

## **Acute ischemic stroke in moyamoya disease caused by thyrotoxicosis: A case report**

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**Background & Significance:** Moyamoya disease is a progressive cerebrovascular disorder of unknown cause, characterized by bilateral stenosis or occlusion of the arteries around the circle of Willis with prominent arterial collateral circulation. Moyamoya syndrome has rarely been reported in association with Graves` disease. Several studies suggest that an ischemic stroke might have occurred in patients with thyrotoxicosis. **Case:** A 41-year-old woman presented with dysarthria and aphagia. She also had episodic transient right arm weakness. Brain magnetic resonance(MR) imaging revealed an acute infarction in the territories of left anterior cerebral artery and middle cerebral artery. MR angiography showed total occlusion of both internal carotid arteries, anterior cerebral arteries and middle cerebral arteries. Thyroid function tests revealed thyrotoxicosis, with a TSH level of 0.01 uIU/mL, a T3 level of 523 ng/dL and a free T4 level of 9.08 ng/dL. After antithyroid medication, the patient`s symptoms improved. **Conclusion:** Thyrotoxicosis due to Graves` disease is harmful to arterial walls because it may alter vascular reactivity and frequently provoked cerebral vasospasm. Therefore, thyrotoxicosis can be a cause of ischemic stroke and aggravate neurologic symptoms in the patient with Moyamoya disease.