

Posterior Communicating Artery Aneurysm Rupture Causing Pure Subdural Hematoma and Terson Syndrome

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Clinical Presentation

- A 38 year old female with a past medical history is significant for migraines who presented to do the ED with the worst headache of her life.

Imaging Discussion



- CT head revealed hyperdense subdural hematoma involving retroclival region and upper cervical spine. Also, there were crescent-shaped hyperdensities in posterior globes.
- CT angiography of the head showed a large (7 x 3.8 x 3 mm) right posterior communicating artery aneurysm, with a bleb at the dome concerning for rupture point.

Management and Outcome

- Successful coil embolization of right posterior communicating artery aneurysm was done with no evidence of residual.

Take Home Points

- Pure subdural hemorrhage can occur in the setting of an aneurysm rupture. There have been several reports which tried to explain subdural haematoma caused by intracranial aneurysm such as adhesions of the aneurysm to the arachnoid membrane with subsequent bleeding into the subdural space. Another explanation includes high-pressure hemorrhage from the ruptured aneurysm may lacerate the arachnoid membrane. Posterior communicating artery, middle cerebral artery and anterior communicating artery aneurysms are the most common locations related to subdural hemorrhage which are described in the literature. Timely diagnosis and management play a critical role in acute subdural hemorrhage associated with intracranial aneurysm.
- Our case is also represented with Terson syndrome, which is bilateral vitreous hemorrhage, thought to be secondary to acutely increased intracranial pressure mostly secondary to subarachnoid hemorrhages and less commonly subdural as well as epidural hemorrhage.

References

- Al-Abdulwahhab AH, Al-Sharydah AM, Al-Suhibani SS, Almulhim AS, Al-Dhafeeri OM, Al-Jubran SA. A ruptured posterior communicating artery aneurysm presenting as tentorial and spinal isolated subdural hemorrhage: a case report and literature review. *BMC Neurol.* 2020 Mar 18;20(1):102. doi: 10.1186/s12883-020-01682-8. PMID: 32188416; PMCID: PMC7081678.
- Kang HM, Cho JM, Kim SY, Choi JH. Clinical characteristics of asymptomatic Terson syndrome in the patients with aneurysmal subarachnoid hemorrhage. *Int J Ophthalmol.* 2020 Feb 18;13(2):292-300. doi: 10.18240/ijo.2020.02.14. PMID: 32090040; PMCID: PMC7013785.