Aneurysm Recanalization Stratification Scale

With the increasing use of endovascular techniques in the treatment of both ruptured intracranial aneurysm and unruptured intracranial aneurysms, the issue of Recanalized intracranial aneurysm efficacy has become increasingly important.

Christopher S. Ogilvy et al. retrospectively reviewed medical records that were prospectively collected for 305 patients who received endovascular treatment for intracranial aneurysms from 2007 to 2013. Multivariable logistic regression was performed on candidate predictors identified by univariable screening analysis to detect independent predictors of retreatment. A composite risk score was constructed based on the proportional contribution of independent predictors in the multivariable model.

Size (>10 mm), aneurysm rupture, stent assistance, and posttreatment degree of aneurysm occlusion were independently associated with retreatment, whereas intraluminal thrombosis and flow diversion demonstrated a trend toward retreatment.

The Aneurysm Recanalization Stratification Scale was constructed by assigning the following weights to statistically and clinically significant predictors:

aneurysm-specific factors:

size (>10 mm), 2 points;

Rupture, 2 points;

Presence of thrombus, 2 points.

Treatment-related factors were stent assistance, 1 point;

flow diversion, 2 points;

Raymond-Roy occlusion classification occlusion class 2, 1 point;

Raymond-Roy occlusion class 3, 2 points.

This scale demonstrated good discrimination with a C-statistic of 0.799.

Surgical decision-making and patient-centered informed consent require comprehensive and accessible information on treatment efficacy. We constructed the Aneurysm Recanalization Stratification Scale to enhance this decision-making process. This is the first comprehensive model that has been developed to quantitatively predict the risk of retreatment after endovascular therapy [1)] [2)]

1)
Ogilvy CS, Chua MH, Fusco MR, Reddy AS, Thomas AJ. Stratification of recanalization for patients with endovascular treatment of intracranial aneurysms. Neurosurgery. 2015 Apr;76(4):390-5. doi: 10.1227/NEU.0000000000000651. PubMed PMID: 25621984.

2)
Ogilvy CS, Chua MH, Fusco MR, Griessenauer CJ, Harrigan MR, Sonig A, Siddiqui AH, Levy EI, Snyder K, Avery M, Mitha A, Shores J, Hoh BL, Thomas AJ. Validation of a System to Predict Recanalization After Endovascular Treatment of Intracranial Aneurysms. Neurosurgery. 2015 Apr 4. [Epub ahead of print]

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