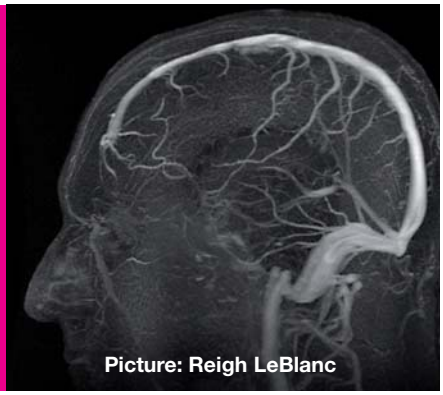
Behind the headlines - CCSVI


Picture: Reigh LeBlanc

What's the idea?

Chronic cerebro-spinal venous insufficiency (CCSVI) is a theory proposed by Professor Paolo Zamboni, a vascular surgeon at the University of Ferrara in Italy. He suggests that an abnormal narrowing in veins taking blood from the brain causes a build up of iron which crosses the blood-brain barrier damaging cells in the central nervous system.

What's happened so far?

Prof Zamboni's study found CCSVI in 95% of the 65 participants with MS, but not in a control group of healthy people and people with other neurological conditions.[1]

The first study to test this theory, based at the University of Buffalo, released results in February 2010. Scans of 500 people, including 280 with MS, showed CCSVI in 56.4% of the people with MS but also in 22.4% of the healthy controls.[2] Full results were reported at the American Academy of Neurology meeting in April and further phases are ongoing.

Whilst the prevalence of CCSVI is not as clear cut as in the original findings, the implications of the higher prevalence in people with MS requires further exploration. An international panel of neurologists, vascular surgeons and radiographers has been formed to review applications for funding for further studies.

Prof Zamboni has proposed that CCSVI can be treated with surgery. His review of 35 people with relapsing remitting MS found that 50% had no relapses in the year following surgery, compared to 27% in the period before undergoing the procedure. Results from 30 people with progressive forms of MS showed no significant change in cognitive and motor function.[3]

What do the experts say?

Prof Neil Scolding, Burden Professor of Clinical Neurosciences, Bristol and a trustee of the MS Trust, said, "The tissue changes seen under a microscope in MS do not suggest diseased veins and the effects of immune treatments would also be difficult to explain on this basis. Nonetheless it is quite right that further scientific testing is done to pursue these claims carefully."

Dr Robert Zivadinov, leader of the Buffalo study, said, "We are three to five years away from the possible treatment options. Even with Prof Zamboni's paper there was very little improvement in patients and it calls for caution - a reasonable approach."[4]

Is treatment available?

Some centres have begun to offer scanning and surgical treatment for CCSVI. Anecdotally, there are indications of initial improvements but in a number of cases symptoms and CCSVI seem to return and some people have had further operations.

What are the risks of treatment?

In March, Stanford Medical Center suspended surgery after two people developed serious complications. A death from a brain haemorrhage, whilst not directly linked to the surgery, led to concerns about adequate evaluation of risks. A second person required open heart surgery after a jugular vein stent dislodged.

Although these are the first complications to be reported, Dr Jeffrey Dunn, associate director of Stanford's MS Center, warned, "Patients remain insufficiently aware of the active and serious risks."[4]

What's the MS Trust view?

CCSVI needs further research and we would urge caution when considering investing in treatment that is based on as yet incomplete evidence. However, undergoing any treatment has to be a matter of personal choice, having weighed up the benefits and risks. If considering surgery, ask key questions such as, what will the surgery achieve and how can this be demonstrated; what is the experience of the surgeon; will more operations be necessary; and what level of support is available should there be complications?

References
1. Zamboni P, et al.
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4. Experimental multiple sclerosis vascular shunting procedure halted at Stanford.
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