Prevalence of Cerebral Sinovenous Thrombosis in Abusive Head Trauma

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Background

Cerebral sinovenous thrombosis (CSVT) has been proposed in legal settings to be an atraumatic mimic of abusive head trauma (AHT).

Objective

The objective of this study was to determine the prevalence of CSVT and subdural hemorrhage (SDH) in a large AHT population.

Materials and methods

This retrospective cohort study measured the prevalence of CSVT and SDH on MR venograms of 243 patients diagnosed with AHT at a single center. We also reported the presence of additional intra and extracranial injuries, head injury severity, and hospital length of stay.

Results

Among 243 patients diagnosed with AHT, 7% (16/243) had CSVT. SDH was present in 94% (15/16) of CSVT cases. Cytotoxic edema and SAH were present in 88% (14/16) and 69% (11/16) of CSVT cases respectively. Extra-cranial signs of abuse were also present in 100% (16/16) of patients with CSVT. Critical to maximal head injury severity (AIS >=5) was present in 75% (12/16) of the CSVT population versus 33% (82/243) in the total AHT population. Length of hospital and PICU stay was greater in those with CSVT (10 vs 21.9 and 3.5 vs 7.3 days).

Conclusion

These findings suggest that CSVT is uncommon in AHT and is associated with additional traumatic injuries and greater injury severity.