular area and a spontaneously hyperdense right middle cerebral artery. The Duplex ultrasound examination of the cervico-cerebral vessels showed significantly enlarged jugular veins, with intraluminal hyperechogenic images. The echocardiography showed severely dilated cardiac cavities, especially left atrium and auricle with many mobile hipoechogenic thrombi. The final diagnosis was cardioembolic stroke due to dilated cardiomyopathy. We chose to present this case in order to raise awareness of this low incidence diagnosis.

Key words: cardioembolic stroke, dilated cardiomyopathy

INTRODUCTION

Ischemic stroke is the most common neurological disease. 20% of ischemic strokes are caused by cardiac embolism (1). Of these, 50% are a consequence of nonvalvular atrial fibrilation (2). Other causes of cardioembolic stroke are: acute myocardial infarction (10%), ventricular thrombus (10%), rheumatic heart disease (10%), prosthetic valves (5%) and other, less common sources (15%) (2). Dilated cardiomyopathy is the third most common cause of heart failure after hypertension and coronary heart disease (3), and the most frequent reason for heart transplantation (4).

CASE REPORT

We report the case of a 50 year-old Caucasian male, a former athlete, who was admitted to our department for sudden onset left sided hemiparesis and dysarthria, 8 hours prior to emergency room presentation. The patient denies smoking or chronic alcohol intake and has a history of cardiac disease – chronic cardiac insufficiency, dilated cardiomyopathy, peripheral venous insufficiency and repeated episodes of deep vein thrombosis and pulmonary thromboembolism. Prior to the current neurologic affection the patient was treated with oral anticoagulants (coumadine), angiotensin converting enzyme inhibitor, β-blockers, diuretics and digitalis.

On admission the patient was conscious, slightly drowsy, the general exam revealed an obese patient, with normal blood pressure, synus tachycardia with left bundle branch block on ECG, systolic heart murmur heard in the mitral valve area; the neurological examination revealed dysarthria, left sided hemianopsia, left central facial palsy and left sided motor deficit – brachial plegia and crural paresis, accompanied by decreased muscle tonus and osteotendinous reflexes of the left hemibody and positive Babinsky reflex on the left side.

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The laboratory analysis workup on admission showed an elevated INR value of 1.6, mildly elevated blood glucose, creatinine and uric acid.

The cerebral computed tomography showed a discrete hypodense lesion located in the right temporo-insular area, suggestive of a recent ischemic lesion and spontaneously hyperdense right middle cerebral artery; the examination also found a right occipital sequelae lesion in the territory of the right posterior cerebral artery as well as a lacunar lesion in the left capsulo-lenticular area. (Figure 1)

The Duplex ultrasound examination of the cervico-cerebral vessels showed very low flux velocities in both carotid arteries (~20cm/s), no pathological alterations of the arterial wall and significantly enlarged jugular veins, with intraluminal hyperechogenic images. (figure 2)

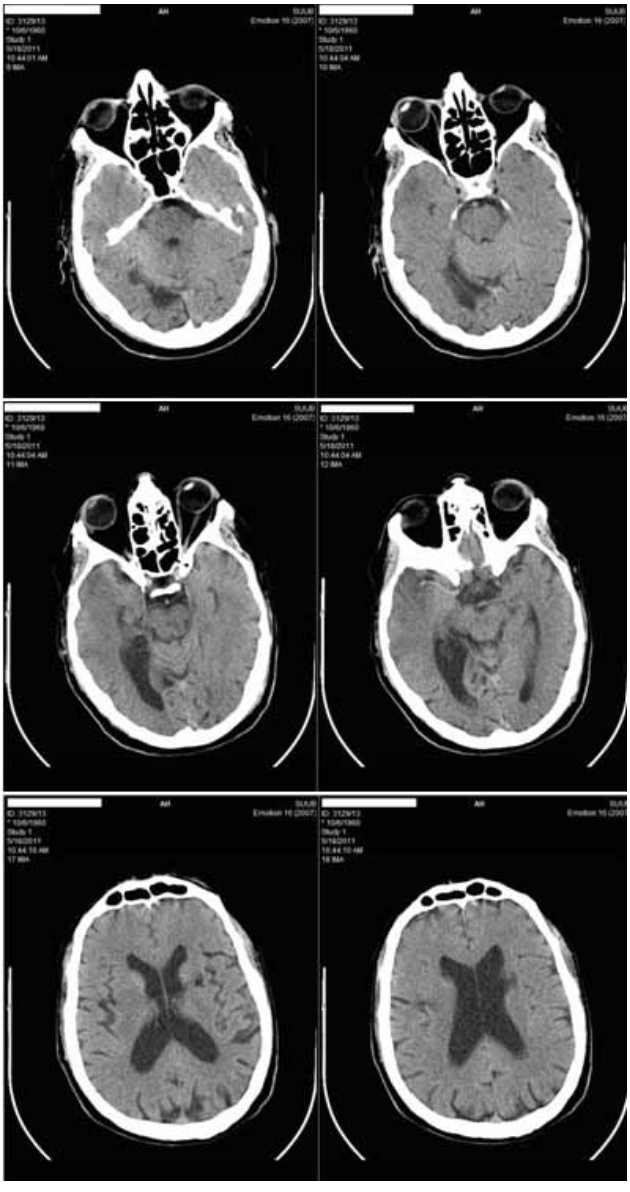

FIGURE 1. *Cerebral CT scan at approximately 10 hours after the onset of symptoms: discrete hypodense lesion located in the right temporo-insular area, spontaneously hyperdense right middle cerebral artery, right occipital sequelae lesion in the territory of the right posterior cerebral artery, lacunar lesion in the left capsulo-lenticular area*

