

## Risk factors for intraoperative bleeding during embolization of intracranial aneurysms in elderly patients with subarachnoid hemorrhage

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**Background:** Intracranial aneurysms are common etiologies for subarachnoid hemorrhage in the elderly patients. Endovascular treatments with coil embolization are relatively less invasive and are preferred in the older patients population. Intraprocedural rupture is a well-known and devastating complication of coil embolization for intracranial aneurysms. The current study aimed to explore the related risk factors for intraoperative rupture.

**Methods:** This single-center, retrospective data included data from a total of 472 older patients with subarachnoid hemorrhage due to intracranial aneurysms between April 2020 and March 2023. All the included patients underwent endovascular interventional embolization. Patients' relevant clinical characteristics, and laboratory and imaging data were collected. The multivariate logistic regression with stepwise elimination was applied to identify independent risk factors.

**Results:** A total of 73 cases of intraprocedural bleeding occurred, corresponding to an incidence of 15.47%. The multivariable logistic regression analysis indicated that patient characteristics, such as poorly controlled diabetes with a HbA1C > 10% (OR=2.99, P<0.001), severe subarachnoid hemorrhage indicated by less Hunt and Hess Grade (OR=2.04, P=0.008), and aneurysm characteristics of small neck size (OR=1.87, P=0.02) and location within the anterior (OR=1.52, P=0.02) or posterior (OR=2.42, P=0.002) communicating artery were independent associated with a higher risk of intraprocedural bleeding. Unfavourable neurological functional outcomes as defined by the modified Rankin scale >2 were significantly higher in those with intraprocedural bleeding than those without (62/73 vs 101/399, P<0.001).

**Conclusions:** Intraprocedural bleeding for coil embolization of intracranial aneurysms in the older patients with subarachnoid hemorrhage are associated with worse outcomes. The information that patients with poorly controlled diabetes, less Hunt and Hess Grade, and certain aneurysm characteristics are at an increased risk for intraprocedural bleeding should prepare clinicians for this devastating complication.

### Biography

Laila Montaser served as Chair, Founder leader of Clinical Pathology Department Menoufia Faculty of Medicine. She is uniquely trained and has a philosophy on how to manage research. She is an Honorable

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