

Basal ganglion stroke presenting as subtle behavioural change

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Cerebral infarctions can have many presentations ranging from hemiparesis to subtle behavioural changes. A case is presented in which the only sign of a left basal ganglion infarct was isolated abulia. This case highlights the importance of a thorough evaluation in cases of acute unexplained changes in behaviour.

Basal ganglia infarcts are a relatively rare type of lacunar infarct with subtle clinical presentations. We describe an unusual presentation of a basal ganglia infarct.

CASE REPORT

A 47-year-old African American man was brought to the emergency department by his wife because of behavioural changes for 2 days. The patient himself had no complaints. At baseline he was a well groomed, well dressed, talkative, motivated salesperson. The patient's wife was disturbed by the fact that her husband was talking less, dressing in a "sloppy" way, sleeping longer and not attending work. His past medical history included hypertension and transient ischaemic attacks. Physical examination revealed a patient dressed in an old T-shirt, sweat pants, and dirty tennis shoes, with

normal vital signs except blood pressure of 170/118 mm Hg. On neurological examination the patient exhibited a flattened affect, slow response time to questions and commands and lack of spontaneous speech. The remainder of his neurological examination was normal including motor and sensory examination, cranial nerves and cerebellar function. While the patient did not speak unless spoken to, his responses were fluent and appropriate. Complete blood count and basic chemical levels were normal except for a glucose level of 154 mg/dl; serum drug screen was negative. A non-contrast CT scan of the brain revealed a subacute isolated left basal ganglion infarction with left frontal horn mass effect (fig 1). The patient was admitted for medical management. Follow-up at 2 months revealed that his behaviour was returning towards normal. His abulia was improving and he was dressing more like himself. He does feel more forgetful than before the event, particularly with names (however, memory deficits were not part of his initial presentation).

DISCUSSION

Because of the uncommon nature of basal ganglia strokes (lesions confined to the caudate, putamen or globus pallidus), there have been limited case reports and case series describing the variety of presentations observed for this stroke subtype. Behavioural symptoms predominate, often combined with other subtle neurological deficits, particularly motor and speech abnormalities.¹⁻⁴ The behavioural abnormalities observed include abulia,¹⁻⁴ apathy,^{1,2} akinesia,³ amnesia,³ disinhibition,^{1,2} hemi-neglect^{3,4}



Figure 1 Isolated left basal ganglia subacute infarct.

and affective symptoms.² Abulia—defined as lack of initiative and emotions, slowness and exhibiting delayed responsiveness and actions¹—was the most common behavioural abnormality observed,^{1,4} occurring in an estimated 13% of basal ganglia infarcts.¹ Additional neurological deficits—particularly speech, memory, motor and/or sensory abnormalities—are typically seen,¹⁻⁴ even in patients with isolated left-sided infarcts.³ Isolated abulia has been observed previously in right-sided infarcts³ or bilateral infarcts.¹ This report is of an isolated left-sided basal ganglia infarct that presented solely with abulia. This case is presented to emphasise how only minor neuropsychological symptoms can represent significant pathology, even in the context of normal motor, sensory and speech function.

CONCLUSION

As many of us have learned from personal experience, spouses have a unique insight into their partner's behaviour and their concerns must be taken seriously. Cerebrovascular lesions should be considered in the differential diagnosis of these cases and appropriate imaging pursued.

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