



Hackensack Meridian
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Dolichoectasia with Bilateral Internal Carotid Artery Involvement: A Rare Cause of Encephalopathy

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Introduction

Dolichoectasia is an exceedingly rare disorder of the cerebral vasculature characterized by arterial elongation and widening. Long-standing hypertension in which the increased pressure exerts stress on the connective tissue of the vasculature results in a compromised tunica intima. The overall prevalence is estimated to be around 0.05-0.06% and it is usually found incidentally; most commonly, it affects the vertebrobasilar artery, though the internal carotid artery can also be affected. We present an interesting case of an 85-year-old male patient with altered mental status who was found to have dolichoectasia with bilateral internal carotid artery involvement. Our aim is to shed light on a rare etiology of encephalopathy.

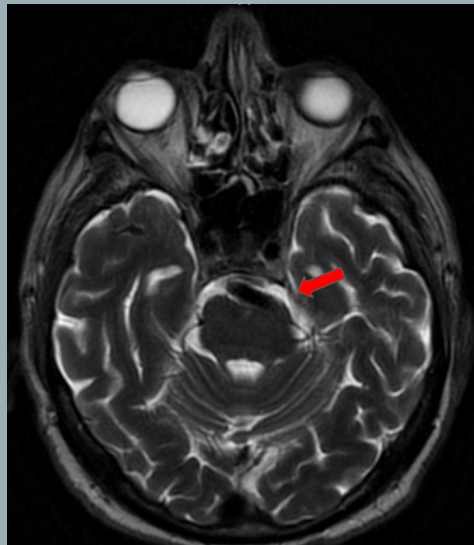


Figure 1. Brain MRI without contrast demonstrating diffuse dilatation and elongation of vertebrobasilar system and ICAs with some compression of the pons on the left (red arrow)

Case Presentation

An 85-year-old male with a medical history significant for hypertension, hyperlipidemia and chronic kidney disease presented with worsening altered mental status over a period of 2 days. The patient was hypertensive with a blood pressure of 197/108 mmHg. Physical exam was largely unremarkable aside from confusion. Laboratory studies were within normal limits. A computed tomography scan of the head without contrast demonstrated chronic microvascular ischemic changes. On the second day of admission, the patient's encephalopathy persisted and further imaging was performed. Magnetic resonance imaging of the brain (figure 1) without contrast showed diffuse dilation of the vertebrobasilar system and internal carotid arteries, as well as elongation and compression of the left lateral pons. Follow-up magnetic resonance angiography of the brain confirmed a diagnosis of dolichoectasia measuring up to 7 mm in diameter. After conservative hemodynamic management, the patient was discharged to rehab once his mentation improved.

Discussion

Dolichoectasia is an incredibly rare arteriopathy that, when found, is often localized to the vertebrobasilar circulation and rarely involves the anterior cerebral circulation. The prevalence of dolichoectasia is low, however, the implications of a missed diagnosis can lead to increased morbidity and mortality. The progressive vascular wall distension and luminal widening compounded by age-related cerebral atrophy propagate further ballooning of the vascular wall. In the setting of uncontrolled hypertension, the effects of vascular dilation are much higher and can result in spontaneous hemorrhage events, ventricular compression, and hydrocephalus. Our patient was found to be in hypertensive crisis on admission and, in the setting of dolichoectasia, was likely contributing to changes in mentation. Our case adds to a limited but growing body of literature that dolichoectasia can involve the ICA and contribute to encephalopathy in the elderly population.

References

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