Re. ‘Doppler Ultrasound Examination of Multiple Sclerosis Patients and Control Participants: Inter-observer Agreement and Association with Disease’

We read the article of Laukontaus et al. with great interest. This study, once again, confirms the poor inter-observer agreement between ultrasound-skilled operators but without specific training for CCSVI investigation. It has been demonstrated already that agreement significantly increases when the operators have attended specific training and complete their own learning curve.\(^2\)\(^-\)\(^4\) However, a good agreement has been reported limitedly to criterion 3 (CSA <0.3 cm\(^2\)), finding it positive in 45% of the control participants, in 65% of multiple sclerosis (MS) patients with early diagnosis (\(p < .09\)), and in 70% of MS patients with late diagnosis (\(p < .022\)). These data confirm significant differences between MS patients and healthy control participants.\(^4\)

Furthermore, the authors did not investigate the 3b and 2 criteria, recommended in the Consensus approved by seven Vascular International Scientific Societies.\(^5\) To the contrary, the authors followed the ESNCH protocol, always negative when applied for CCSVI, and refused to apply a protocol specifically designed to improve reproducibility and comparison among studies.\(^4\),\(^5\)

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Re. ‘Doppler Ultrasound Examination of Multiple Sclerosis Patients and Control Participants: Inter-observer Agreement and Association with Disease’

We would like to comment on the recently published study ‘Doppler Ultrasound Examination of Multiple Sclerosis Patients and Control Participants: Inter-observer Agreement and Association with Disease’ by Laukontaus et al.\(^1\)

In our opinion this study has some limitations, making the conclusion questionable. Namely, data are missing on training of investigators in diagnosis of chronic cerebrospinal venous insufficiency (CCSVI).

Diagnosis of extracranial venous system pathologies, especially in patients with multiple sclerosis (MS), is demanding, and without specific training this examination is very difficult. Likewise, the investigators used different ultrasound equipment with different linear probes that could influence final outcome, bearing in mind standard error in measurement with contributing human factor.

The authors agreed on CCSVI criterion 3 (CSA \(\leq 0.3\) cm\(^2\)), which was seen in 45% of control participants compared with 65% of MS \(\leq 2\) patients (\(p = .09\)) and 70% of the MS \(> 10\) patients (\(p = .022\)), and mean CSA measurement, which was 0.52 \(\pm 0.34\) cm\(^2\) in control participants against 0.37 \(\pm 0.32\) cm\(^2\) MS \(\leq 2\) group (\(p = .007\)) and 0.36 \(\pm 0.29\) cm\(^2\) MS \(> 10\) group (\(p = .001\)). These findings indicate that extracranial venous stenosis could be more common in patients suffering from MS than in healthy control participants, regardless of disagreement in other parameters, making presented ultrasound findings appropriate.

Besides ultrasound, multidetector CT (MDCT) or catheter venography and gradient pressure measurement should be done before final diagnosis of CCSVI can be made.

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