A 75-year-old man was referred to our hospital following a generalized seizure. Brain MRI showed high-intensity areas (HIAs) in the right temporo-occipital lobes, right thalamus (Picture A) and left cerebellar hemisphere (Picture B) on diffusion-weighted images (DWI). Magnetic resonance angiography (MRA) findings, which were obtained simultaneously (Picture C), were compared with the MRA findings of an examination that had been performed two years previously for a health check-up (Picture D). The comparison revealed that the cortical branches of the right middle cerebral artery were depicted more numerously, whereas those of the left side were depicted less numerously.

Although rare, crossed cerebellar diaschisis may occur after a prolonged generalized seizure (1). Ipsilateral cortical HIA coupled with contralateral cerebellar HIA is a characteristic finding on DWI. The HIA corresponds to the hyperperfused areas on cerebral blood flow studies (2), reflecting a high metabolic demand around the epileptic focus. These MRA findings suggest that such seizure-induced hyperperfusion may be a consequence of relative vasodilation/vasoconstriction of the cortical arteries.
The authors state that they have no Conflict of Interest (COI).

References