

Large Vessel Occlusion presenting as Acute Confusion Only: Miss and Die

Chandril Chugh^{*}, Khushbu Goel, Himanshu Agarwal, Mukesh Kumar and Mukherji JD

Department of Neurology, MAX superspeciality Hospital, New Delhi, India

^{*}Corresponding author: Chandril Chugh, Department of Neurology, MAX Super Speciality Hospital, New Delhi, India, Tel: 9198101831486; E-mail: chandrilchugh@gmail.com

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Abstract

Large vessel occlusions account nearly half of all the ischemic strokes. Recognition of a large vessel stroke is paramount in early and effective stroke treatment as these patients carry poor prognosis if not treated in time. Clinical exam is the single most important tool to diagnose a patient with stroke and initiate further diagnostic studies for optimal management. We present a case of a 72 years old woman who presented with acute onset confusion without any focal motor deficits or cranial nerve findings and went on to have occlusion of the right middle cerebral artery. This patient underwent mechanical thrombectomy and recovered completely during her hospital stay. This case highlights that even large vessel occlusions can present with only confusion as a presenting symptom. Such patients are at a risk of not being diagnosed as acute stroke and rather managed conservatively for acute delirium. As is evident in our case, a potential devastating stroke was prevented with timely vascular imaging and neurointervention.

Keywords: Confusion; MCA occlusion; Large vessel stroke; Thrombectomy

Introduction

We present the case of a 72 year old female who presented with acute onset of confusion and agitation to the emergency room. Her symptoms started when she woke up in the morning and she was brought to the hospital within 2 hours of waking up. She was apparently at baseline before retiring to bed in the night. Family was certain that the symptoms were acute in onset and she did not have any behavioural or psychiatric manifestations before this presentation. She was a known case of left breast cancer post-surgery and radiation or chemotherapy with herceptin. Breast surgery was done three years ago. She had an ischemic stroke 3 months back in the right parietal region.

Case Presentation

Vascular imaging done at that time did not show any large vessel occlusion. On examination, the patient had moved all extremities symmetrically and spontaneously. She was agitated and did not follow commands consistently. There was no cranial nerve deficit. NIHSS score was 6. MRI scan of the brain was performed which showed a right parietal lobe infarct and the MR angiogram showed a right middle cerebral artery occlusion (Figures 1a and 1b). As the patient was not a candidate intravenous thrombolysis, decision to perform mechanical thrombectomy was made based on the imaging findings. The patient underwent successful recanalization of the right middle cerebral artery and had an uncomplicated course in the hospital with complete recovery (Figures 1c and 1d). NIHSS score at discharge was 0 (Figure 1).

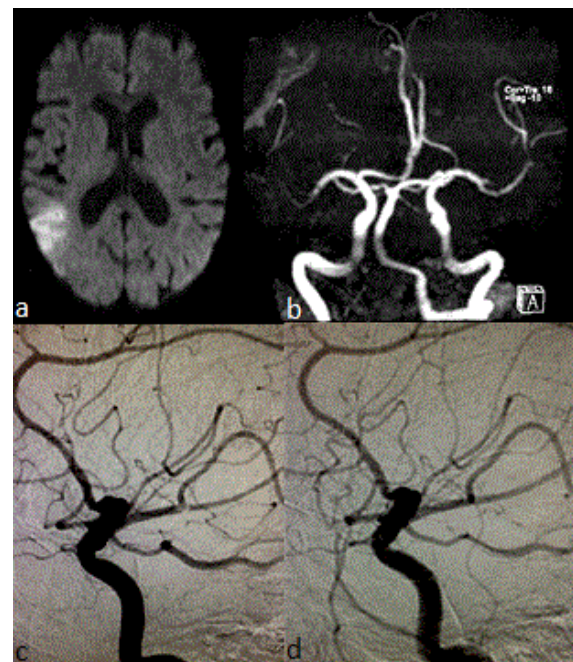


Figure 1: Diffusion weighted image (a) show acute infarct in right inferior parietal region. MRA (b) show near complete occlusion of the right MCA. Angiogram (c) show thrombus causing partial occlusion of M2 MCA bifurcation. Post thrombectomy angiogram (d) show complete recanalisation of right MCA

Discussion

Confusion and agitation is a known symptom of acute stroke and is more frequently seen with right sided strokes as in our patient [1,2].

Agitation may be seen in cases of posterior cerebral artery strokes involving the hippocampus, ventral temporo-occipital and thalamic region [3]. In a series of 216 post stroke patients right hemispherical infarction affecting the right parietal lobe, caudate and the thalami were more likely to have confusion and agitation post stroke [4]. In another study, 61% of patients with right MCA stroke exhibited confusion and 16% of the patients also had agitation. Strokes involving the fronto-striatal region were more likely to have non agitated delirium as compared to temporal lobe strokes which caused hyperactive delirium [5]. Lesions of right inferior parietal lobe cause confusion and agitation because this area of the brain is a sensory convergence center and impairs the patient's ability to selectively direct attention and ignore irrelevant stimuli [6,7]. None of the above mentioned studies or the literature search to the best of our efforts reported agitation and confusion as a presenting symptom in a patient presenting with a large vessel occlusion. As in our case the patient was potentially saved from a large devastating stroke due to timely vascular imaging followed by neurointervention. Our patient recovered well and had an uncomplicated stay in the hospital. As is evident that right hemispheric strokes can cause agitation and confusion at the onset and that could be a presenting symptom of a potentially devastating large

vessel occlusion, which otherwise may be dismissed as encephalopathy in the absence of clear localizing signs.

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