

Clinical outcome of patients with idiopathic normal pressure hydrocephalus three years after shunt implantation

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Summary

Objective. To investigate the outcomes of surgical treatment of idiopathic normal pressure hydrocephalus (iNPH).

Patients and methods. We prospectively investigated 51 patients treated for iNPH by insertion of a ventriculoperitoneal shunt with gravitational valve.

Results. The proportion of excellent, good, and satisfactory outcomes immediately following surgery was 80%; the same clinical outcome was later verified in 67% of patients on average of 34 months postoperatively. These results are similar to those reported in the literature. Ventricle volume decreased minimally during the course of treatment using Evans' index, which was concordant with recent literature and with current understanding of hydrocephalus treatment.

Conclusions. A gravitational valve for treatment of iNPH is the logical implementation of current knowledge of the pathophysiology of this illness enabling us to solve the problem of cerebrospinal fluid drainage with the lowest possible opening pressure while simultaneously protecting from overdrainage. The use of programmable valves, in combination with a gravitational component, is the next evolutionary stage, potentially making revision operations unnecessary.

Keywords: Normal pressure hydrocephalus; idiopathic; outcome; gravitational valve.