

# What Does the Incidence of Supratentorial and Infratentorial Subdural Hematomas Imply about Tentorial Dural Anatomy?

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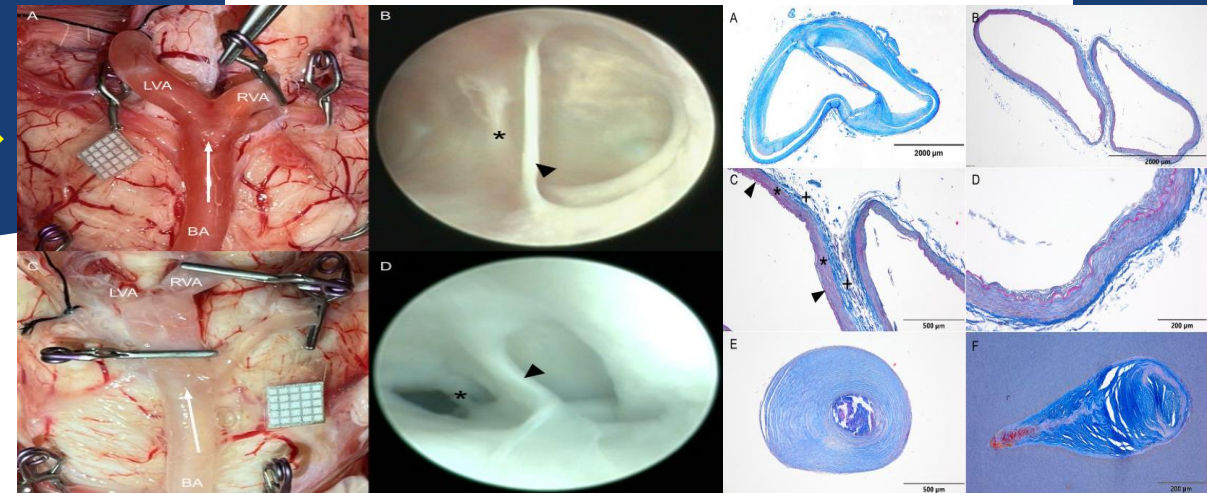
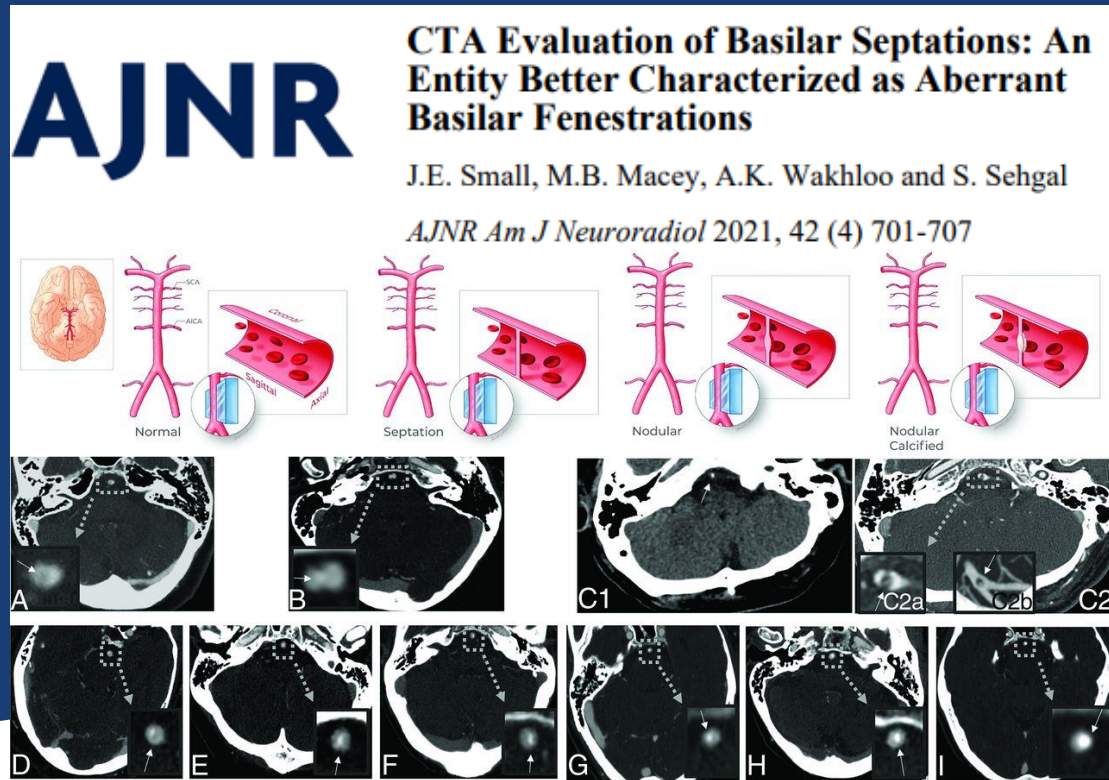
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# Disclosure of Commercial Interest