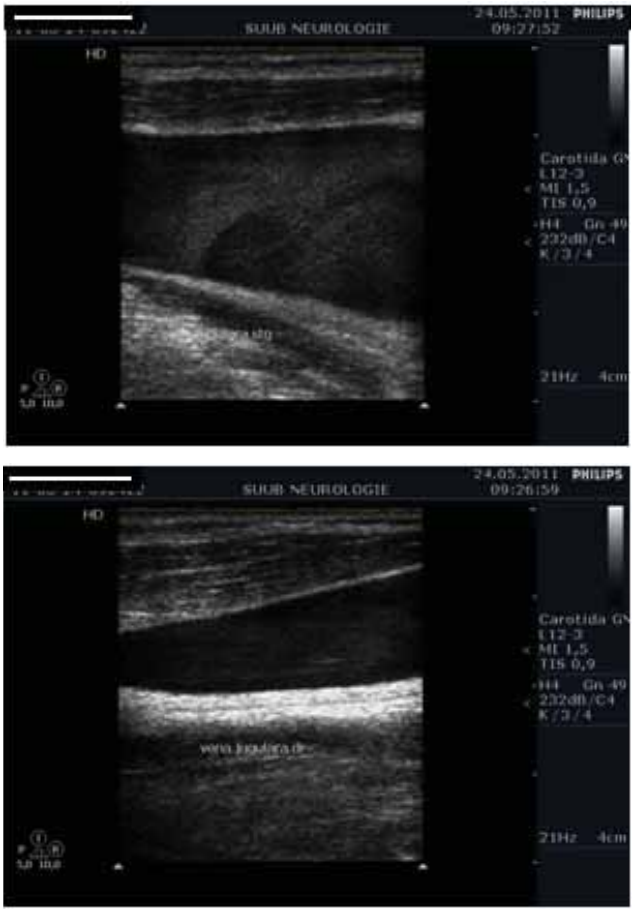

FIGURE 2. *Duplex ultrasound of the cervico-cerebral vessels: right and left enlarged jugular veins*

The transthoracic echocardiography showed severely decreased left ventricular function (LVEF=20%), severe mitral regurgitation and dilated cardiac cavities, especially left atrium. The transthoracic examination was difficult so a transesophageal echocardiography was performed. This showed a severely dilated left atrium and auricle with many mobile hipoechogenic thrombi. (Figure 3)

DISCUSSION

The echocardiographic findings were consistent with the multiple vascular lesions in different vascular territories seen on the cerebral CT scan, making cardioembolic stroke the certain diagnosis for our patient. The patient was started on low molecular weight heparin and then switched on oral anticoagulants, with convenient INR values.

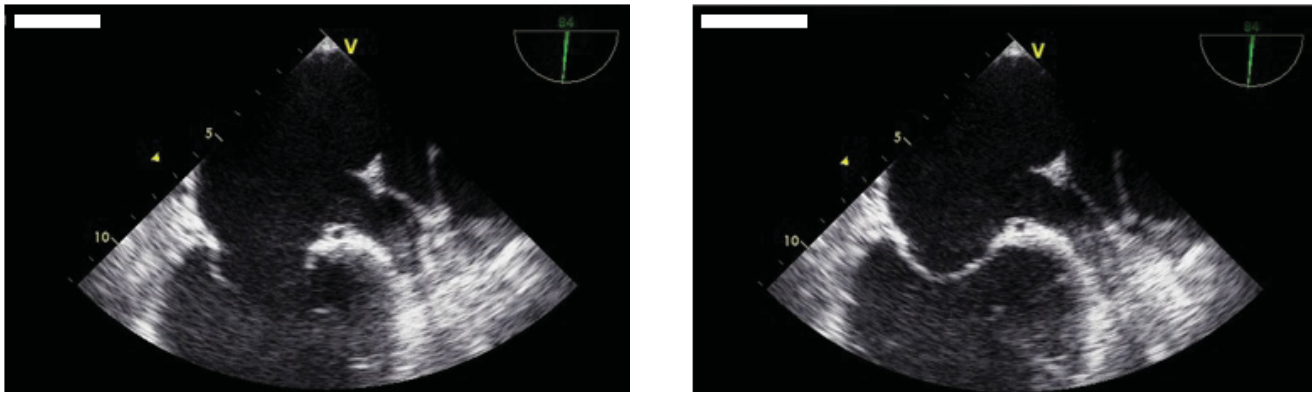

FIGURE 3. *Transesophageal echocardiography: multiple thrombi in the left auricle*

CONCLUSION

We chose to present this case because of the low incidence of cardioembolic stroke in patients with dilated cardiomyopathy, in order to raise awareness of this pathology.

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