Intracranial hypertension diagnosis

An MRI or CT scan of the head can usually determine the cause of increased intracranial pressure and confirm the diagnosis.

Intracranial pressure may be measured during a spinal tap (lumbar puncture). It can also be measured directly by using a device that is drilled through the skull or a tube (catheter) that is inserted into a hollow area in the brain called the ventricle.

The diagnosis of raised intracranial pressure (ICP) is important in many critically ill patients. The optic nerve sheath is contiguous with the subarachnoid space; thus, an increase in ICP results in a corresponding increase in the optic nerve sheath diameter.

Ocular sonography shows good diagnostic test accuracy for detecting raised ICP compared to CT: specifically, high sensitivity for ruling out raised ICP in a low-risk group and high specificity for ruling in raised ICP in a high-risk group. This noninvasive point-of-care method could lead to rapid interventions for raised ICP, assist centers without CT, and monitor patients during transport or as part of a protocol to reduce CT use [1)].

Intracranial pressure monitoring

see Intracranial pressure monitoring.

Noninvasive intracranial pressure monitoring

see Noninvasive intracranial pressure monitoring.

see Optic nerve sheath diameter ultrasonography.

1)
Ohle R, McIsaac SM, Woo MY, Perry JJ. Sonography of the Optic Nerve Sheath Diameter for Detection of Raised Intracranial Pressure Compared to Computed Tomography: A Systematic Review and Meta-analysis. J Ultrasound Med. 2015 Jul;34(7):1285-94. doi: 10.7863/ultra.34.7.1285. Review. PubMed PMID: 26112632.