VENOUS OBSTRUCTION IS OF PRIMARY IMPORTANCE IN MS PATHOGENESIS

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From the time of first histologic descriptions of MS in 19-th centaury is known that inflammation-associated lesions in CNS were distributed around veins. In the last years, it has been suggested by Zamboni who coined the term chronic cerebrospinal venous insufficiency (CCSVI), that abnormal venous drainage of CNS due to stenosis, malformation, valve abnormalities of internal jugular and azygous veins, and refluxing venous flow, may play pathogenetic role in MS. CCSVI could result in increased permeability of BBB barrier, local iron deposition, and may be responsible for initiation and progression of inflammatory and neurodegenerative processes. Venous insufficiency and reflux, are detected by ultrasound and transcranial Doppler. Selective venography of the internal jugular and azygous veins are used to identify stenoses, and where stenoses are found the veins are dilated with a standard angioplasty balloon.

The concept of CCSVI suggests that venous drainage from CNS is frequently impaired in MS patients, but not in healthy control subjects. Since 2009, CCSVI is being investigated by several groups who report quite different and contradictory results. Only results of open-label studies have been published so far. All these reports demonstrate the safety of procedures and the positive effects of that treatment. Majority of MS patients treated for CCSVI by balloon angioplasty experienced immediate temporary improvements in subjective complains of fatigue, cognitive impairment, improvements in vision, and in bladder function.

More evidence is needed to establish the association of CCSVI and MS. Potential usefulness of endovascular interventions for CCSVI in patients with MS should be established in blinded, randomized, controlled clinical trials that will asses the benefit of that procedure according to clinical, MRI and QOL outcomes.