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Analysis of hemodynamic changes in early stage after carotid stenting by transcranial Doppler—a preliminary study

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ABSTRACT

Background: Cerebral hyperperfusion syndrome (CHS) or hemodynamic instability(HI), caused by the hemodynamic changes, often occur within 6 hours after carotid artery stenting (CAS) The post-procedure cerebral hemodynamic change in the early phase, less than 6 hours after CAS, is largely unknown. In this study we evaluated the cerebral hemodynamic changes in patients after CAS using transcranial Doppler (TCD).

Methods: From January, 2013 to July, 2014, medical records of 61 patients underwent CAS were reviewed retrospectively. Among them, 44 patients had TCD examination before CAS,1-2 hours and 3-4 hours after CAS. In the TCD examination, middle cerebral artery (MCA) peak systolic velocity (PSV) and pulsatility index (PI) on the ipsilateral and contralateral sides were measured. Blood pressure (BP), MCA PSV, and PI data were collected and analyzed