

Idiopathic chronic hydrocephalus in adults[☆]



Hidrocefalia crónica del adulto idiopática

Dear Editor:

We read with interest the article by Illán-Gala et al.¹ "Long-term outcomes of adult chronic idiopathic hydrocephalus treated with a ventriculo-peritoneal shunt", and would like to offer a number of observations.

Firstly, regarding the lumbar tap diagnostic test, the authors report that a second puncture was performed in 6 cases due to non-conclusive results. It is our opinion and that of many other authors that the lumbar tap test should not be the only diagnostic test due to its low sensitivity (26%-61%). We consider it important to perform a CSF dynamics test,^{2,3} with the constant-infusion test described by Katzman and Hussey⁴ or the bolus injection method described by Marmarou⁵ being the most frequently used. In addition to determining baseline intracranial pressure (ICP), both tests can assess CSF reabsorption and provide a higher diagnostic reliability, with a sensitivity of 57%-100%.³ Continuous monitoring of ICP for 24-48 hours would be indicated in cases where previous tests may involve some diagnostic uncertainties.³

Secondly, we were surprised that in the magnetic resonance imaging (MRI) study, the authors only mention quantification of leukoaraiosis but not such other important findings as brain ventricular size (they do include Evans index >0.3 as inclusion criterion), sulcal effacement, and white matter alterations. Although there are many typical radiological findings, especially in the MRI scans of patients with adult chronic idiopathic hydrocephalus (ACIH), some are particularly relevant not only to diagnosis but also to prognosis; these include a small callosal angle and disproportionately enlarged subarachnoid spaces.⁶

Thirdly, we were surprised by the different shunt models used. In a prospective study such as the one reported by these authors, shunt model and opening pressure should be protocolised to improve the consistency of the study. Illán-Gala et al. report the implantation of 21 Medtronic Strata II[®] shunts, 4 Polaris Sophysa[®] shunts, and 4 Medtronic medium-pressure shunts. It would be interesting to know the criteria used to select which shunt to implant, and implantation pressure in the case of programmable shunts, since 2 of the models used have 5 different opening levels. We should also know the criteria for selecting the pressure level: as the authors are aware, opening pressure should be adapted to the patient's intracranial pressure to minimise further complications. The Medtronic Strata II[®] shunt includes an anti-gravity component, but Medtronic medium-pressure shunts, and not all models of Polaris Sophysa[®] shunts, include this element. These anti-gravity components, which prevent abrupt changes in intracranial

pressure, improve these patients' clinical outcomes and notably reduce complications, especially those related to overdrainage, such as subdural haematomas or hygromas.⁷

Furthermore, the authors report complications in 11 patients, 3 of whom developed chronic subdural haematoma (CSH). As previously mentioned, in these cases we should know the type of shunt and the opening pressure, if the shunt is programmable. CSH is a frequent complication in patients with ACIH and an implanted ventriculo-peritoneal shunt,⁸ and it is well known that there is a connection between lower shunt opening pressure and higher incidence of CSH; on many occasions, this complication may be resolved by increasing the opening pressure.⁹ In the 5 cases of shunt dysfunction, what was the issue? Was it due to problems with the shunt itself, or did it affect the ventricular or peritoneal catheters?

Lastly, we believe that the discussion section should have mentioned other surgical alternatives for ACIH, such as lumbo-peritoneal shunts, which are a good, less aggressive option requiring no lumbar puncture. This notably reduces the rate of complications, especially at the cranial level.¹⁰ In a recent publication, Kazul et al.¹¹ argue that this type of shunt should be the first treatment option for ACIH.

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A comparison of alpha coefficients in independent samples: a complementary study to the Spanish-language version of EUROQUEST^{☆,☆☆}



Comparación de coeficientes alfa en muestras independientes: un análisis complementario al EUROQUEST de Marhuenda et al.

Dear Editor:

It is important to report confidence coefficients since they allow us to determine the precision and stability of a given measurement.^{1,2} The magnitude of the value also provides information on the degree of influence on subsequent statistical analyses.³ In their validation of the Spanish-language version of EUROQUEST, Marhuenda et al.⁴ report the α coefficient, which is one of the most widely used estimators of the reliability of a score and is interpreted as reflecting what percentage of the variance observed corresponds to true variance.^{5,6} They then compare their α values with those obtained in a French study,⁶ concluding that their own results are more reliable than those found by the French researchers.

While α coefficients may vary between studies due to differences between the samples analysed, the multicultural approach of EUROQUEST means we may expect the estimated true variance to be statistically similar between the groups analysed.⁸ This would enable us to at least partially determine the absence of bias, among other factors, although these conclusions must be supported by empirical findings.⁹

According to Marhuenda et al.,⁴ the α coefficient values from their sample are more reliable than those found in the French study; however, they reach this conclusion by means of a descriptive comparison. Both this approach (heuristic judgement) and the conclusions reached may have an impact on subsequent studies on EUROQUEST. This is relevant because there is a possibility of researchers erroneously concluding that differences exist. It is therefore important to be aware of the existence of procedures specifically designed for comparing α coefficients obtained from independent samples.^{10,11} These comparison methods account for the magnitude of the α coefficient, the sample size, and the number of items, and enable differences between coefficients to be evaluated statistically.

The complementary analysis is based on the total samples of the Spanish⁴ and the French⁷ studies, and the number of items per domain reported in Table 1 of the Marhuenda et al. study. Sensory hyperaesthesia,

Table 1 Comparison of α coefficients from the French and Spanish EUROQUEST studies.

	No. of items	$\alpha_{\text{Spanish study}}$ (<i>n</i> = 759)	$\alpha_{\text{French study}}$ (<i>n</i> = 768)	$\chi^2_{(1)}$
Organic neurological symptoms	11	0.78	0.71	12.070 (<i>P</i> < .001)
Psychosomatic disorders	15	0.77	0.79	1.380 (<i>P</i> = .240)
Cognitive symptoms	10	0.89	0.79	63.874 (<i>P</i> < .001)
Depressive symptoms	7	0.86	0.78	28.894 (<i>P</i> < .001)
Structural and/or functional symptoms	11	0.91	0.85	40.904 (<i>P</i> < .001)
Sleep or affective disorders	4	0.71	0.58	15.565 (<i>P</i> < .001)
Intoxication	11	0.73	0.64	13.086 (<i>P</i> < .001)

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^{☆☆} This article has not been presented at any meeting or congress.