Hypoglycaemic encephalopathy

Karim Mahawish

Department of Health in Aging, Tauranga Hospital, Tauranga, New Zealand

Correspondence to
Dr Karim Mahawish,
k.mahawish@nhs.net

Accepted 27 March 2016

DESCRIPTION

A 49-year-old man with a history of type 1 diabetes self-presented to hospital, with ataxia and memory impairment. Admission blood glucose was 1.9 mmol/L. Using a combination of intravenous and orally administered glucose, the patient became euglycaemic 45 min later. Marked cognitive impairment was noted to persist several days into his admission. An MRI of the brain scan was performed, demonstrating numerous foci of restricted diffusion involving the anterior and posterior territories (figures 1 and 2), including the cortex, subcortical white matter, deep white matter and corpus callosum. Blood tests for autoimmune, inflammatory and thrombogenic conditions, telemetry, echocardiography and angiographic studies of the extra and intracranial vessels, failed to demonstrate evidence of a thrombotic cause. The presence of multiple territory changes involving deep and cortical regions in the absence of vascular pathology made hypoglycaemic encephalopathy the only explanation for the presentation and findings.

The patient was admitted for rehabilitation. One month into his admission, an Addenbrookes Cognitive Examination-R was undertaken, for which the patient scored poorly at 62/100, with deficits predominantly affecting memory, verbal fluency and visuospatial ability. The patient had no insight into his difficulties. He was subsequently discharged with a comprehensive care package to the care of his partner.

Numerous MRI changes have been described in patients presenting with hypoglycaemic encephalopathy. MRI findings are related to the duration of hypoglycaemia; bilateral cortical lesions are observed in severe cases and associated with long-term neurological sequelae, while transient unilateral lesions are seen in those with milder symptoms.[1]

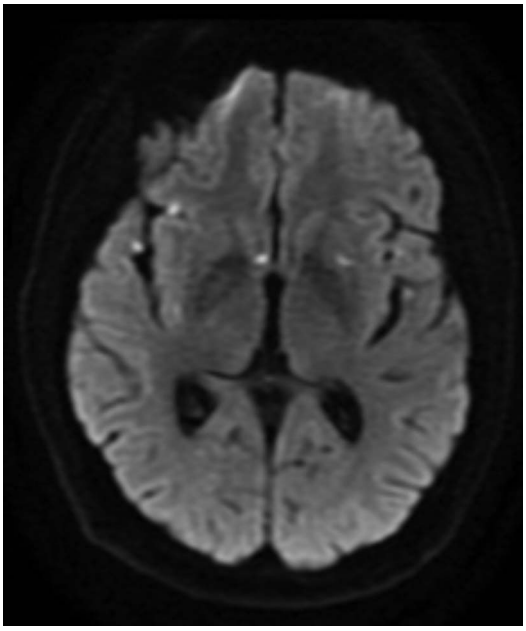

Figure 1 Multiple foci of restricted diffusion involving the anterior cortex, left basal ganglia and corpus callosum.

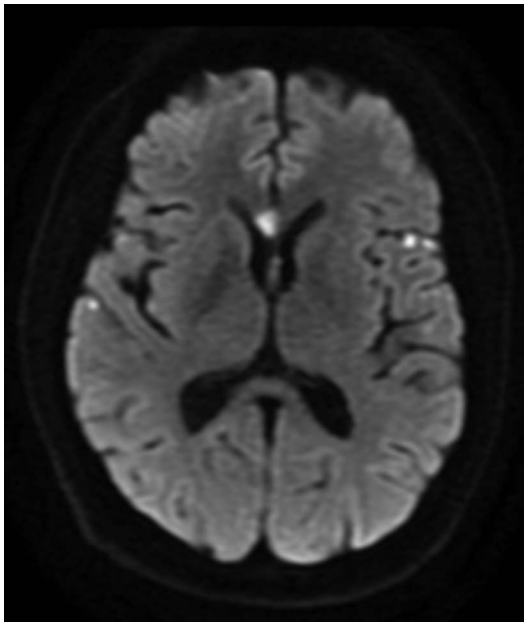

Figure 2 Multiple foci of restricted diffusion involving the anterior cortex, and corpus callosum.

Learning points

- Simultaneous multiterritory 'infarcts' on brain imaging are most commonly due to cardiogenic emboli (eg, secondary to atrial fibrillation).
- Other rarer differentials should be considered, for example, hypoglycaemia, as the management plan is significantly different. In this case, antithrombotic therapy was discontinued and emphasis placed on more optimal diabetes control.

Contributors KM was responsible for performing the literature search, writing up the case and seeking patient consent.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCE

1 Yong AW, Morris Z, Shuler K, *et al*. Acute symptomatic hypoglycaemia mimicking ischaemic stroke on imaging: a systemic review. *BMC Neurol* 2012;12:139.

To cite: Mahawish K. *BMJ Case Rep* Published online: [*please include* Day Month Year] doi:10.1136/bcr-2015-214296