**No direct or indirect conflict of interest.**

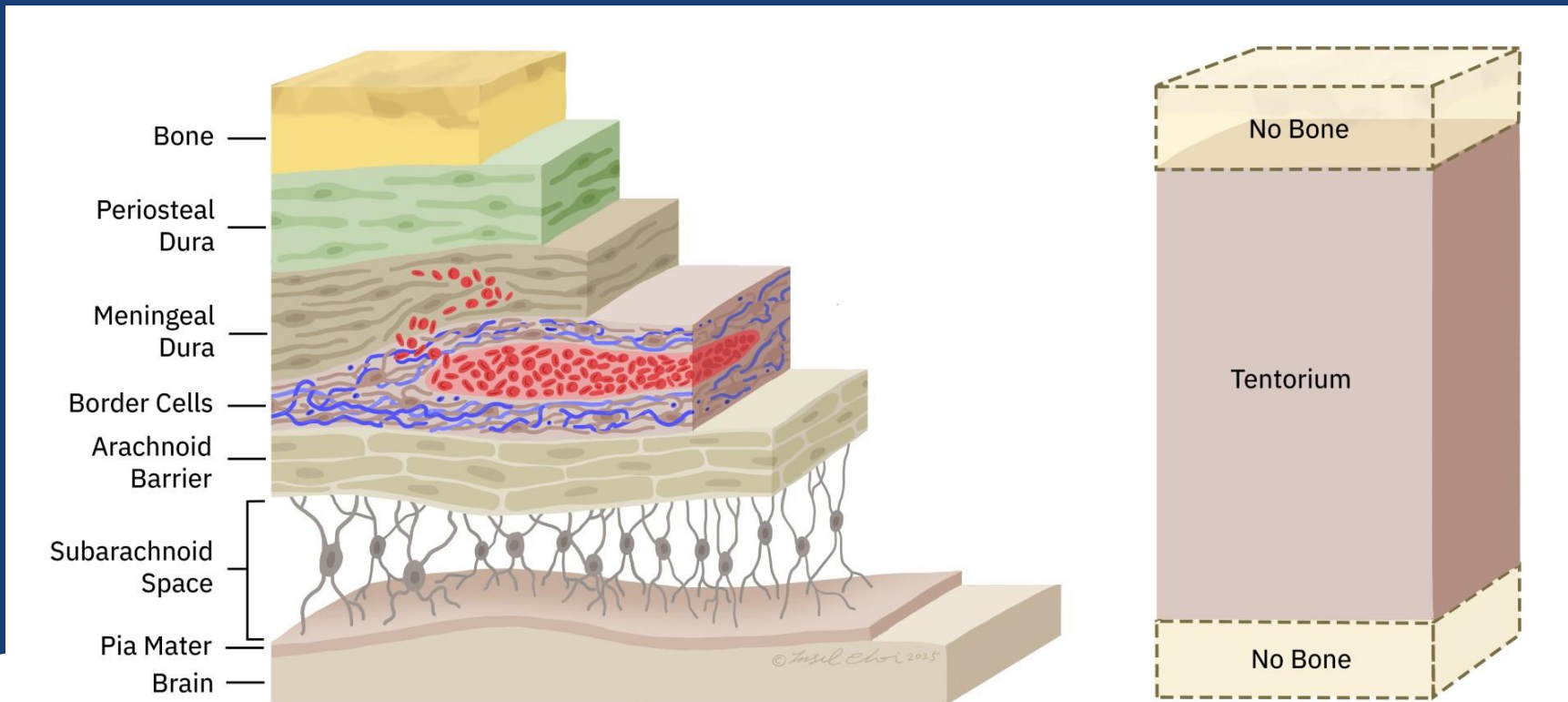
# OVERTURNING FIRMLY HELD ANATOMICAL BELIEFS CAN BE DIFFICULT

- As medical science advances, new knowledge can either refine or overturn firmly held anatomical beliefs. For example:
  - CNS Lymphatics: Previously, it was thought CNS lymphatics did not exist. In the last decade, intracranial lymphatics were discovered overturning a firmly and widely held conventional belief.
- Clinical observations can indicate that accepted dogma should be questioned or examined more closely by anatomical scientists. For example:



