Atypical isolated nuclear oculomotor nerve syndrome: a diagnostic challenge

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DESCRIPTION

A 44-year-old man with hyperlipidaemia and chronic hepatitis C infection presented with a 48 h history of diplopia and occipital headaches. On neurological examination, he was alert and afebrile. There was right oculomotor palsy consisting of right medial rectus, inferior rectus and inferior oblique weakness; without ptosis or superior rectus weakness and with intact pupillary and consensual reflexes; otherwise the rest of the examination was unremarkable. CT of the head and neck showed normal extracranial and intracranial vessels. Transthoracic echocardiogram was essentially a normal study. MRI of the brain showed a non-enhancing lesion and restricted diffusion-weighted imaging without apparent diffusion coefficient map correlation in the right periaqueductal white matter, suggesting a subacute stroke (figure 1). No enhancement, vasogenic oedema or other lesions to suggest demyelinating disease or underlying tumour were present.

The patient presented with isolated nuclear oculomotor nerve palsy. It usually consists of complete ipsilateral third nerve palsy in addition to contralateral ptosis and superior rectus dysfunction, furthermore, if the nuclear lesion is rostral, it may present with pupillary involvement and muscles may be spared. Isolated nuclear oculomotor nerve syndrome has been reported in patients with mesencephalic haematomas,[1] ischaemic strokes[2 3] and metastases.

To the best of our knowledge, this is the first case of isolated nuclear oculomotor nerve palsy with atypical features that may mimic ischaemic oculomotor nerve palsy, usually associated with diabetes mellitus and hypertension.

Learning points

- Atypical manifestations of isolated nuclear nerve palsy include ophthalmoplaegia without ptosis or pupillary involvement.
- Early recognition of the symptoms and physical manifestations of isolated nuclear nerve palsy is important as the process and neurological symptoms can be reversible.
- This condition is often overlooked because it may mimic ischaemic oculomotor nerve palsy associated with diabetes mellitus and hypertension.

Contributors BL took part in study concept and design, revision and approval. CK-M participated in study supervision, study concept and design, revision and approval.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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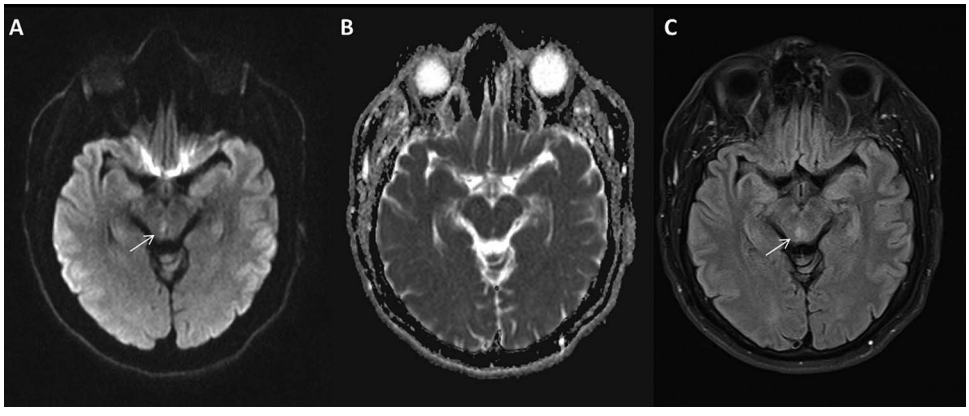

Figure 1 MRI of the brain after 48 h of symptoms onset (A-arrow). Diffusion-weighted imaging (DWI) axial MRI showing restriction in the right periaqueductal white matter affecting the right oculomotor nuclear complex and sparing the Ediger-Westphal nucleus. (B) Apparent diffusion coefficient map axial MRI shows no correlation with DWI sequences but the (C-arrow) T2/fluid-attenuated inversion recovery axial MRI shows hyperintensity in the mentioned area suggesting a subacute stroke.