Shunt tap test

Once there is a suspicion of a shunt dysfunction, a CT scan or MRI scan is used to compare the ventricular size and show the most definitive signs of a malfunction. This is only useful if a previous scan can be used for comparison. In cases where the symptoms of a shunt malfunction are present but the scanning shows no evidence, the next step involves a shunt tap test.

A shunt tap is performed after washing the skin over the shunt with a sterile antibacterial solution. After placing a small needle through the skin and into the shunt, the spinal fluid pressure can be measured. Fluid is withdrawn to test for infection and to see if symptoms improve temporarily.

Significantly greater cerebral regional tissue oxygenation (rSO2) changes occur for distal shunt malfunction versus proximal malfunction after shunt tap, indicating its potential as an adjunct tool for detecting shunt malfunction type [1].

1)
Abramo TJ, Zhou C, Estrada C, Meredith M, Miller R, Pearson M, Tulipan N, Williams A. Innovative Application of Cerebral rSO2 Monitoring During Shunt Tap in Pediatric Ventricular Malfunctioning Shunts. Pediatr Emerg Care. 2014 Jun 4. [Epub ahead of print] PubMed PMID: 24901951.