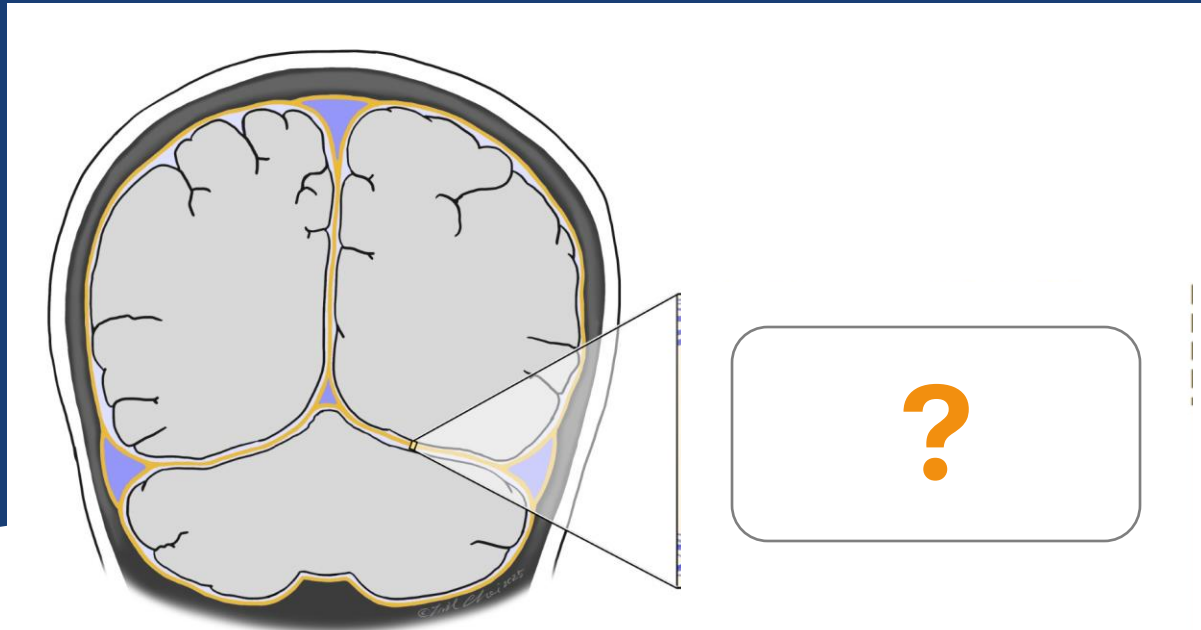
# BACKGROUND: CALVARIAL DURA AND TENTORIAL ANATOMY

- The dura is known to have a rich venous and arterial plexus within the inner border cell layer, where subdural hematomas arise.  
The anatomy of the dura adjacent to the skull has been well studied, that of the tentorium has been less and often assumed to be similar.
- Although papers in the literature have studied the macroscopic tentorial venous anatomy, the vast majority have not differentiated between the supratentorial and infratentorial surfaces.



