Multiple looks of cerebral vasculopathy after brain tumour irradiation: two case reports

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Abstract

Introduction: Radiation-induced vasculopathy is a potential long-term complication after brain irradiation. The association between radiotherapy and stroke has been well documented, although it is a challenging diagnosis. We report two patients with different vascular events 20 years after radiotherapy.

Case Reports: A 43-year-old woman was admitted, in February 2016, due to a cortical infarction in the right middle cerebral artery territory. In November 2017, she seeks medical attention once more for new-onset of left-sided hemiparesis along with tonic-clonic seizures. A new MRI disclosed previous ischaemic lacunar lesions in the right thalamus and corona radiata. The patient had undergone surgery and radiotherapy (46Gy) for an astrocytoma 20 years earlier, raising the hypothesis of radiation-induced vasculopathy.

A 36-year-old woman, with moyamoya syndrome secondary to radiotherapy for a craniopharyngioma more than 20 years ago, presented with wake-up confusion after being seen well the night before. A left “carotid T” occlusion and an area of penumbra in the left middle cerebral artery territory were observed. The patient had an NIHSS of 6 due to dysarthria and right hemiparesis when upright, and mechanical thrombectomy was attempted. On discharge, she was referred to neurosurgery for consideration of surgical revascularization.

Conclusion: Head and neck radiotherapy is an underrecognized risk factor for cerebrovascular disease and careful follow up is necessary. Our second case highlights the broad controversy concerning endovascular reperfusion therapy in patients with moyamoya syndrome, since it is typically associated with increased haemorrhagic risk.

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