

## Peer Review File

**Article information:** <https://dx.doi.org/10.21037/med-23-15>

### Review Comments

#### Reviewer A

Well written. Extensively covered the venous drainage of the brain and anatomy and function of the great veins of the neck and upper mediastinum and also discussed explicitly about the treatment options. It will add value to the current literature.

**Reply:** Thank you! No changes needed.

#### Reviewer B

The content of this manuscript is overlapping with many existing reviews and the information presented is not sufficient to justify a MEDIASTINUM paper. Additionally, this review is not balanced, without the author's own work.

**Reply:** No changes made.

#### Reviewer C

This is an excellent article dealing with a poorly understood area of the venous circulation. However, I recommend that you insert additional description of the normal pattern of venous outflow of the brain, so that readers of this article are informed of some important cerebral venous outflow pathways. This was described in your 2nd reference. (Valdueza et al)

The internal jugular veins (IJVs), although essential in the supine position, only play a minor role in the venous drainage of the brain in the erect position as they act as Starling resistors. (1- Tobinic). In the erect position the predominant venous channel is via the valveless cerebrospinal venous system consisting of the vertebral veins, internal vertebral venous plexus and external vertebral venous plexus. In the erect position the IJVs only provide around 10% of the outflow. However, they do come

into play if there is obstruction in the cerebrospinal system where they can act as collateral circulation. This needs to be understood by the reader.

In addition, outflow obstructions and the subsequent development of collateral channels can be relatively easily assessed using the duplex ultrasound assessment of the neck veins described by Thibault and Lewis (2) and updated recently by Thibault.(3).

1. Tobinick E, Vega CP. The cerebrospinal venous system: Anatomy, physiology, and clinical implications. *MedGenMed*. 2006;8(1):53
2. Thibault P, Lewis W, Niblett S. Objective duplex ultrasound examination of the extracranial circulation in patients undergoing venoplasty of internal jugular vein stenosis: A pilot study. *Phlebology*. 2015;30:98-104
3. Thibault PK: Chronic Cerebrospinal Venous Obstruction: Anatomy, Clinical Presentation, Diagnosis, and Treatment of Chronic Infective Cerebrospinal Venulitis. IN “ Cerebral Circulation - Updates on Models, Diagnostics and Treatments of Related Diseases, InTech Open, 2022

**Reply:** Thank you for the detailed remarks. Changes made

Changes in the text: 2 new references (#4 and #8). First change – page 4, starting from line 77 – 83. Second addition is on page 5, line 104.