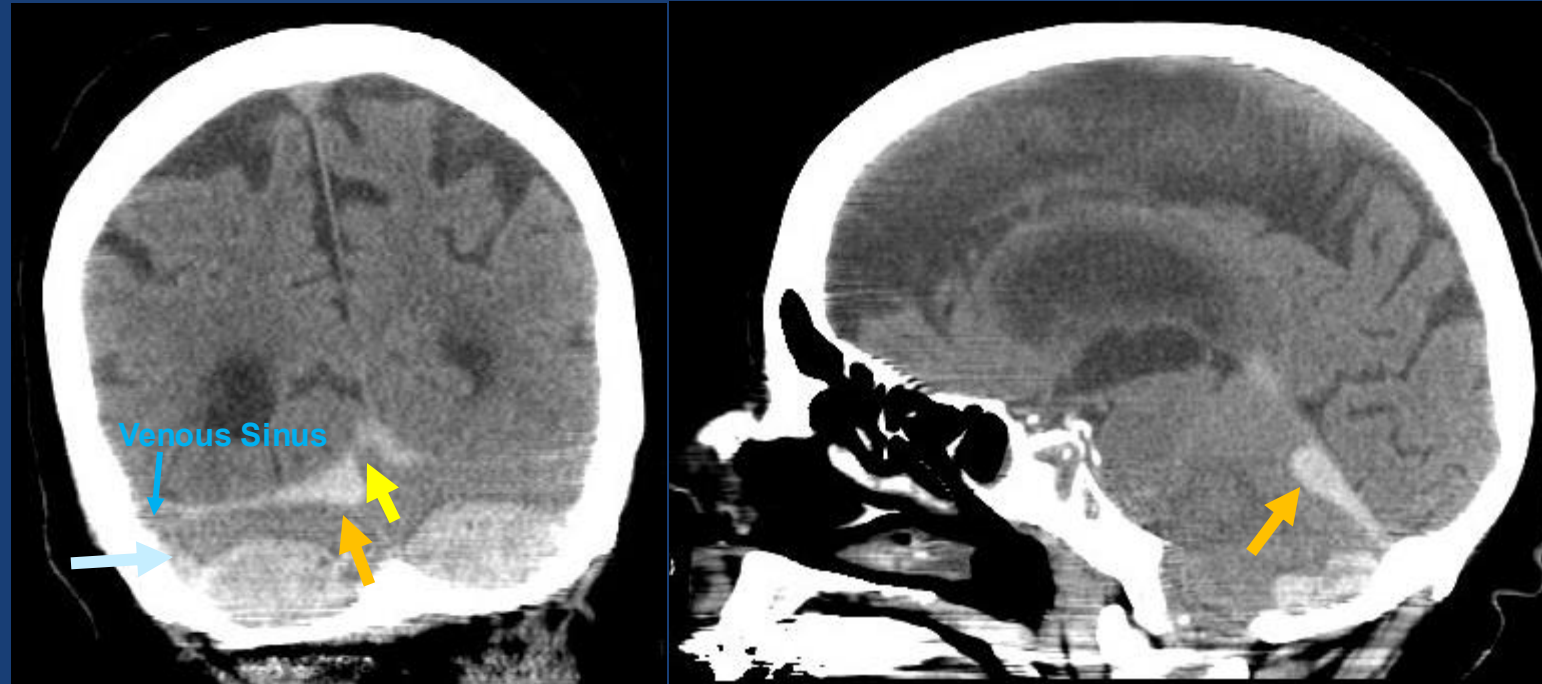
# BACKGROUND: What Can Subdural Hematomas Tell Us About Dural Anatomy?

- No histological study has closely evaluated whether the microscopic anatomy is either symmetric or asymmetric along the *superior* and *Inferior* tentorial faces.
- The degree of differences between the incidence of subdural hematomas along the superior versus inferior surfaces of the tentorium has never been quantified.





