Transient dyplopia as the first presenting symptoms of Subclavian Steal Syndrome (SSS)

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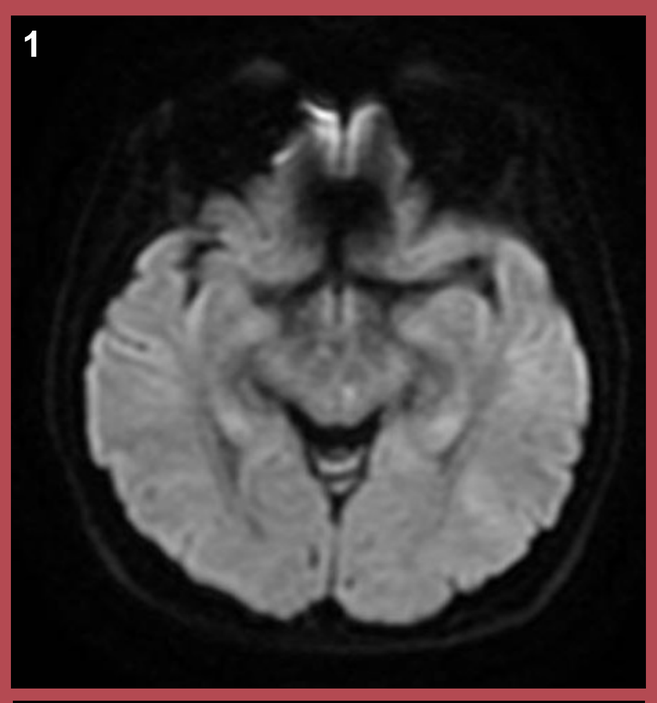
INTRODUCTION

Subclavian steal syndrome (SSS), also called subclavian steal phenomenon, is a constellation of signs and symptoms that arises from retrograde flow of blood in the vertebral artery or the internal thoracic artery, due to a proximal stenosis or occlusion of the subclavian artery [1]. Risk of stroke from carotid or vertebral stenosis is well-known and determined by the presence or absence of symptoms and the degree of stenosis on imaging [1]. Atherosclerosis is the most common cause of subclavian stenosis and, thus, steal syndromes, irrespective of the clinical manifestation. However, large artery vasculitis, thoracic outlet syndrome, and stenosis after surgical repair of aortic coarctation or tetralogy of Fallot (with a Blalock-Taussig shunt) are other possible causes. Congenital abnormalities can also lead to subclavian narrowing and steal syndromes and should be considered, particularly if a steal syndrome develops in a younger patient [2-3].

We report the case of a 44 years-old caucasian young woman who presented transient dyplopia as the first symptom of SSS.

MATERIALS AND METHODS

she was admitted to General Department due to sudden and transient dyplopia. Neurological examination showed mild upper gaze ophtalmoparesis. She performed brain CT which was negative. Blood pressure resulted 130/80 mmHg at the right arm, while at the left arm it wasn't detectable. Transcranial doppler ultrasound showed flow inversion in left vertebral artery. Brain MRI (figure 1) showed hyperintensity of tegmentum pontinum in both T2 and FLAIR sequences, with restriction at DWI, and angio MRI confirmed reduction of flow in the left vertebral artery, with absence in left subclavian artery. Neuroradiological pattern was compatible with severe left subclavian artery stenosis, consequent steal and inverted flow in omolateral vertebral artery. Brain angio CT (figures 2-6) confirmed left subclavian occlusion. Blood pressure resulted 130/80 mmHg at the right arm, while at the left arm it wasn't detectable. Neurological examination then resulted completely normal. She was discharged and, after about one week, she was treated successfully with carotid-subclavian surgical bypass.



