CHESS score

Acute hydrocephalus is an early and common complication of aneurysmal subarachnoid hemorrhage (SAH). However, considerably fewer patients develop chronic hydrocephalus requiring shunt placement. Our aim was to develop a risk score for early identification of patients with shunt dependency after SAH. METHODS: Two hundred and forty-two SAH individuals who were treated in our institution between January 2008 and December 2013 and survived the initial impact were retrospectively analyzed. Clinical parameters within 72 h after the ictus were correlated with shunt dependency. Independent predictors were summarized into a new risk score which was validated in a subsequent SAH cohort treated between January and December 2014. RESULTS: Seventy-five patients (31%) underwent shunt placement. Of 23 evaluated variables, only the following five showed independent associations with shunt dependency and were subsequently used to establish the Chronic Hydrocephalus Ensuing from SAH Score (CHESS, 0-8 points): Hunt and Hess grade ≥IV (1 point), location of the ruptured aneurysm in the posterior circulation (1 point), acute hydrocephalus (4 points), the presence of intraventricular hemorrhage (1 point) and early cerebral infarction on follow-up computed tomography scan (1 point). The CHESS showed strong correlation with shunt dependency ($P = 0.0007$) and could be successfully validated in both internal SAH cohorts tested. Patients scoring ≥6 CHESS points had significantly higher risk of shunt dependency ($P < 0.0001$) than other patients. CONCLUSION: The CHESS may become a valuable diagnostic tool for early estimation of shunt dependency after SAH. Further evaluation and external validation will be required in prospective studies [1)].

1)
Jabbarli R, Bohrer AM, Pierscianek D, Müller D, Wrede KH, Dammann P, El Hindy N, Özkan N, Sure U, Müller O. The CHESS score: a simple tool for early prediction of shunt dependency after aneurysmal subarachnoid hemorrhage. Eur J Neurol. 2016 Feb 26. doi: 10.1111/ene.12962. [Epub ahead of print] PubMed PMID: 26918845.