The aetiology of Hashimoto's encephalopathy is still unknown. A 52-year-old woman with so far unspecific thyroid disorder presented with acute onset of right-sided sensory loss and visual disturbances. The neurological examination revealed a right upper quadrant anopsia and subtle right-sided sensory loss and weakness. The cranial MRI showed a left-sided cerebral infarction. MR angiography demonstrated a stenosis of the proximal segment of the left posterior cerebral artery, which was confirmed by conventional catheter angiography. The patient had no cardiovascular risk factors, no signs of systemic vasculitis, and no thromboembolic disorder. Thyroid function tests showed a subclinical hypothyroidism with plasma TSH level of 12.0 mU/ml, and thyroid antibodies were markedly elevated (hTG-AB 3390 U/ml, TPO-AB> 8000 U/ml). Typical features of Hashimoto's disease were demonstrated by ultrasound and scintigraphic examination of the thyroid gland. To the best of our knowledge, this is the first description of Hashimoto encephalopathy with localised vasculitis of the posterior cerebral arteries and left posterior infarction. It could be shown that the MR angiogram is a feasible tool to demonstrate regression of the vasculitis under glucocorticoid therapy.