



Treatment and Management of Hydrocephalus

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DESCRIPTION

A broad definition of hydrocephalus is a disturbance of Cerebrospinal Fluid (CSF) formation, flow, or absorption that results in an increase in the volume of this fluid in the brain. The patient's age, the cause of the hydrocephalus, the location of the obstruction, its duration, and how quickly it started all have an impact on the clinical features of the condition. Infant symptoms include vomiting, poor feeding, irritability, and decreased activity [1].

In cases of hydrocephalus, medical treatment is used to postpone surgery. Premature infants with post hemorrhagic hydrocephalus may try it (in the absence of acute hydrocephalus). In the interim, normal CSF absorption may resume on its own.

In the long run, medical treatment for chronic hydrocephalus is ineffective. Because it could have negative effects on metabolism, it should only be used temporarily [2].

There are several ways that medications can impact CSF dynamics:

- Acetazolamide and furosemide reduce the choroid plexus's ability to secrete CSF.
- CSF reabsorption is increased by isosorbide (effectiveness is questionable).
- The preferred therapeutic approach is surgery.

In cases of hydrocephalus following intraventricular haemorrhage, additional Lobar Punctures (LPs) may be necessary because the condition sometimes resolves on its own. Spontaneous resorption is unlikely to happen if reabsorption does not start up again when the CSF's protein content is under 100 mg/dL. Only in cases of communicating hydrocephalus can LPs be done [3].

Shunting alternatives include the following:

When CSF production is excessive, choroid plexectomy or choroid plexus coagulation may be helpful.

Except in cases of tumours, opening a stenosis aqueduct has a higher rate of morbidity and a lower rate of success than shunting.

However, membranous and short-segment sylvian aqueduct stenosis is now successfully treated with cerebral aqueductoplasty, which has recently grown in popularity. It can be done endoscopically through the suboccipital foramen magnum trans-fourth ventricle approach or coronally.

When a tumour is the root of the problem, removal cures hydrocephalus in 80% of cases.

A different pathway for CSF to reach the subarachnoid space has been established by endoscopic fenestration of the third ventricle's floor. Although it shouldn't be used in cases of communicating hydrocephalus, it is particularly effective in cases of aqueductal stenosis [4-6].

Medical care is used as a temporary measure to put off surgical intervention but is ineffective in the long-term management of chronic hydrocephalus. Premature infants with post hemorrhagic hydrocephalus may try medical treatment (in the absence of acute hydrocephalus, repeated taps are done not only to allow for potential resolution. In the interim, normal CSF absorption may resume on its own. Medical treatments for hydrocephalus, such as carbonic anhydrase inhibitors like acetazolamide and loop diuretics like furosemide, are debatable and should only be used as temporary solutions.

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