No association between conventional brain MR imaging and chronic cerebrospinal venous insufficiency in multiple sclerosis.

BACKGROUND AND PURPOSE: CCSVI has been reported to occur at high frequency in MS. Its significance in relation to MR imaging parameters also needs to be determined, both in patients with MS and HCs. Therefore, this study determined the associations of CCSVI and conventional MR imaging outcomes in patients with MS and in HCs.

MATERIALS AND METHODS: T2, T1, and gadolinium lesion number, LV, and brain atrophy were assessed on 3T MR imaging in 301 subjects, of whom 162 had RRMS, 66 had secondary-progressive MS subtype, and 73 were HCs. CCSVI was assessed using extracranial and transcranial Doppler evaluation. The MR imaging measure differences were explored with 27 borderline cases for CCSVI, added to both the negative and positive CCSVI groups to assess sensitivity of the results of these cases.

RESULTS: No significant differences between subjects with and without CCSVI were found in any of the individual diagnostic subgroups or MS disease subtypes for lesion burden and atrophy measures, independently of the CCSVI classification criteria used, except for a trend for higher T2 lesion number (irrespective of how borderline cases were classified) and lower brain volume (when borderline cases were included in
the positive group) in patients with RRMS with CCSVI. No CCSVI or MR imaging differences were found between 26 HCs with, or 47 without, a familial relationship.

**CONCLUSIONS:** CCSVI is not associated with more severe lesion burden or brain atrophy in patients with MS or in HCs.

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