

# Cerebrospinal fluid analysis for epilepsy

observational study was done to develop a score based on clinical predictors that enables a guided decision for the necessity of cerebrospinal fluid (CSF) analysis after first unprovoked epileptic seizures and to validate this score in a retrospective patient cohort.

**Methods:** Clinical predictors were identified by two panels of epilepsy experts and selected according to content validity ratios. Based on these predictors a score was created and applied to a cohort of patients with first epileptic seizures.

**Results:** The "IDEAL score" consists of 9 items (fever, prolonged disturbance of consciousness, headache, imaging results, cognitive dysfunction, status epilepticus, malignancy, autoimmune encephalitis symptoms) that are collected at two different time points (< 3 h [A-score]; > 3 h [B-score] after hospital admittance). A CSF analysis is recommended, if at least one clinical finding is present, either one of the items evaluated during the acute phase (A-score) or later in the diagnostic process (B-score). In 41 patients (13%) CSF analysis provided essential clues to the cause of the seizure. The combined IDEAL score reached a sensitivity of 98%, a specificity of 53%, a positive predictive value of 24% and a negative predictive value of 99% in this patient cohort.

**Conclusions:** A CSF analysis after first epileptic seizures provided decisive etiological findings in only 13% of all investigated patients. The IDEAL score offers clinicians a simple and easy-to-implement algorithm to assess the necessity of a CSF analysis, and to prevent unnecessary diagnostic procedures <sup>1)</sup>

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Süße M, Gag K, Hannich MJ, Hamann L, Nass RD, Malter MP, Quesada CM, Remi J, Möddel G, Knake S, Schmitt FC, Hirsch M, Kunze A, Strzelczyk A, von Podewils F. Informed DEcision for cerebrospinal fluid analysis after epileptic seizures- the IDEAL-score: A development and validation study. *Seizure*. 2021 Jun 29;91:228-232. doi: 10.1016/j.seizure.2021.06.019. Epub ahead of print. PMID: 34233237.

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