Reviewer's report

Title: An anatomy-based lumped parameter model of cerebrospinal venous circulation: can an extracranial anatomical change impact intracranial hemodynamics?

Version: 3 Date: 10 March 2015

Reviewer: Marian Simka

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Minor Essential Revisions

1. In addition to the references: 21, 24 and 25, there is also paper providing a model of outflow from the brain in the settings of physiology and in the settings of CCSVI: M Zaniewski, M Simka. Biophysics of venous return from the brain from the perspective of the pathophysiology of chronic cerebrospinal venous insufficiency. Reviews Recent Clinical Trials 2012; 7 (2), 88-92

2. All calculations were performed under the assumption that the flow was linear, and the blood in a Newtonian fluid. This in an approximation that in the case of turbulent flow is no longer valid; please look at the attached paper, especially at the discussion on a possibility of development of the so-called Lagrangian coherent structures in the settings of CCSVI.


The authors should add a brief discussion on these issues

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests