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Review [Geriatr Psychol Neuropsychiatr Vieil](#). 2012 Dec;10(4):415-25.
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[Diagnosis of normal pressure hydrocephalus in elderly patients: a review]

[Article in French]

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Abstract

The definition of normal pressure hydrocephalus (NPH), in adults, associates clinical signs (Adams and Hakim triad) involving gait disorders, urinary incontinence and dementia, associated with aspects on brain imaging that are consistent with this hypothesis and also normal or slightly increased intracranial pressure. The aim of this study was to clarify the techniques and methods facilitating the diagnosis of NPH. The literature review has been conducted from the Medline database without date limitation including the keywords "normal pressure hydrocephalus" and "diagnosis." They should appear in the article title. From the 43 initially sorted, only 13 have been selected using exclusion criteria. The proposed methods are very sparse and focused on the improvement after surgical shunt. This focus is independent from the diagnosis criteria proposed in 2005. This introduces an ambiguity in the interpretation of the results. In practice, the diagnosis of NPH is more difficult in the elderly population where differential diagnoses are frequent, particularly vascular lesions (notably microangiopathy) and Alzheimer's disease. The more invasive techniques as continuous spinal drainage (usually during 3 days) or some features of CSF dynamics (Rout, compliance) seem to be the best predictors of after shunt improvement. However, these techniques are difficult to use in routine in the elderly. The combination of Evans index and corpus callosum angle on MRI is very useful to improve the differential diagnosis with cerebral atrophy. Spinal tap test (lumbar puncture with the removal of 40 mL of CSF) can be repeated two or three times for consecutive days to improve the predictive value before shunting. Gait and balance often improve after shunt, more than cognition and bladder disorders. In the elderly population, the prognosis after 3 years is non conclusive despite initial improvement. Poor prognosis seems to be due to associated pathologies in particular neurodegenerative diseases. This should be considered in decision-making of CSF shunt.

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