# FEATURES SPECIFIC TO INFRATENTORIAL SDH

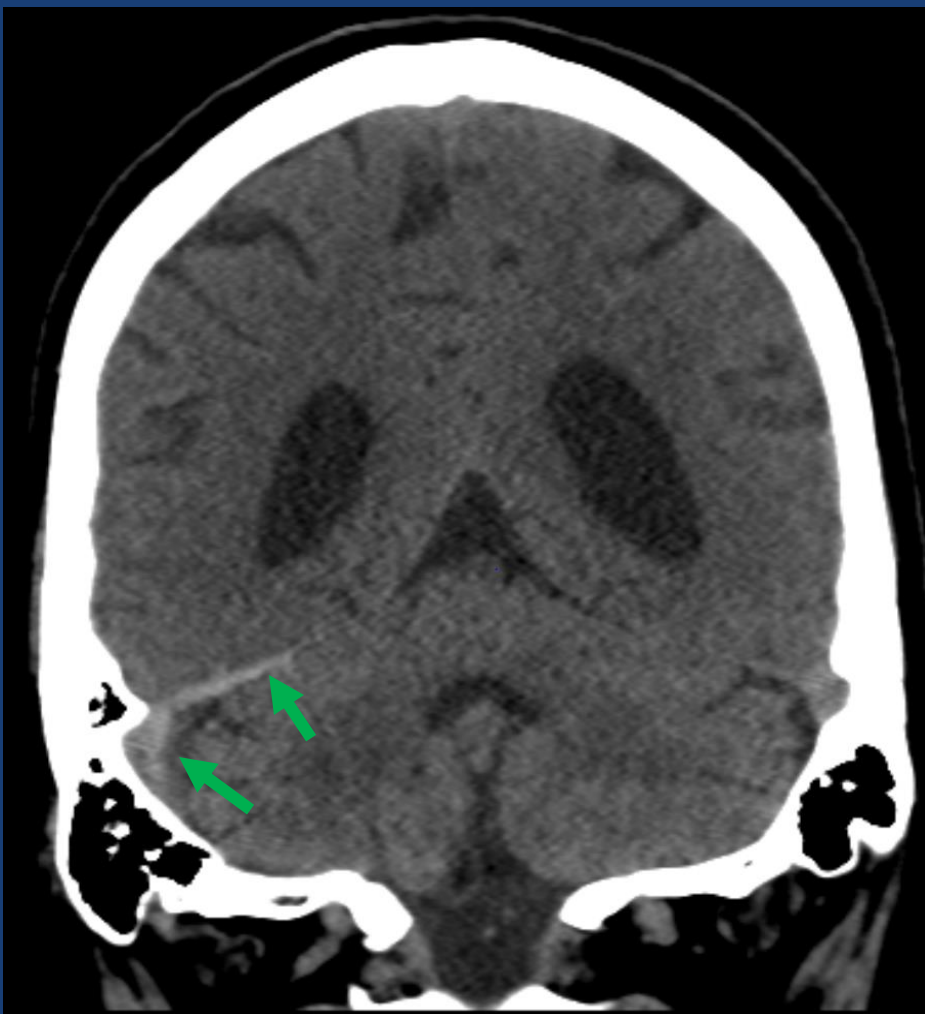


Courses inferior to the venous sinus

May have mass effect on the cerebellum

May cross midline (supratentorial SDH is limited by the falx)

