

# Evaluating and Treating an Idiopathic Subdural Hematoma

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## INTRODUCTION

We present a case of an adult woman who came to our emergency department multiple times in August 2021. She reported new onset worsening headaches. An atraumatic, idiopathic subdural hematoma without predisposing factors was seen. Over a month, she was readmitted multiple times as the subdural hematoma progressed. However, with appropriate management, outcomes were improved. We highlight the importance of developing a diagnostic and treatment approach for spontaneous idiopathic subdural hematomas, an increasingly common entity.

## CASE SUMMARY

Fifty-year-old woman presented to our emergency department with a chief complaint of new onset worsening headaches. A week before she presented to Bayonne Medical Center with similar complaints. She described them as bilateral, frontal headaches that were dull, aching, and at times severe, without history of prior headaches. CT Head without contrast showed small right subdural hematoma in the temporal region without significant mass effect or midline shift. Patient was admitted for acute subdural hematoma. MRI showed bilateral subdural hematomas in different stages of maturation. Interestingly, the patient denied any history of alcohol use, trauma, concussion, or prior intracranial injury. There were also early chronic subdural collections along the left convexity, and along the right side of the falx. After a day of observation, there was no neurosurgical intervention, thereby prompting discharge.

At home, she continued to have headaches that did not respond to pain medication. She returned two weeks from her initial presentation. CT Head without contrast began to show an increase in hematoma size, with new finding of 3mm right midline shift. Daily CT head without contrast scans showed the hematoma was continuing to develop and increasing in size. Neurosurgery was consulted. She was transferred to the ICU and pain management initiated. Patient consented to have left sided craniotomy and evacuation of her subdural hematoma by neurosurgery. Hematology was consulted and hypercoagulability work up was negative. Extensive history was taken and the patient denies any recent trauma, new medications, had no family history of cranial bleeds, and did not take any illicit drugs.

Patient followed up one month later. At that time CT, showed interval improvement in left cerebral convexity hematoma. Patient returned for follow up three months later, CT at that time showed the subdural hematoma had diminished greatly, with residual subdural granulation tissue subjacent to the inferior border of the craniotomy defect. Patient reported no more headaches, and was able to return to work.



Figure 1: MRI Brain shows small bilateral subdural hematomas in different stages of maturation. When compared to CT Head (figure 2)



Figure 2: One week after negative initial presentation CT Head: "Small acute right subdural hematoma is noted, no significant mass effect or shift of midline structures"

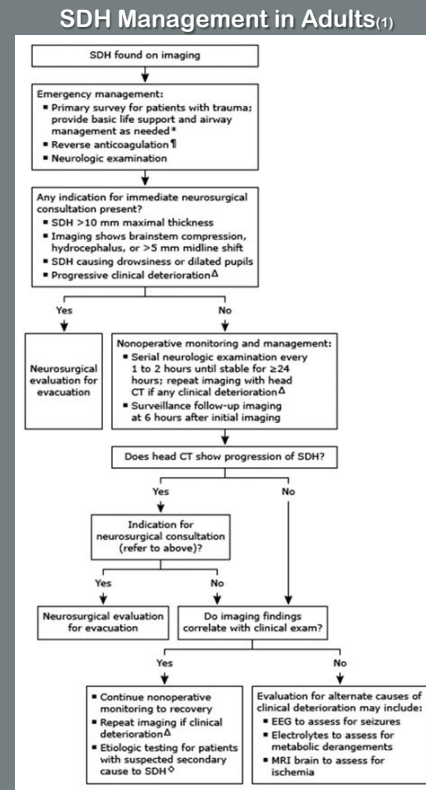


Figure 3: Patient continues to report headaches. CT Head: "Persistent bilateral subdural mixed attenuation hematomas, with approximately 5mm midline shift to right"

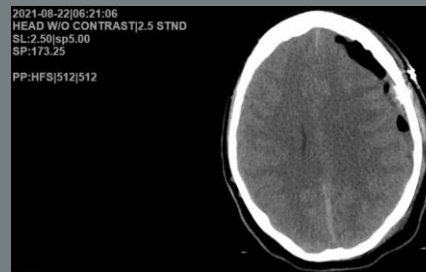


Figure 4: On 8/20/21 patient had left side craniotomy and evacuation of subdural hematoma. The CT Head on the right, shows the results 2 days later. "In-situ drainage catheter is present. Small amount of subdural air hemostatic material present. There is persistent mild mass effect"



Figure 5: Four month follow up. "Previously noted small thin left sided frontoparietal subdural hematoma has diminished, some residual subdural granulation tissue subjacent to the inferior border of the craniotomy defect. No hydrocephalus"

## DISCUSSION

Subdural hematoma occurs due to bleeding within the subdural space and may resolve by reabsorption or become chronic by membranous encapsulation and hygroma formation. Acute SDH is usually caused by tearing of the veins located between the arachnoid membranes and the dura in most cases. Head trauma is the most common cause. Even relatively minor trauma can result in damage to these veins. As well as episodes of hypotension. Acute SDH is found in 11% of mild to moderate head injuries that require hospitalizations and 20% of severe traumatic brain injuries.

If SDH is not treated some of the most serious complications are seizures and brain herniation. Herniation can cause brain damage, and even death. Throughout the patient's course, she was monitored by neurology and neurosurgery. An acute SDH with a thickness greater than 10 mm or a midline shift greater than 5 mm on CT scan should be surgically evacuated, regardless of the patient's Glasgow Coma Scale (GCS) score<sup>(2)</sup>. Our patient's GCS stayed at 15 throughout her hospitalization, however she did develop a midline shift greater than 5mm. Thus, a left side craniotomy and evacuation of subdural hematoma was completed (figure 4).

Patient's symptoms began to resolve after surgery and she was eventually discharged to a rehab center. She followed up with neurology four months later (figure 5). Her CT Head at that time showed no new cranial pathology. Patient should continue to follow up regularly with her primary care physician, continued imaging should be done based on clinical presentation<sup>(3)</sup>.

## REFERENCES

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