Intracranial Tumors Presenting as Subdural Hematomas: First Report of a Novel Entity

Andrew J. Kobets MD, Jonathan Nakhla MD, Yaroslav Gelfand MD, Merritt Kinon MD, David Altschul MD, Patrick Lasala MD
We have no disclosures to report
Introduction:

To date isolated, non-traumatic posterior fossa subdural hematomas secondary to a tumor have not been reported. The majority of intracranial tumor-associated subdural hemorrhages occur with metastases supratentorially, and while only rarely meningiomas may hemorrhage intraparenchymally or in the subarachnoid space in the posterior fossa, never have they presented as subdural hematomas. We demonstrate the first such case associated with a vestibular schwannoma.
Methods:

A 21-year-old male without significant medical history presented with acute occipital headache and unsteady gait. Neurologic exam uncovered right hearing loss and lab work including coagulation studies was normal. Non-contrasted head CT demonstrated acute right subdural blood in the posterior fossa with a lesion in the right cerebellopontine angle concerning for a vascular malformation. The patient underwent angiography which showed an arterial-phase blush in the right acoustic meatus, later confirmed on MRI to be a 2.1x2.4 cm heterogeneously-enhancing mass with intratumoral hemorrhage. An uncomplicated translabyrinthine resection was performed with histology confirming vestibular schwannoma.
Results:

Subdural hematoma has been reported with several metastatic dural-based tumors supratentorially as well as primary intracranial tumors such as meningioma and glioma. These hemorrhages were not associated with trauma and only a subset were associated with coagulopathy. Neovascular proliferation, tumor necrosis, invasion of adjacent vasculature by tumor cells, as well as stretch of subdural vessels are thought to contribute to hematoma formation.
Results (Cont.)

Non Contrast CT head
Results (Cont.)

MRI With and Without Contrast
Results (Cont.)
Discussion:

We present the first case of a vestibular schwannoma presenting as a subdural hematoma, although intratumoral hemorrhage and areas of necrosis in large vestibular schwannomas have previously been reported. It is possible the hematoma in our case was an extension of the intratumoral hemorrhage. Evidence of internal auditory canal widening or hyperostosis may contribute to identifying the cause of nontraumatic subdural hematomas in the cerebellopontine angle and should include tumors in the differential diagnosis.
Summary Points:

• First reported case of a tumor presenting as a spontaneous subdural hematoma in the posterior fossa
• Angiogram findings can be presenting as an arterial phase blush
• MRI should be performed in all cases of spontaneous posterior fossa subdural hematoma and tumor considered as an etiology