

Normal Pressure Hydrocephalus

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One of a series of fact sheets produced by the Family Support Service

DEFINITION

Normal pressure hydrocephalus is a brain disorder caused by blockage of the flow of cerebrospinal fluid with enlargement of the ventricles within the brain and compression of the brain tissue. It may result in loss of any or all brain functions controlled by an area of the brain.

CAUSES, INCIDENCE AND RISK FACTORS

Normal pressure hydrocephalus (NPH) may be a reversible or treatable disorder. It is thought to account for about 5% of all dementias. The incidence is 1 out of 100,000 people and can occur at any age. The onset of symptoms is often gradual. NPH is a form of hydrocephalus. It may occur without identifiable cause or it may be caused by any condition where there is an obstruction to the flow of cerebrospinal fluid (CSF). The CSF is produced normally but not reabsorbed. The ventricles of the brain enlarge to accommodate the increased volume of CSF so the pressure of fluid when measured by lumbar puncture remains normal. This is in contrast to the usual type of obstructive hydrocephalus where the CSF pressure rises giving symptoms of raised intracranial pressure (ICP), namely headache, drowsiness, vomiting and double vision. Brain tissue is damaged or destroyed because of compression of the fluid filled ventricles. If there is an identifiable cause and the cause can be corrected, the symptoms may reverse or at least stop getting worse. If there is no identifiable cause the disorder is often progressive.

Risk factors include disorders that may cause obstruction of the flow of CSF such as closed head injury, surgery on the brain, meningitis or similar infections and subarachnoid haemorrhage. It is commoner in the elderly.

SYMPTOMS

Early symptoms:

- changes in gait
- unsteady walking
- weakness of the legs
- sudden fall without loss of consciousness

Progression:

- dementia
- no observable mood
- apathy
- withdrawn behaviour
- impaired memory
- difficulty in maintaining attention
- decreased spontaneity
- urinary and bowel incontinence
- urinary hesitancy
- speech impairment

SIGNS AND TESTS

CT scan or MRI will show changes that indicate normal pressure hydrocephalus, although are often not enough to make the diagnosis and tests to measure the ICP (e.g. pressure, volume studies or infusion tests) have to be performed to make the diagnosis.

TREATMENT

The goal of treatment is to improve symptoms. The insertion of a shunt which routes the CSF around the obstruction and back into the circulation is the treatment of choice. Symptomatic treatment may vary depending on the symptoms presented and the extent that they are relieved by treatment.

COMPLICATIONS

- Injury from falls
- Temporary or permanent loss of brain functions
- Dementia
- Shortened life span
- Effects of medication
- Complications of surgery

If you have any questions or would like further information, please do not hesitate to contact the Family Support Workers at:

Scottish Spina Bifida Association - Family Support Service

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