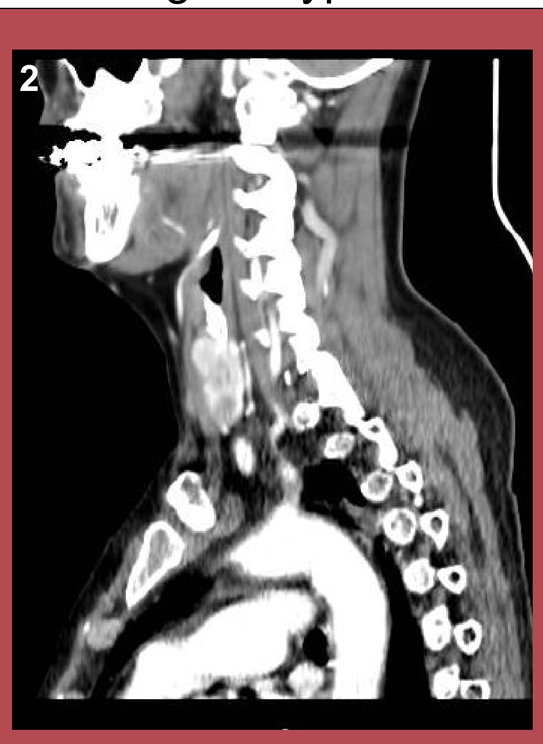
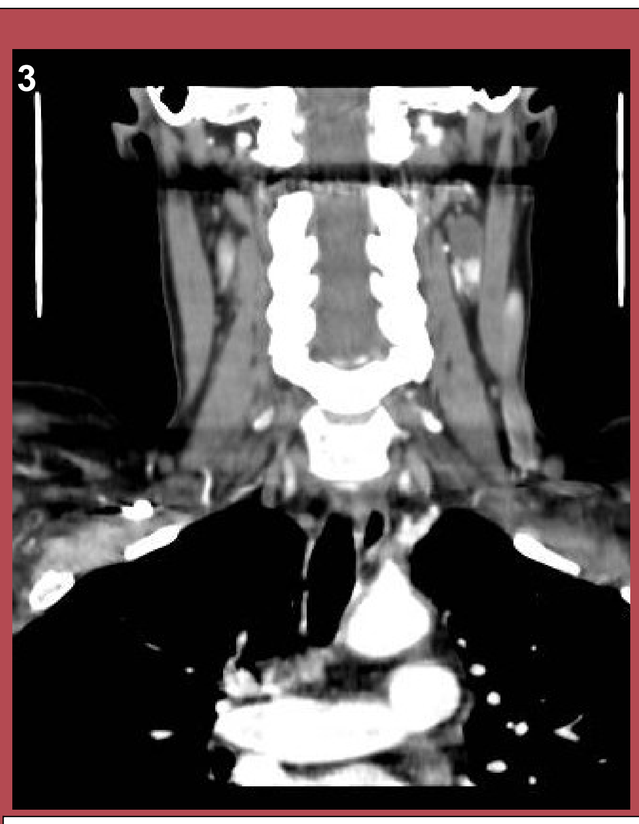
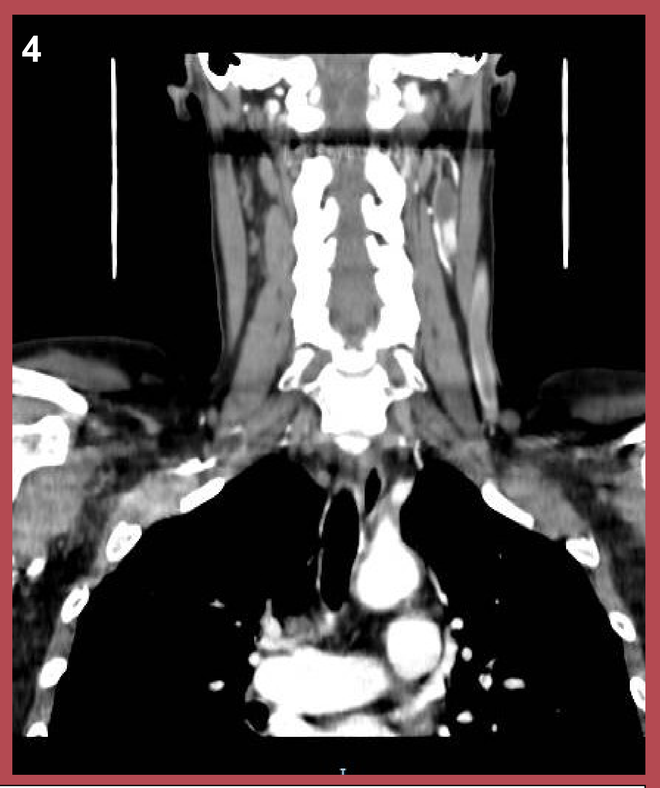
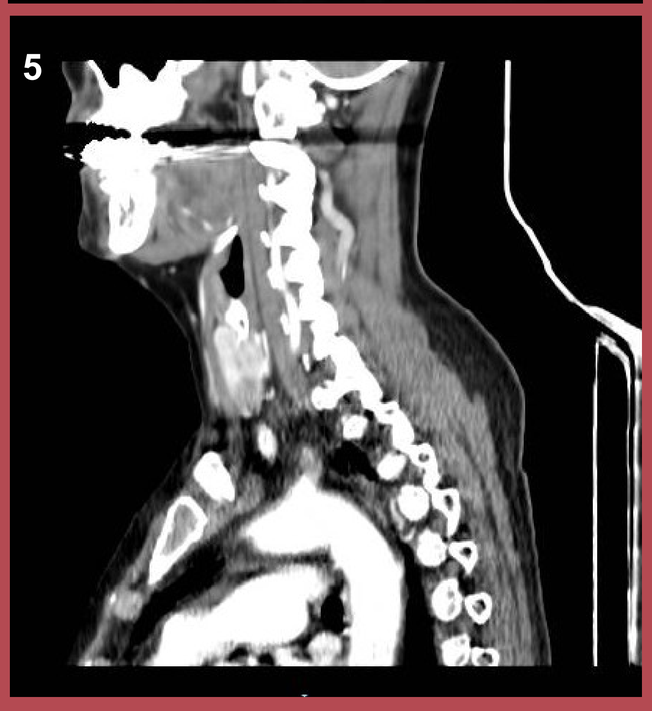


