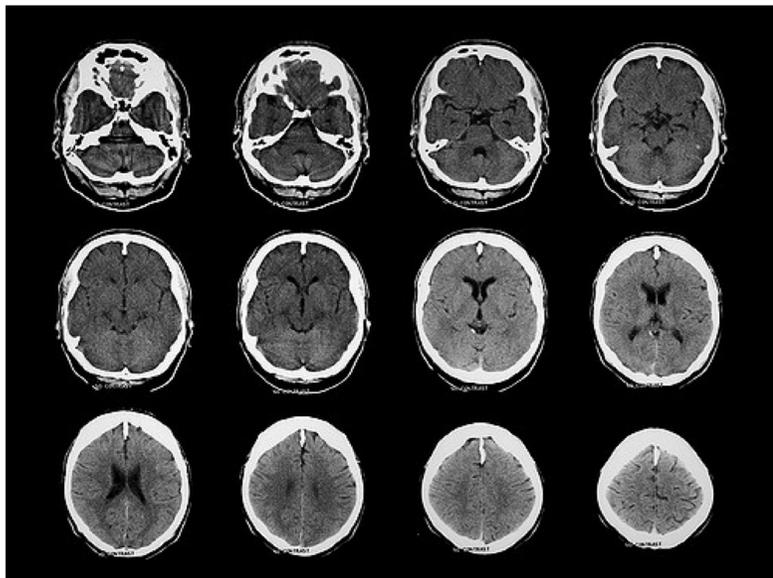


SNAPSHOT

- The problem:
 - CVA after traumatic injury is a rare and devastating event
 - Difficulty determining whether stroke is an evolution of trauma or a new event.
 - We propose hospitals adopt a collaborative effort between trauma and radiology departments to classify strokes in trauma patients.
- Our study:
 - 618 trauma patient CT angiograms (CTA) scans were reviewed for CVA; 20 were initially documented as CVA due to complications of hospital stay
 - After independent radiologist review, 70% of the 20 patients had progression of traumatic injuries, and thus should not have had their CVA diagnosed as a complication.
- Conclusions:
 - CVA as a complication after traumatic injury was overestimated at UAMS.
 - Review of initial CTA scans from trauma patients should be established to decrease CVA labeled as complications of hospital stay.

BACKGROUND

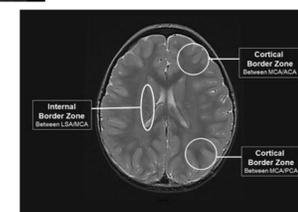
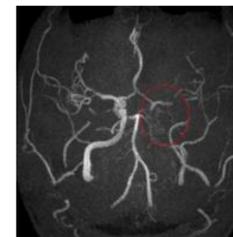
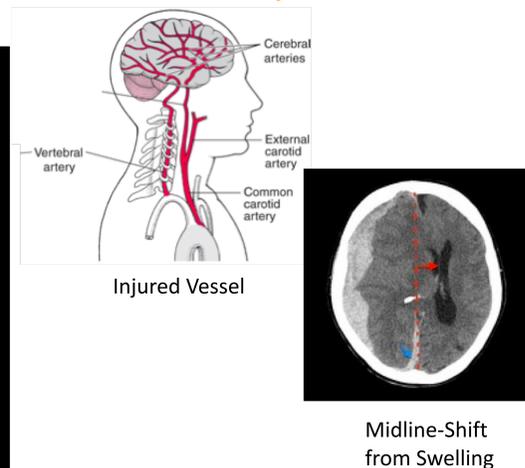
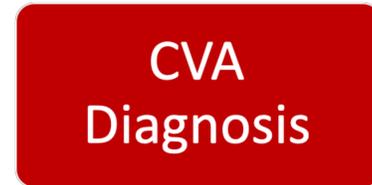
- Cerebrovascular accidents (CVA) are defined as acute neurological deficits that occur as a result of either reduced blood flow to the brain (ischemia) or bleeding into the brain (hemorrhage)¹.
- It has been estimated that 11 out of every 100,00 trauma patients suffer a CVA within four weeks of the preceding trauma².
- 1-2% of these CVAs can be attributed to complications of a trauma³.
- If a CVA occurs, it can be difficult to determine if the CVA is an evolution of trauma or not.
- We hypothesized that CVA after trauma was overdiagnosed and piloted a project with radiology to evaluate all patients with this diagnosis.



