Cognitive Neuroscience 2018: Cerebral amyloid angiopathy is the cause of spontaneous recurrent blood diseases in the brain

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Abstract

Relevance. Cerebral amyloid angiopathy (CAA) is a little-known, poorly lifetime diagnosed and virtually non-curable cerebrovascular disease characterized by the deposition of amyloid in small arteries, arterioles, capillaries and venules of the brain, which is most often found in the elderly (over 55 years) and senile age. The incidence of symptomatic lobar hemorrhage in patients older than 70 years is 30-40 per 100 000 population. CAA causes 56-74% of lobar hemorrhages. Sporadic amyloid angiopathy is the cause of recurrent cerebral hemorrhages and cognitive impairment in the elderly. At the present time, with the help of magnetic resonance (MR) spectroscopy of the brain, it is possible to detect the deposition of amyloid protein in the vessels of the brain. Materials and methods of research. 11 patients with CAA (6 men and 5 women), aged 58 to 78 years, were examined. 7 patients suffer from hypertension for several years, the remaining 4 patients had no hypertensive disease. The criterion for selecting patients for inclusion in the study was the presence of a hemorrhage in the brain CT located in the frontal, parietal and parieto-occipital areas of the brain. The diagnosis of CAA was based on the Boston criteria by Greenberg - "possible". All patients underwent brain CT. In all patients with brain CT, intracerebral hematoma was detected. In 3 patients it is located in the frontal region, in 5 patients in the parietal region and in 3 patients in the parieto-occipital region of the brain. 5 patients from 11 patients were hospitalized with a second hemorrhage, and in 1 patient a hemorrhagic stroke was detected a third time. In 2 patients during the stay in the hospital there was a repeated bleeding in the brain. 8 of 11 patients were hospitalized by a neurologist in the neuroreanimation department, and the remaining 3 patients were hospitalized in the department of emergency neurology. 1 patient was subsequently transferred to the neuroreanimation department. Six patients were discharged (2 patients with minor improvements, 4 without neurological improvement) home. In 5 cases, a lethal outcome was found, which is 45.4%.Conclusions. The CAA is practically non-curable and critical, which often ends in a lethal (in our case, 45.4%) outcome. Proceeding from this, patients with CAA in the sequel strictly exclude any physical exertion and it is necessary to limit the increase in intrathoracic (cough) and abdominal pressure (straining). Patients with intracerebral hemorrhages and suspicion of CAA recommend magnetic resonance imaging (MRI) in the gradient echo mode (for detecting small and petechial hemorrhages) and magnetic resonance (MR) brain spectroscopy (for detecting amyloid protein).

References

1.Viswanathan A, Greenberg SM. Cerebral amyloid angiopathy in the elderly. Ann Neurol. 2011 Dec;70(6):871-80.
2.Charidimou A, Gang Q, Werring DJ. Sporadic cerebral amyloid angiopathy revisited: recent insights into pathophysiology and clinical spectrum. J Neurol Neurosurg Psychiatry. 2012 Feb;83(2):124-37.
3.Kinnecom C, Lev MH, Wendell L, Smith EE, Rosand J, Frosch MP, Greenberg SM. Course of cerebral amyloid angiopathy-related inflammation. Neurology. 2007 Apr 24;68(17):1411-6.
4.Rosand J, Muzikansky A, Kumar A, Wisco JJ, Smith EE, Betensky RA, Greenberg SM. Spatial clustering of hemorrhages in probable cerebral amyloid angiopathy. Ann Neurol. 2005 Sep;58(3):459-62.
5.Arvanitakis Z, Leurgans SE, Wang Z, Wilson RS, Bennett DA, Schneider JA. Cerebral amyloid angiopathy pathology and cognitive domains in older persons. Ann Neurol. 2011 Feb;69(2):320-7.

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