## INFRATENTORIAL SDH ONLY



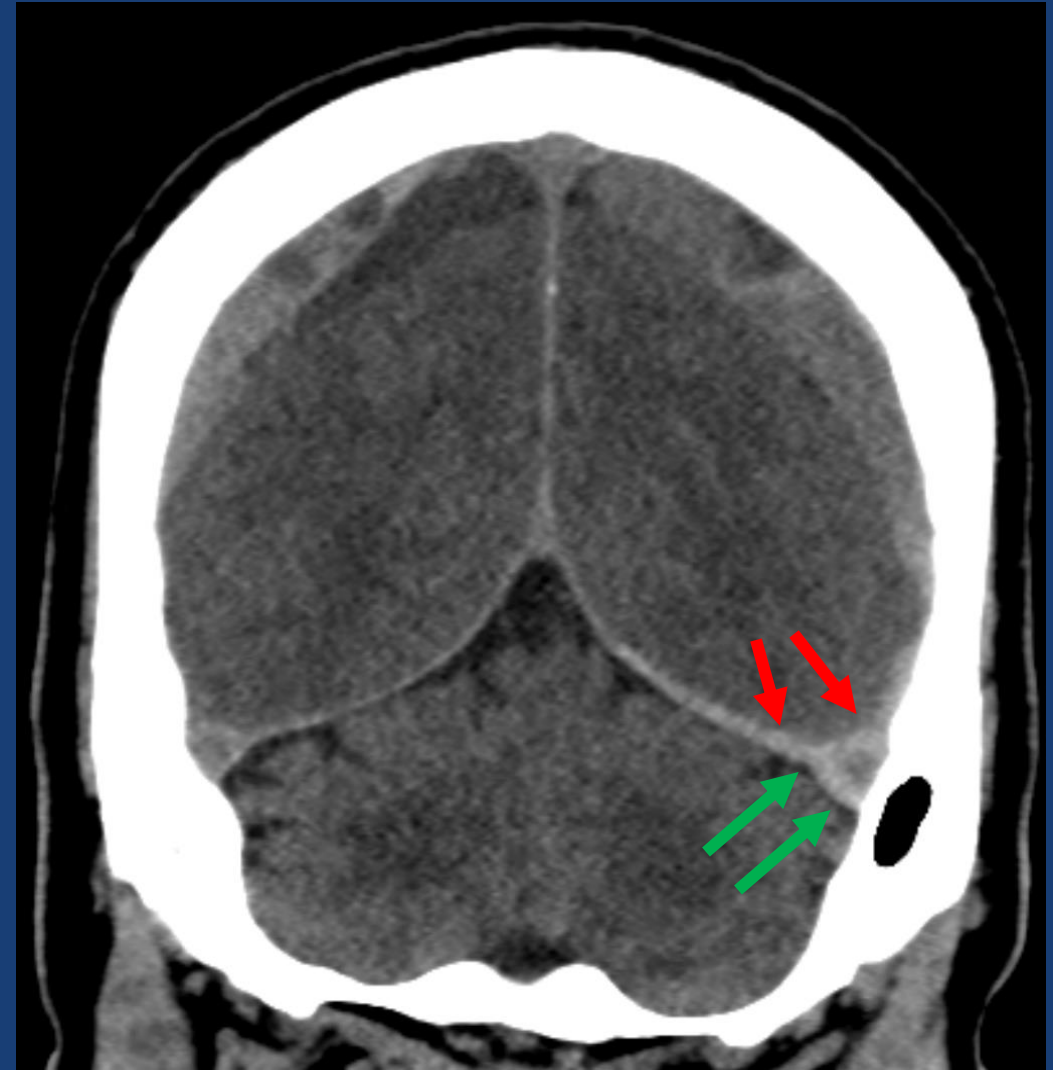
