Presumed superficial haemosiderosis presenting with subarachnoid haemorrhage

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DESCRIPTION

A 78-year-old man with a medical history of coronary artery disease with stents placed 8 years prior and coronary artery blood graft 6 years prior, on aspirin 325 mg daily; congestive heart failure; diabetes mellitus; presented to the emergency department with a chief complaint of left arm weakness and numbness which resolved prior to arrival. A CT scan of his head showed right parietal subarachnoid haemorrhage. The patient was admitted to the neurointensive care unit. A CT angiogram showed no definite bleed. However, MRI redemonstrated acute right-sided frontal convexity surface subarachnoid haemorrhage, as well as generalised siderotic changes (figure 1). Gadolinium imaging raised the possibility of a subtle pial dural arteriovenous graft. Subsequent catheter angiographic brain imaging was negative for any vascular malformation or aneurysm.

The patient relates that he has had four previous such episodes with stereotypical features starting 1 year ago: his left hand feels big, abnormal feeling and paresthesia radiate up his left upper extremity, and then his legs buckle. This episode was similar to all of those previous episodes except that he had dysarthria too.

The patient was diagnosed with superficial haemosiderosis. Aspirin 325 mg was permanently discontinued (for the time being) with plans to possibly resume 81 mg in the future. Levetiracetam 750 mg two times per day, which was started at the time of admission, was continued.

Superficial haemosiderosis (also called cortical superficial siderosis) is a pattern of deposition of blood-breakdown products that occur in the sulci of the cerebral hemispheres. Superficial haemosiderosis' classical clinical presentation is irreversible,

Figure 1 T2 imaging showing superficial siderosis.

Learning points

- Cerebral amyloid angiopathy is a risk factor for bleeding in the cranium. It can present acutely as intracranial haemorrhage. Chronically, however, small bleeds can deposit such as to form the superficial haemosiderosis pattern on imaging.
- Superficial haemosiderosis requires a biopsy to diagnose with certainty, but typically can be presumed from characteristic neuroimaging findings.
- It is important to identify brain abnormalities such as cerebral amyloid angiopathy or superficial haemosiderosis in medical practice for two major reasons: (1) they serve as a risk factor for bleeding and a reason to avoid anticoagulation or antiplatelet therapy when its benefit is questionable (eg, aspirin for primary cardiovascular prevention) and (2) they are structural lesions on neuroimaging which help justify the use of antiepileptic therapy in patients presenting with an epileptic seizure.

slowly-progressive ataxia with dysarthria and sensorineural hearing impairment.^{1,2} However, superficial haemosiderosis has been found to be a common and characteristic feature of cerebral amyloid angiopathy,³ which increases the risk of intracranial bleeding. This case is unique because the superficial haemosiderosis was detected in an acute manner after a subarachnoid haemorrhage.

Contributors MSL was the internal medicine resident who saw the patient and wrote the manuscript. SLC was the neurology resident on the stroke team who saw this patient and thought of the idea to write up the manuscript, as well as reviewed and edited it significantly. AS was the stroke attending who saw this patient and reviewed the manuscript. RP was the neurointensivist attending who saw this patient and reviewed the manuscript.

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