Late onset seizures and progressive cognitive decline: is it an arachnoid cyst?

Osama S M Amin

Department of Neurology,
Sulaimaniya General Teaching
Hospital, Sulaimaniya City, Iraq

Correspondence to
Dr Osama S M Amin,
dr.osama.amin@gmail.com

DESCRIPTION

A 65-year-old man has been experiencing recurrent generalised tonic-clonic seizures since few months. He has a slowly progressive cognitive decline since many years. There is spastic left-sided hemiparesis. His elder sister says that his left side has been weak since birth. The family denied any history of head trauma. He was neither hypertensive nor diabetic. They reside in a village near Iraq–Iran border. His blood tests and 12-lead ECG were unremarkable. An urgent non-contrast CT scan of the brain was performed (figure 1). A diagnosis of symptomatic seizures secondary to an old right middle cerebral artery territory ischaemic stroke was made and he was treated accordingly. However, his MRI examination of the brain, which was performed 2 weeks later, uncovers the correct culprit (figure 2).

An arachnoid cyst forms when the cerebrospinal fluid (CSF) collects itself between the two layers of the arachnoid matter, which may be primary (owing to a developmental anomaly) or secondary to an inflammatory process. Arachnoid cysts comprise approximately 1% of all intracranial masses (42% of them are supratentorial) and may enlarge over time; they may communicate with the rest of the subarachnoid spaces, but never directly communicate with the ventricular system.

Headache, seizures, focal deficits and cognitive impairment are the usual manifestations in symptomatic ones. In adults, arachnoid cysts have been found to result in low employment status, decreased quality of life scores and prevalent symptoms of anxiety. This patient's cyst is responsible for his longstanding spastic hemiparesis, cognitive decline and late onset seizures; the CT image of the brain deceived us.^{1–3}

Figure 1 Non-contrast CT scan of the brain of the patient at the time of A&E admission. Note the highly demarcated hypodense area at the right fronto-temporal lobes; a diagnosis of old right middle cerebral artery territory infarction was made.

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Figure 2 Coronal T1-weighted MRI image with gadolinium. Note how large the arachnoid cyst is. It has replaced parts of the right frontoparietal lobes and all of the right temporal lobe.

Learning points

- ▶ Arachnoid cysts may be entirely asymptomatic or may result in a variable combination of headache, seizures, focal deficits and cognitive decline.
- ▶ Their radiological appearance may mislead the physician to think of old infarction or cystic tumours.

Patient consent Obtained.

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