Source: <https://www.flickr.com/photos/robheuser/1473837591>

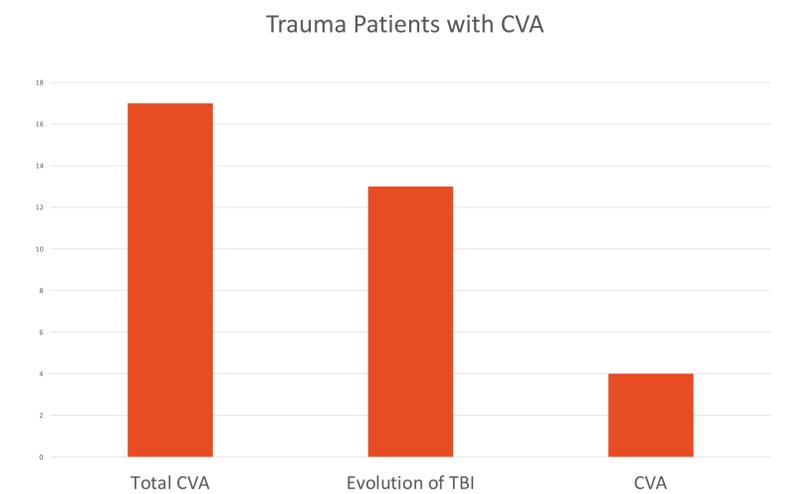
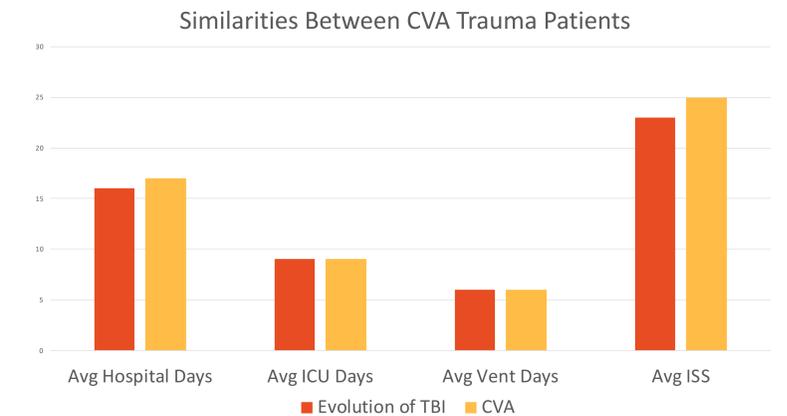
METHODS

- Retrospective chart review from July 2016-June 2018
- Imaging of Trauma patients with complication of CVA were reviewed by a radiologist
- Patients were included or excluded based on the following criteria:



RESULTS

- Data show patients with CVA had similar care among a variety of categories.
- From our study, 70% of patients did not actually have a CVA as a complication from hospital stay.
- Majority of CVA were evolution of traumatic brain injury



CONCLUSIONS

- Most CVA in trauma patients were a progression of trauma-related injury, rather than a complication of hospital stay.
- We suggest hospitals adopt a collaborative effort between trauma and radiology departments to classify the presence and etiology of CVA in trauma patients to accurately report this complication.
- We plan to extend this research to multiple Level I trauma centers to validate the findings of this study.

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- Vertebral artery dissection: <https://www.joeneurofoundation.com/understanding/brain-basics/>
- Midline Shift: <https://radiopaedia.org/articles/midline-shift>
- Embolus Stroke: <https://emedicine.medscape.com/article/338385-overview>
- Watershed Infarct: <https://link.springer.com/article/10.1007/s12630-012-9857-7>