

(A Health Awareness Initiative)

NEURO NEWSLINE

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NORMAL PRESSURE HYDROCEPHALUS - the role of Programmable Shunts for the elderly !

This disorder Normal Pressure Hydrocephalus (NPH) was first described in the year 1965, and it was also called as Hakim-Adams syndrome. It usually affects elderly people above the age of 65 with a male preponderance. NPH happens due to the decreased absorption of the cerebrospinal fluid (CSF) leading to brain malfunction. There are other causes for the development of this syndrome leading to hydrocephalus. It can be secondary to subarachnoid hemorrhage, head injury, tumours and central nervous system infections. The idiopathic NPH (Primary) is what affects the geriatric population and will be discussed in this article.

CLINICAL FEATURES

Normal pressure hydrocephalus produces a triad of symptoms which is very classical. Dementia or loss of memory, disturbances in gait (walking) and urinary incontinence are the cardinal features. In general, people attribute this to old age and ignore ! Difficulty in walking is usually the first symptom preceding others. Patients have a wide based, short shuffling steps and unsteadiness while turning. Sometimes they feel 'glued to the floor' (also called as "magnetic gait") and have problems initiating the walk. They also have slowness in movements at times (bradykinesia). Slowness of thoughts is associated with memory impairment in many. Patients with NPH has difficulty to control urination,

they had to rush to the toilet (urgency) or sometimes end up wetting their clothes.

DIAGNOSIS

CT scan or MR imaging will show dilatation of the ventricular system with seepage of the cerebrospinal fluid (CSF) into the adjacent brain tissue. Most often the clinical and radiological features are confused with that of an Alzheimer's disease (a degenerative disorder of the elderly). A detailed neurophysiological work up

catheter which is inserted into the abdominal cavity. Since the regular shunt implant has a standardised pressure setting, there can be under or over drainage of the cerebrospinal fluid. In NPH one can use the Hakim's Programmable shunt implants where the neurosurgeon can alter the pressure settings of the shunt valve placing a 'remote control device' externally (as seen in the picture). Based on the clinical improvement and findings on follow up scans, the neurosurgeon can increase or



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has to done to exclude other causes of dementia (memory loss) in the aged before arriving at the diagnosis. Lumbar puncture with monitoring the opening pressure, and drainage of more than 30 to 50 ml of CSF is done. The clinical status is monitored for the next 48 to 72 hours or even upto 5 days. Patients who respond positively to this procedure by improving in their symptoms are the ideal candidates for a shunt surgery.

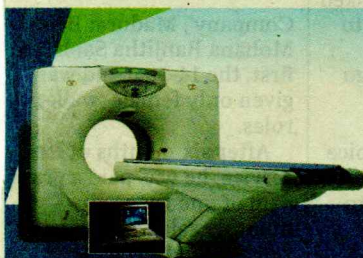
TREATMENT

A conventional ventriculo peritoneal (VP) shunt was done in cases of normal pressure hydrocephalus in the past. This is just tapping the ventricle and draining the CSF by means of a

decrease the flow of CSF using the remote. This can prevent complications such as subdural hematomas due to over drainage of CSF.

PROGNOSIS

The prevalence of NPH is about 0.5% in those who are above the age of 65. Careful selection of patients with this clinical triad, excluding all other causes for a degenerative disorder in old, is a MUST for good outcome following shunt. This procedure is a boon for the geriatric population to improve lifestyle and longevity in spite of their advancing age !



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