Commentary

Diagnosing Weber syndrome requires compliance with diagnostic criteria and compatibility with cerebral imaging

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Letter to the Editor

We eagerly read the article by Sheikh Hassan et al. reporting on a 62 years-old male who developed disorientation, cognitive decline, incomplete right oculomotor palsy, and left hemiparesis one week prior to admission attributed to acute ischemic right midbrain stroke [1]. The stroke was classified as Weber syndrome and attributed to arterial hypertension as the only cardiovascular risk factor [1]. The elegant study has limitations that require reassessment.

There is disagreement with the diagnosis Weber syndrome [1]. Arguments against Weber syndrome are that the patient presented with disorientation and cognitive dysfunction, that the oculomotor nerve palsy was incomplete, and that the lesion shown in Figs. 1 and 2 does not explain the hemiparesis. Weber syndrome is characterised by hemiplegia contralateral to a peduncular, upper midbrain lesion, complete IIIrd cranial nerve palsy including the parasympathetic functions of the axial parasympathetic nucleus located rostral to the oculomotor nucleus, a peduncular lesion, and is not associated with disorientation or cognitive dysfunction. In the case of cognitive decline, we should know whether only orientation or other cognitive functions were impaired.

Furthermore, we disagree that the right midbrain lesion shown in Fig. 2 is hypointense as described in the caption. On the contrary the lesion corresponding to the diffusion-weighted imaging (DWI) hyperintensity in Fig. 1 is clearly hyperintense on apparent diffusion coefficient (ADC) maps [1]. Therefore, the description of the stroke as acute is not justified. The lesion shown in Fig. 1 represents either an ischemic stroke already in the subacute stage or the lesion represents a vasogenic rather than cytotoxic edema.

Because there is a discrepancy between the right midbrain lesion shown in Figs. 1 and 2 and the clinical presentation, it is crucial to present images of the supra-tentorial parts of the brain and to discuss alternative explanations of left hemiparesis. Since the case was published during the SARS-CoV-2 pandemic, we should know if the patient was positive or negative for the virus.

There is no MRI in the sagittal plane to assess the extent to which the oculomotor nuclei were affected and whether the Edinger-Westphal nucleus was really spared as the clinical presentation suggests.

Cardio-embolism has not been properly ruled out by trans-esophageal echocardiography and long-term ECG recordings. The prevalence of atrial fibrillation increases with age [2], making it to rule out paroxysmal atrial fibrillation in a 62 years-old subject.

Regarding the etiology of the midbrain lesion, arterial hypertension was blamed for the stroke. However, no blood pressure readings were reported, either at the onset of the stroke or during hospitalisation.

There is a lack of magnetic resonance angiography (MRA), CT-angiography (CTA) or digital subtraction angiography (DSA) to determine whether there was stenosis or occlusion of the right posterior cerebral artery or the basilar artery.

The use of piracetam is not only useless but also contra-indicated due to the possibility of cerebral bleeding [3].

In summary, the presented data require further discussion, which would make the study even more attractive. The diagnosis Weber syndrome in the index patient is questionable.

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Abbreviations: ADC, Apparent diffusion coefficient; CTA, Computed tomography angiography; DSA, Digital subtraction angiography; DWI, Diffusion weighted imaging; MRA, Magnetic resonance angiography.

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Registration of research studies

N/a.

1. Name of the registry:
2. Unique Identifying number or registration ID:
3. Hyperlink to your specific registration (must be publicly accessible and will be checked):

Guarantor

N/a.

Compliance with ethics guidelines

This article is based on previously conducted studies and does not contain any new studies with human participants or animals performed by any of the authors.

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Consent

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The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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