

Post-traumatic vertebral artery dissection

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Introduction

Cervical arterial dissection (CAD) is a well recognized cause of ischaemic stroke, particularly in the young. It can occur spontaneously or following trauma.

Case report

A 35-year old previously healthy mechanic developed sudden onset quadriparesis and unsteadiness of gait few minutes after blunt trauma to his neck from a dislodged wheel of a lathe machine. His symptoms worsened over the next 24 hours. Examination revealed horizontal nystagmus and left sided cerebellar signs. There was a contusion over the left supraclavicular region.

CT scan of the brain showed a low attenuation area in the left cerebellar hemisphere suggestive of an acute infarction (Figure 1).

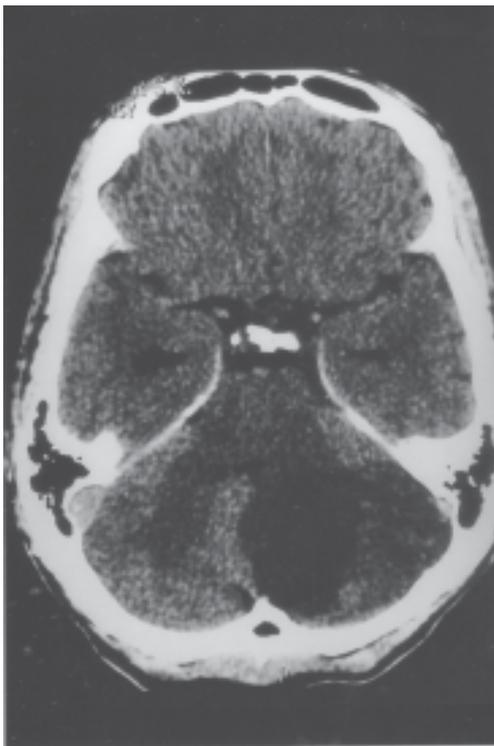


Figure 1. Non-contrast CT scan of brain with a low attenuation area in the left cerebellar hemisphere suggestive of an acute infarction.

CT angiogram showed eccentric contrast in the left vertebral artery from just after its origin to the level of the C4 vertebral body suggestive of dissection (Figure 2). He was anticoagulated with enoxeparin. He walked independently when he left hospital and was recommended aspirin prophylaxis.

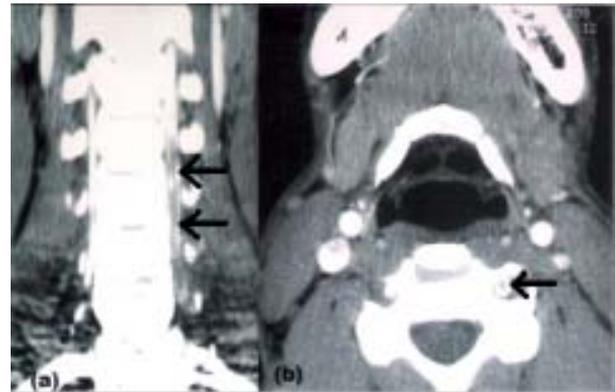


Figure 2. CT Angiogram (a) coronal view of left vertebral artery showing filling defect (arrows) in segment II (C6 to C2) (b) Axial view of enlarged left vertebral artery with filling defect (arrow).

Discussion

CAD accounts for about 20% of young strokes. Vertebral artery dissection (VAD) is up to five times less common [1]. Cervical trauma is an important predisposing factor, and CAD may follow even trivial mechanical trauma [2]. Predisposing conditions include infections, fibromuscular dysplasia, hereditary connective tissue diseases, hyperhomocysteinaemia and migraine [3]. Dissections are commonly sub-intimal and cause stenosis (48%) or occlusion (35%). Sub-adventitial dissections form pseudo aneurysms (17%), which can rupture intracranially causing sub-arachnoid haemorrhage [1]. Clinical manifestations include localised pain around the site of the dissection and effects of infarction or haemorrhage.

The most specific radiological sign for VAD is an enlarged artery with a crescent-shaped rim of hyper intense signal surrounding the narrowed lumen seen on CT or MRI scans [1]. Angiography is helpful, especially if initial

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Picture stories

imaging is negative. Antithrombotics are recommended in the acute phase of CAD to prevent primary or recurrent ischaemic events. However, no randomised trial has been done to test the efficacy of this treatment. CAD carries a good prognosis in about three-quarters of patients and VAD has a better functional outcome when compared to carotid dissection [1].

References

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