
**CLINICAL VIGNETTE**

**Ischaemic stroke and myocardial infarction in a Caucasian patient with Moya–Moya disease**

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A 48-year-old male was admitted to our department after falling backwards down the stairs and resuscitation as a result of ventricular fibrillation. On admission, a CT scan was performed that ruled out intracranial bleeding, but showed posterior swelling (Panel A), and a stable type-II fracture of the odontoid process of the axis (not shown). Myocardial enzymes were elevated. Coronary angiography showed a single, >90% diameter, flow-limiting stenosis of the proximal right coronary artery (Panel B), which was treated with percutaneous coronary intervention. On the following day, severe visual impairment was observed. A second CT scan showed extensive bilateral posterior cerebral infarction (Panel C). Cerebral angiography revealed terminal post-communical occlusion of both internal carotid arteries (Panel D), a dominant right vertebral artery (Panel E) and net-like collaterals typical for Moya–Moya disease (Panels D and E). We hypothesize that bilateral posterior stroke in this patient is because of trauma-related transient insufficiency of the posterior circulation in the presence of diminished collateral blood flow from the circle of Willis because of Moya–Moya disease. Myocardial ischaemia as a result of obstruction of the proximal right coronary artery in the absence of other coronary stenoses may also be related to Moya–Moya disease. Coronary artery obstruction and coronary spasm have been observed in the presence of Moya–Moya disease, suggesting an underlying systemic arterial disorder. Moya–Moya disease is characterized by bilateral stenosis or occlusion of the terminal portions of the internal carotid arteries accompanied by net-like collateral vessels in the basal ganglia. Its aetiology is still unknown.

Panel A. Initial cerebral CT scan ruling out intracranial bleeding, but showing posterior swelling.
Panel B. Angiogram of the right coronary artery showing a single, >90% diameter stenosis in segment 1.
Panel C. Cerebral CT scan on the day after admission showing large bilateral posterior infarction of the brain.
Panel D. Cerebral angiogram (anterior–posterior projection) after injection of contrast agent in the right internal carotid artery. The big arrow points to the occlusion of the post-communical internal carotid artery. The smaller arrows point to the net-like collaterals typical for Moya–Moya disease.
Panel E. Cerebral angiogram obtained (anterior–posterior projection) after injection of contrast agent in the dominant right vertebral artery. Cerebral perfusion is largely dependent on the posterior circulation. Black arrows are pointing to the net-like collaterals.

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