Oslo grading system

Oslo Chronic Subdural Hematoma Grading System	
Components of the grading system	Score points
CT appearance based on density changes	
Isodense or hyperdense subtypes and Laminar or separated types	2
Hypodense or gradation subtypes and trabecular type	0
Preoperative volume (mL)	
>130	1
≤130	0
Postoperative residual cavity volume (mL)	
>200	2
80-200	1
<80	0
	0-5

Stanišic and Pripp developed a chronic subdural hematoma grading system to predict chronic subdural hematoma recurrence based on predictive characteristics that can be objectively assessed at the time of the first presentation and initial surgery.

Prospectively collected data from 107 consecutive surgical patients with CSDH were reviewed. Predictors of recurrence were identified via logistic regression and lasso regression analyses. A prognostic CSDH grading system was proposed, with the weighing of predictors based on strength of association. The scoring system was then applied to the same set of patients in the database for internal validation.

The strongest predictors of recurrence were isodense or hyperdense lesions and laminar or separated lesions, and a postoperative CSDH cavity volume greater than 200 mL. The moderate predictors of recurrence were a postoperative CSDH cavity volume of 80 to 200 mL and a preoperative CSDH volume greater than 130 mL. According to the prognostic CSDH grading system, no patients with a score of 0 points had a recurrence. Recurrence was observed in 6% of patients with a score of 1 to 2 points, 30% of patients with a score of 3 to 4 points, and 63% of patients with a score of 5 points (ie, the maximum score). The rate of recurrence increased steadily with increases in the prognostic CSDH grading score (P < .001).

The prognostic CSDH grading system is an applicable tool for recurrence risk stratification in patients with CSDH $^{1)}$.

The aim of the study was to validate and if applicable to modify the grading system. Data of all patients admitted to the Goethe University Hospital between 2016 and 2018 with chronic subdural hematoma were prospectively entered into a database. Dataset of patients with uni- (n = 272) and bilateral cSDH (n = 177) were used for the validation of OGS via logistic regression analysis. Additional

predictors were identified and integrated to build a modified OGS (mOGS). Internal validation of the modified OGS was performed using same dataset of patients. The OGS showed a significant good predictive value with correlating increase of recurrence rate depending on the level of score in unilateral cSDH (p = 0.002). Regarding bilateral cSDH, there was no significant predictive value found (p = 0.921). By performing uni- and multivariate analysis, additional predictors for recurrence in uniand bilateral cSDH were identified and integrated into the score system. Accordingly, the mOGS for unilateral cSDH inherited 4 components: previous OGS with 3 components (OR1.6) and seizure (OR2.5) (0 point, 0% recurrence rate; 1-2 points, 17.4%; 3-4 points, 30.6%; \geq 5 points, 80%). Regarding bilateral cSDH, the mOGS consisted of 4 components as well: hypodense/gradation subtypes (OR3.3), postoperative unilateral volume > 80 mL (OR7.4), postoperative unilateral air trapping > 80 mL (OR15.3), and seizure (OR5.5) (0 point, 3.6% recurrence rate; 1 point, 30.6%; 2 points, 53.5%; 3 points, 58.3%; \geq 4 points, 100%). Furthermore, the mOGS was internally verified showing high significant predictive power for recurrent hematoma in uni- (p = 0.004) and bilateral cSDH (p < 0.001). External validation of OGS showed accurate risk stratification of recurrence in unilateral cSDH; however, the validation failed for bilateral cSDH. Thus, mOGS was developed to strengthen its clinical utility and applicability $^{2)}$.

Components of the grading system	Score points
Unilateral chronic subdural hematoma	
CT appearance based on density changes	
Isodense or hyperdense subtypes and laminar or separated types	2
Hypodense or gradation subtypes and trabecular type	0
Preoperative volume (mL)	
>130	1
≤130	0
Postoperative residual cavity volume (mL)	
>200	2
80–200	1
< 80	0
Postoperative seizure	
Yes	2
No	0
Range of score system	0-7
Bilateral chronic subdural hematoma	
CT appearance based on density changes	
Isodense or hyperdense subtypes and laminar/separated/trabecular subtypes	0
Hypodense or gradation subtypes	1
Postoperative volume unilateral (mL)	
> 80	2
≤ 80	0
Postoperative air trapping unilateral (mL)	
> 80	2
≤ 80	0
Postoperative seizure	
Yes	1
No	0
Range of score system	0–6

References

1)

Stanišic M, Pripp AH. A Reliable Grading System for Prediction of Chronic Subdural Hematoma Recurrence Requiring Reoperation After Initial Burr-Hole Surgery. Neurosurgery. 2017 Nov 1;81(5):752-760. doi: 10.1093/neuros/nyx090. PubMed PMID: 28379528; PubMed Central PMCID: PMC5808673.

Won SY, Dubinski D, Eibach M, Gessler F, Herrmann E, Keil F, Seifert V, Konczalla J, Behmanesh B. External validation and modification of the Oslo grading system for prediction of postoperative recurrence of chronic subdural hematoma. Neurosurg Rev. 2020 Feb 28. doi: 10.1007/s10143-020-01271-w. [Epub ahead of print] PubMed PMID: 32112162.

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