

Surgical interventions in CSF dysregulation

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Background: Cerebrospinal fluid (CSF) is a clear fluid circulating around all the brain structures which plays a homeostatic role in the brain. Also, it helps the brain via taking solutes out of the brain. This normal circulation may interrupt by some pathologies making the patients symptomatic neurologically. Here I aim to discuss some of these situations from surgical point of view.

Methods: In this presentation, I evaluated literature including google scholar, PubMed, Ovid, and Embase databases to determinate all aspects of the CSF dynamic abnormalities.

Results: There are several pathologies resulted from abnormal CSF content or circulation. The most important ones are intracranial CSF overload and underload which may need to surgical intervention to address them. CSF shunting whether temporary or permanent one is the straightforward approach to improve the CSF flow in the cranium. On the other hand, some situations will present as intracranial hypotension that may need to correct it.

Conclusion: According to the existing literature, the CSF shunting via ventriculoperitoneal or lumboperitoneal shunting is most available and reliable method for resolving the CSF overload. Also, some cases with intracranial hypotension will treat by a kind of operation including, implementation of the epidural patch or hematoma evacuation in case of subdural hematoma secondary to negative pressure in the cranium.