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**MORPHOLOGICAL COMPLEXITY AND SHORT-TERM OUTCOMES
AFTER MICROSURGICAL CLIPPING OF RUPTURED
INTRACRANIAL ANEURYSMS: A SINGLE-CENTER
COHORT**

Edgaras Zaboras¹, Jelena Ščerbak², Martynas Račkauskas²,
Dalius Jatuzis², Rytis Masiliūnas²

¹Faculty of Medicine, Vilnius University, Vilnius, Lithuania

²Clinic of Neurology and Neurosurgery, Institute of Clinical Medicine,
Faculty of Medicine, Vilnius University, Vilnius, Lithuania

Background and aims: Aneurysm morphology may influence outcomes after rupture and surgical treatment. We assessed the association between morphological features and short-term outcomes after urgent microsurgical clipping for subarachnoid hemorrhage (SAH).

Methods: We conducted a retrospective cohort study of patients with ruptured intracranial aneurysms treated between 2021 and 2025 at a tertiary center in Vilnius, Lithuania, all undergoing urgent microsurgical clipping after imaging-confirmed SAH. Collected variables included admission Glasgow Coma Scale (GCS) score, intraventricular hemorrhage, aneurysm location, and morphology. Outcomes were in-hospital mortality, discharge destination, intensive care unit (ICU) and hospital length of stay (LOS). Analyses were performed on complete cases.

Results: Ninety-seven patients (median age 57 [IQR 47–65], 59.8% female) underwent urgent surgery. Median admission GCS was 14 (IQR 11–15, range 3–15), intraventricular hemorrhage was present in 53.6%. Most aneurysms were located in the anterior circulation (80.4%). In-hospital mortality was 12.4%, increasing to 13.4% at 30 days and 21.6% by 90 days, with no additional deaths recorded during extended follow-up. Median ICU and hospital LOS were 5 (IQR 3–10) and 17 days (IQR 12–29), respectively. After adjustment for GCS, thrombosed aneurysms (n=14) were independently associated with higher in-hospital mortality (aOR 5.21, 95% CI 1.08–25.09; P=0.040). Giant aneurysms (n=11) showed higher observed mortality than non-giant lesions (27.3% vs 10.5%). Discharge destinations included home (36.1%), rehabilitation (37.1%), and nursing facility (13.4%).

Conclusions: In microsurgical clipping of ruptured aneurysms, thrombosis and large aneurysm size are associated with worse short-term outcomes after rupture, highlighting the prognostic relevance of aneurysm morphology.

Conflict of interest: All authors: nothing to disclose.