multiple sclerosis
international federation

MSIF CCSVI Research Bulletin, 03 March 2011

New scientific publications:

Research papers:

Mayer CA, Pfeilschifter W, Lorenz MW, Nedelmann M, Bechmann I, Steinmetz H, Ziemann U. **"The perfect crime? CCSVI not leaving a trace in MS."** *J Neurol Neurosurg Psychiatry.* 2011 Feb 4. [Epub ahead of print] DOI: 10.1136/jnnp.2010.231613

Abstract:

Background Multiple sclerosis (MS) is a chronic, inflammatory demyelinating disease of the central nervous system, believed to be triggered by an autoimmune reaction to myelin. Recently, a fundamentally different pathomechanism termed 'chronic cerebrospinal venous insufficiency' (CCSVI) was proposed, provoking significant attention in the media and scientific community. Methods Twenty MS patients (mean age 42.2±13.3 years; median Extended Disability Status Scale 3.0, range 0-6.5) were compared with 20 healthy controls. Extra- and intracranial venous flow direction was assessed by colour-coded duplex sonography, and extracranial venous cross-sectional area (VCSA) of the internal jugular and vertebral veins (IJV/VV) was measured in B-mode to assess the five previously proposed CCSVI criteria. IJV-VCSA≤0.3 cm(2) indicated 'stenosis,' and IJV-VCSA decrease from supine to upright position 'reverted postural control.' The sonographer, data analyser and statistician were blinded to the patient/control status of the participants. Results No participant showed retrograde flow of cervical or intracranial veins. IJV-VCSA≤0.3 cm(2) was found in 13 MS patients versus 16 controls (p=0.48). A decrease in IJV-VCSA from supine to upright position was observed in all participants, but this denotes a physiological finding. No MS patient and one control had undetectable IJV flow despite deep inspiration (p=0.49). Only one healthy control and no MS patients fulfilled at least two criteria for CCSVI. Conclusions This triple-blinded extra- and transcranial duplex sonographic assessment of cervical and cerebral veins does not provide supportive evidence for the presence of CCSVI in MS patients. The findings cast serious doubt on the concept of CCSVI in MS.

PMID: 21296899

Weinstock-Guttman B, Zivadinov R, Cutter G, Tamaño-Blanco M, Marr K, Badgett D, Carl E, Elfadil M, Kennedy C, Benedict RH, Ramanathan M. **"Chronic Cerebrospinal Vascular Insufficiency Is Not Associated with HLA DRB1*1501 Status in Multiple Sclerosis Patients."** *PLoS One.* 2011 Feb 14;6(2):e16802. DOI:10.1371/journal.pone.0016802

Abstract:

BACKGROUND: Chronic cerebrospinal venous insufficiency (CCSVI) was described as a vascular condition characterized by anomalies of veins outside the skull was reported to be associated with multiple sclerosis (MS). The objective was to assess the associations between HLA DRB1*1501 status and the occurrence of CCSVI in MS patients.

METHODOLOGY/PRINCIPAL FINDINGS: This study included 423 of 499 subjects enrolled in the Combined Transcranial and Extracranial Venous Doppler Evaluation (CTEVD) study. The HLA DRB1*1501 status was obtained in 268 MS patients and 155 controls by genotyping rs3135005, a SNP associated with DRB1*1501 status. All subjects underwent a clinical examination and Doppler scan of the head and neck. The frequency of CCSVI was higher (OR=4.52, p<0.001) in the MS group 56.0% vs. 21.9% in the controls group and also higher in the progressive MS group 69.8% vs. 49.5% in the non-progressive MS group. The 51.9% frequency of HLA DRB1*1501 positivity (HLA(+)) in MS was higher compared (OR=2.33, p<0.001) to 31.6% to controls. The HLA(+) frequency in the non-progressive (51.6%) and progressive MS groups (52.3%) was similar. The frequency of HLA(+) CCSVI(+) was 40.7% in progressive MS, 27.5% in non-progressive MS and 8.4% in controls. The presence of CCSVI was independent of HLA DRB1*1501 status in MS patients.

CONCLUSIONS/SIGNIFICANCE: The lack of strong associations of CCSVI with HLA DRB1*1501 suggests that the role of the underlying associations of CCSVI in MS should be interpreted with caution. Further longitudinal studies should determine whether interactions between these factors can contribute to disease progression in MS.

PMID: 21340025

Editorial

Filippi M, Rocca MA, Barkhof F, Bakshi R, Fazekas F, Khan O, Pelletier D, Rovira A, Simon J**."Multiple Sclerosis and Chronic Cerebrospinal Venous Insufficiency: The Neuroimaging Perspective."** *AJNR Am J Neuroradiol.* 2011 Feb 3. [Epub ahead of print] DOI:10.3174/ajnr.A2348

PMID: 21292801