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Cerebrovascular hemodynamics and vascular dementia**Yuhong Man, Gang Yao and Ping Xu**

The Second Hospital of Jilin University, China

Statement of the Problem: Recent evidence suggests that vascular risk factors and neurovascular dysfunction may be related to dementia. This study was performed to evaluate the association between hemodynamic markers and the cognitive impairment in patients with Vascular Dementia (VaD).

Method: A total of 65 VD participants were included. Using Transcranial Doppler (TCD) ultrasonography, Cerebrovascular Reactivity (CVR) was evaluated with the Mean blood Flow Velocity (MFV), Pulsatility Index (PI) and Resistance Index (RI) of the middle cerebral artery. Mini-Mental State Examination (MMSE) and magnetic resonance imaging of the brain was performed to evaluate cognitive impairment and cerebral small vessel disease. All patients were interviewed for 12 follow-up months.

Findings: Adjusting for covariates such as age, education, vascular risks, higher PI were observed in patients. The changes of MMSE score over 12 months were closely related to higher RI and PI values. Multivariate logistic regression showed that abnormal baseline PI value could predict a conversion from mild to severe of VaD ($P < 0.001$).

Conclusion: Our findings may be suggestive of an underlying relationship between hemodynamic changes and VaD. There is a close association between hemodynamic markers represented by TCD and cognitive decline, supporting the clinical value of hemodynamic markers in predicting VaD patients from mild to severe.

Biography

Yuhong Man has her expertise in headache, cerebral disease and sleep disorders. Her research is in the basics and clinical of the acute and chronic headache, such as migraine and tension type headache. She also has 14 years' experience in neurology about cerebral disease and sleep disorders, teaching and administration both in hospital and education institutions in Jilin University.

myh1996@163.com

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