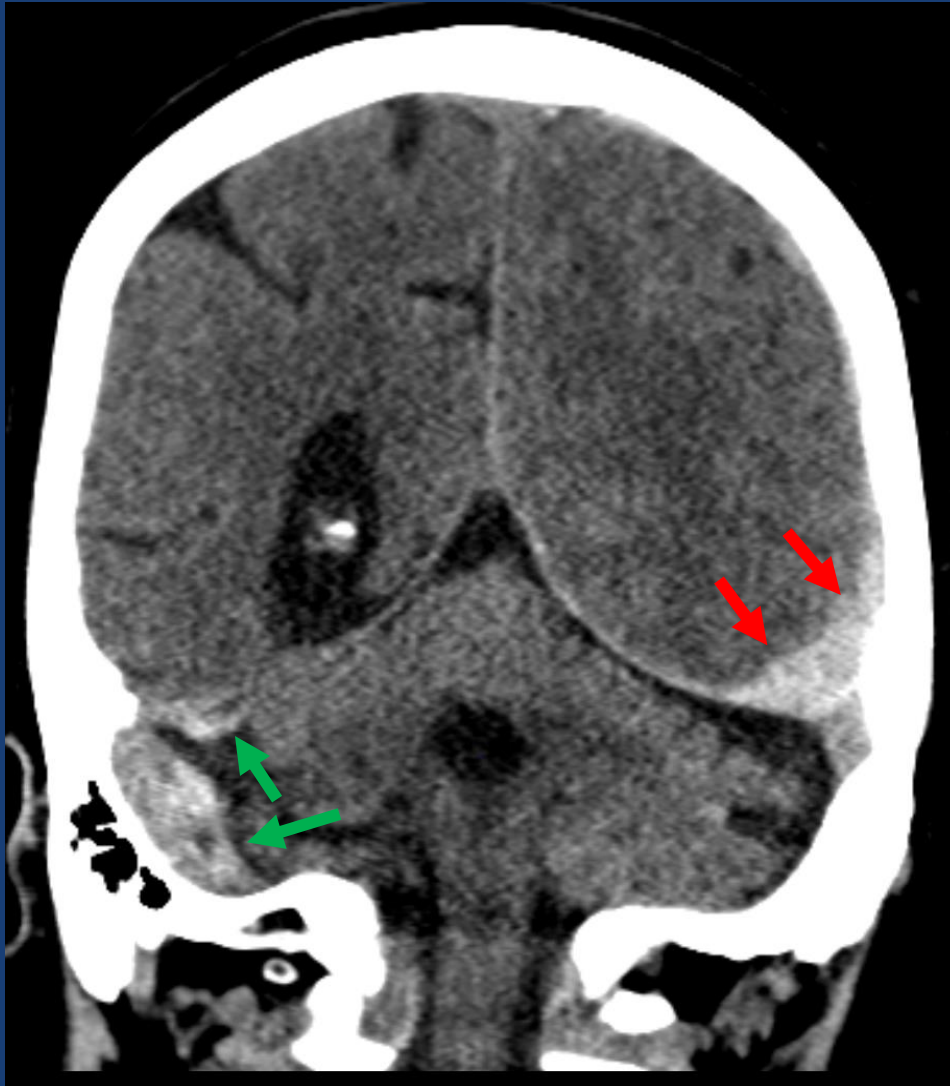
## SUPRATENTORIAL SDH ONLY



