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Recurrent Intracerebral Hemorrhage after Exercise in a Young Patient Presenting with Sporadic Cerebral Amyloid Angiopathy in a Young Patient

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Abstract

Cerebral Amyloid Angiopathy (CAA) is one of the significant causes of lobar intracerebral hemorrhage (ICH) mainly among elderly people. Sporadic cases of CAA have been linked to genetic polymorphisms with an increased risk of disease, an earlier presentation, and an accelerated pathology [1]. Here, we present a patient with no significant risk factors who had a recurrent intracerebral hemorrhage secondary to CAA probably induced by exercise.

Case

A 55-year-old woman was presented with sudden onset of headache, expressive aphasia, and right upper and lower extremity weakness. She started having these symptoms while doing her regular exercise on a treadmill. Her past medical history was significant for a left lobar intracerebral hemorrhage (ICH) that happened 10 years prior, tobacco use, occasional wine use, and dyslipidemia. The patient was only taking multivitamins daily. Her initial blood pressure was 121/73. Neurological exam was significant for receptive aphasia, right homonymous hemianopia, and right-sided facial asymmetry. Urine toxicology screen and ethanol was negative. She underwent CT scan of the head, which was significant for a hemorrhage in the left temporal lobe as shown in Figure 1(A). Her ICH score was 0. Magnetic resonance (MR) imaging of the brain, MR angiogram of the head and neck, and cerebral angiogram did not show any vascular malformation [Figure 1(B), (C), and (D)]. She later underwent left craniotomy for hematoma evacuation. A brain biopsy was performed which showed amyloid plaques as shown in the figure. Her family history was unremarkable for cerebral amyloid angiopathy (CAA). Two weeks after discharge, she was presented with another episode of altered mental status and expressive aphasia. She was later discharged and was being followed up in the Neurology Clinic where she was found to remain stable. Cerebral amyloid angiopathy is typically not considered in the differential diagnosis of lobar ICH among younger patients. Therefore, we predict that sporadic CAA is an underdiagnosed entity

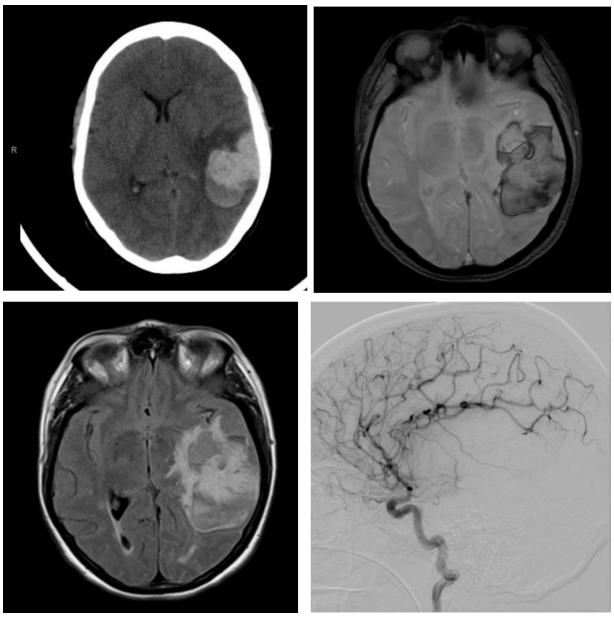

Figure 1. (A) Non-contrast CT head showing hemorrhage in the left temporal lobe on the first admission. (B) MRI of the brain with and without contrast including the GRE sequence. (C) T 2 Flair showing the hemorrhage in the left temporal lobe on the first admission. (D) Cerebral angiogram showing no vascular malformation in the left hemisphere.

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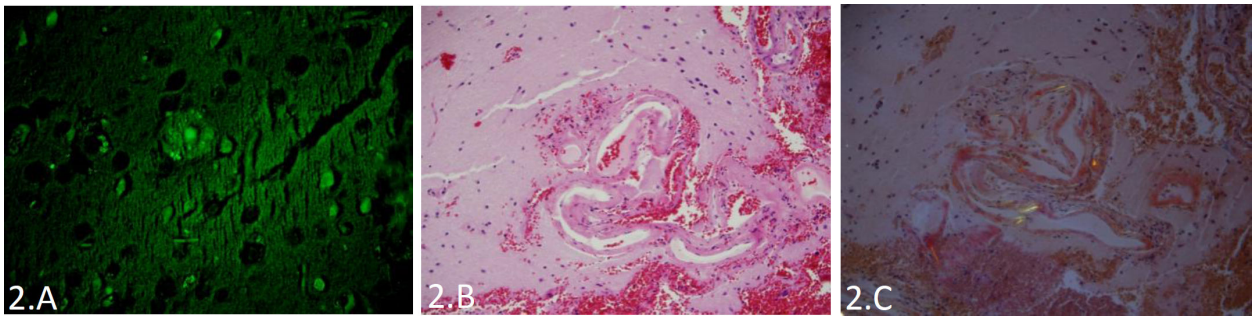

Figure 2. (A) Brain biopsy of the amyloid plaque thioflavin. (B) Brain biopsy with H&E. (C) Congo red stain.

among younger adults with lobar ICH. We recommend that in a young patient with recurrent spontaneous intracerebral hemorrhages, diagnosis of cerebral amyloid angiopathy should be considered once vascular malformations and other causes have been ruled out. In our case, however, the patient suffered from three episodes of ICH in the same location with negative family history of amyloid angiopathy. It is interesting to point out that increased physical activity can be one of the causes of a spontaneous intracerebral hemorrhage in the setting of amyloid angiopathy [2].

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