

Ruptured intracranial aneurysm complications

Patients with poor Hunt and Hess grades, loss of consciousness at symptom onset, or largest aneurysms ≥ 5 mm in size showed a high mortality rate ¹⁾.

Rupture of an [aneurysm](#) is typically associated with significant [morbidity](#) and [mortality](#). Up to 20% of patients die as a result of their initial [hemorrhage](#). Of those who survive, about half will have a poor outcome. [Complications](#) related to aneurysmal rupture depend on clinical grade, the extent of [subarachnoid hemorrhage](#) (SAH), and the presence of [delayed cerebral ischemia](#) ^{2) 3) 4) 5)}.

1. A ruptured [intracranial aneurysm](#), most commonly produces [aneurysmal subarachnoid hemorrhage](#)
2. [Intracerebral hemorrhage](#) occurs in 20-40 % most common [middle cerebral artery aneurysm](#)
3. [Intraventricular hemorrhage](#) occurs in 13-28 %.
4. [Subdural hematomas](#) (SDH) from ruptured aneurysm (RA) are much less common than intracerebral (ICH) hematomas or subarachnoid (SAH) or intraventricular hemorrhage (IVH). With computerized tomography, preoperative diagnosis is now made more often. The authors have collected 18 such cases from a review of 897 cases of RA admitted to eleven medical centers in 1980 and 1981. Nine (50%) of these patients died prior to discharge from hospital. Four (22%) had surgery and died postoperatively and 9 (50%) were operated upon and survived. Thirteen (72%) of the patients showed anisocoria, decreased consciousness and unilateral weakness prior to surgery. Eight (89%) of the fatalities had shown preoperative herniation as opposed to only 5 (56%) of the survivors. The overall incidence of delayed ischemia due to vasospasm was 11% (2 cases). Those who died had greater midline shift and larger SDH on the admission CT scan. Sixteen (89%) of these patients were female. Thirteen (72%) had ruptured aneurysms on the internal carotid artery. All of these hematomas were unilateral and uniformly hyperdense, and the convexity hematomas were crescentic in shape. Seventeen (94%) had evidence of blood in locations other than the subdural space. If the patient is potentially salvageable and has a midline shift, the SDH should probably be evacuated immediately and the aneurysm clipped at the same operation since the development of a tentorial herniation has such an adverse effect on outcome ⁶⁾.

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Yang Y, Wang B, Ge X, Lu W, Peng C, Zhao Y, Li J, Wang J, Lei P, Zhang J, Feng L, Liu Z, Yang X. Natural Course of Ruptured but Untreated Intracranial Aneurysms: A Multicenter 2-Year Follow-Up Study. *Stroke*. 2023 Jun 12. doi: 10.1161/STROKEAHA.123.042530. Epub ahead of print. PMID: 37306018.

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arteriovenous malformations. Journal of Neurosurgery, 62(3), 321-323.

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Kassell, N. F., Sasaki, T., Colohan, A. R., & Nazar, G. (1985). Cerebral vasospasm following aneurysmal subarachnoid hemorrhage. Stroke, 16(4), 562-572.

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