RIGHT INFRA SDH

LEFT SUPRA SDH

COMBINED





# PURPOSE

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- **We hypothesized that there is a significant difference in the incidence of infratentorial and supratentorial subdural hematomas.**
- A significant degree of difference would lend strong clinical evidence that a greater degree of microstructural anatomical symmetry exists between the two surfaces of the tentorium.

# METHODS

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- A total of 481 cases of acute SDHs in a 2-year period were found at our tertiary hospital based on the ICD code.
- We reviewed non-contrast CT images of the head to ascertain the presence of subdural hematoma components along the supratentorial and/or infratentorial surfaces of the tentorium.
- We compared incidences of supratentorial and infratentorial subdural hematomas and performed a statistical analysis to assess statistical significance.

# RESULTS

- Of the 481 cases, 14 cases (2.9%) contained infratentorial hematomas and 467 cases contained only supratentorial subdural hematomas, with a significant statistical difference  $p < 0.010$ .
- 286 were males and 195 were females, which did not show statistical difference between the infratentorial and supratentorial groups ( $p = 0.858$ ).
- Mean age for the infratentorial group was 65.6 (range 47- 76), and 75.6 (19-99) for the supratentorial group.

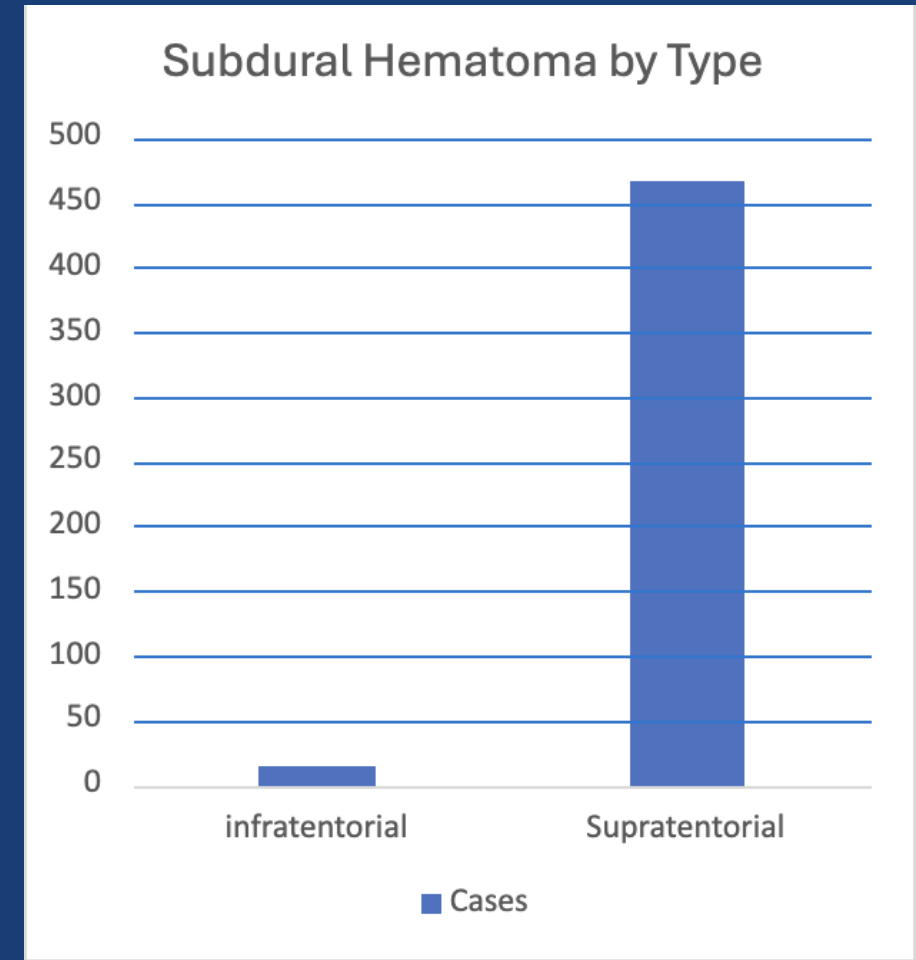
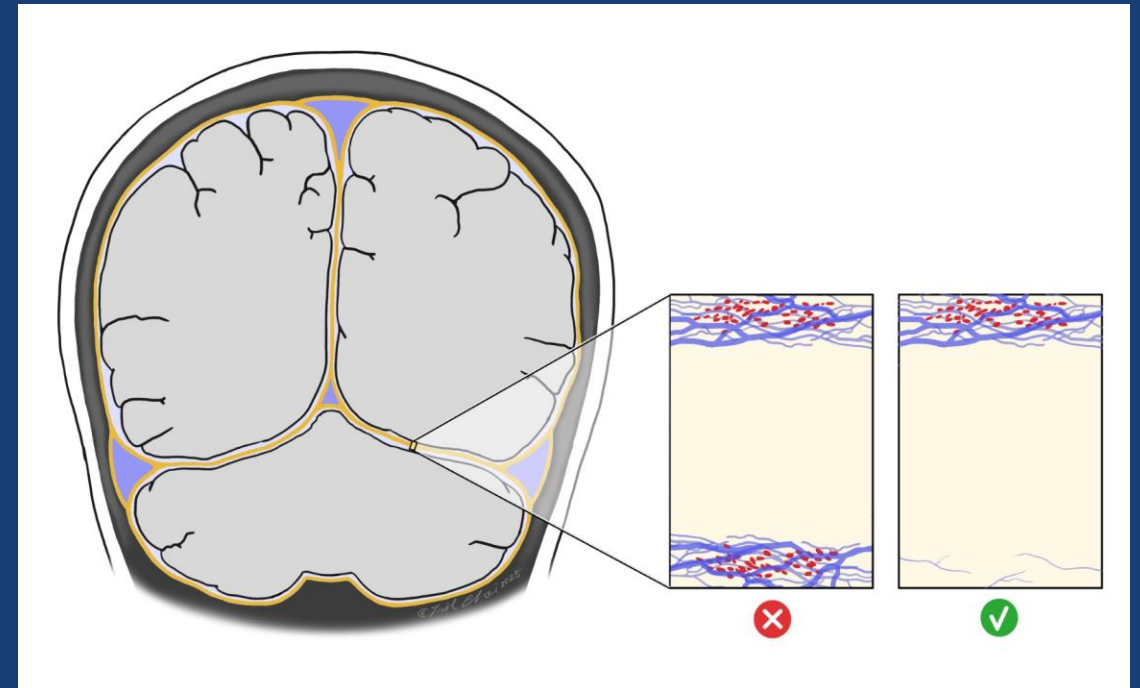


FIGURE 1. Proportion Distribution

# CONCLUSION

- Supratentorial subdural hematomas are far more common than infratentorial subdural hematomas.
- Results lend strong clinical support to the idea that histological and microvascular differences are likely present between the superior and inferior aspects of the tentorium, and also compared to the calvarial dura.
- Our results suggest that these differences should be examined by cellular anatomists.





# References

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# Questions?

Thank you!