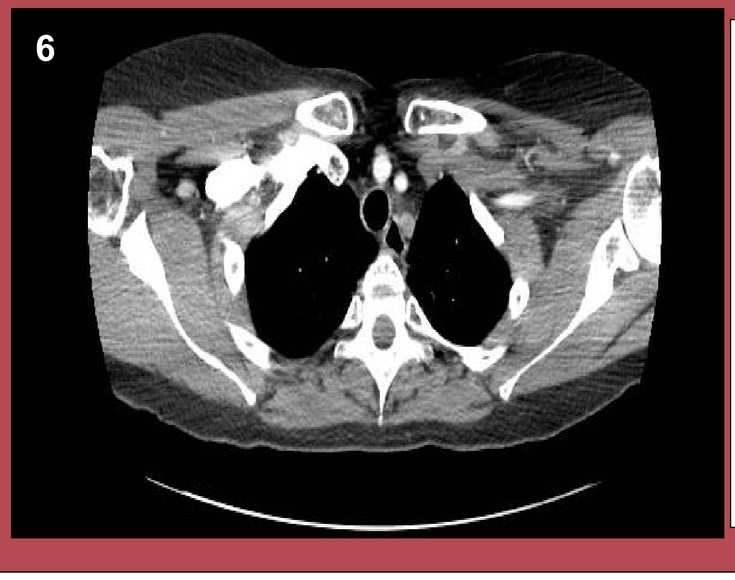
Figure 1: brain MRI: axial T2-FLAIR section





Figures 2-6: angio- CT (sagittal, axial, coronal sections)





CONCLUSIONS AND REMARKS: we reported the case of a young woman with mild neurological symptoms revealing acute pontine stroke. We haven't been able to identify the main cause of SSS in our patient (no anatomical congenital abnormalities or other risk factors have been found). In our opinion SSS can be considered when evaluating possible atypical causes of stroke in young patients in the Department of Emergency. Blood pressure in both arms should be routinely evaluated in order to exclude discrepancies.

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