



Introduction

With enhanced survival rates following traumatic brain injury (TBI), the number of patients presenting to acute rehabilitation is increasing. Physiatrists should be aware of Syndrome of the Trepined (ST), a rare but reversible complication of craniectomy.

Case Description

A 39 year-old male with TBI and a right-sided craniectomy performed at an unknown hospital location and time was admitted to acute inpatient rehabilitation with neurocognitive deficits following hospitalization for alcohol withdrawal and sepsis.

While functionally the patient could ambulate independently, his initial examination revealed a large right cranial concavity, dysarthria, and left upper extremity weakness. Cognitively, he was only oriented to self and location with anosognosia and impairments in attention and memory. By day 9, examination revealed fluctuating orientation, lethargy, and regression of ambulatory status. Brain imaging demonstrated midline shift away from the craniectomy causing uncal and subfalcine herniation.

Early intervention was advocated for with neurosurgery and the patient underwent emergent mesh cranioplasty. Upon readmission, he demonstrated marked improvements in cognition with progression to independence in ambulation and self-care tasks.

Imaging

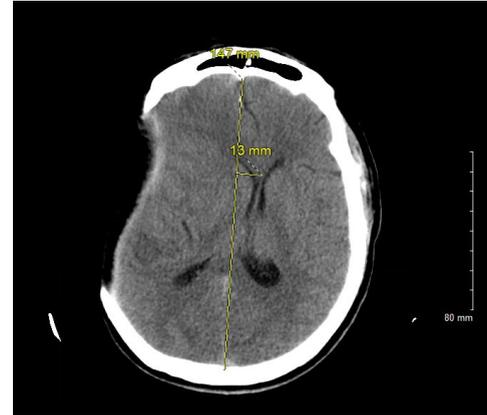


Figure 1. CT demonstrating a 13mm leftward midline shift with subfalcine and right uncal herniation.

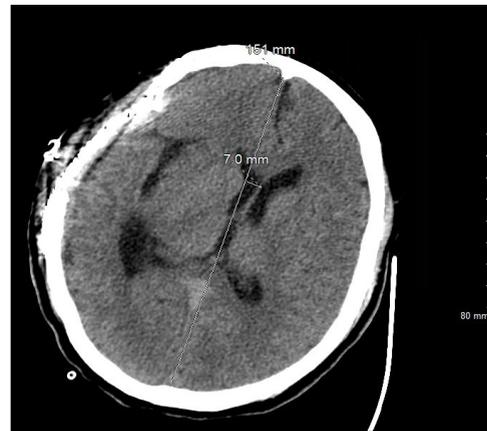


Figure 2. CT demonstrating interval mesh cranioplasty with a decrease in leftward midline shift

Figure 3. Functional Status	Admission	Day 9	Discharge
Bed Mobility	independent	independent	independent
Transfers	supervision	supervision	independent
Ambulation	independent	partial A	independent
Cognition	O-log 19	O-log 11	O-log 30

Discussion

ST often presents weeks to months after craniectomy; thus, the likelihood of patients being under the care of physiatrists is amplified.

Beyond motor deficits and a sunken flap, physiatrists should be aware of a constellation of symptoms including headaches, restlessness, fatigue, and plateaus or regressions in cognition, language, or functional status.

Physiatrists should consider ST for any unexplained out of proportion neurological/functional decline in patients with a craniectomy and promptly consider repositioning the patient and consulting neurosurgery for definitive treatment with cranioplasty.

Conclusion

Physiatrists should be cognizant of subtle changes in neurological and functional status in patient with a craniectomy and consider ST.

Early neurosurgical consultation and cranioplasty can prevent further decline and lead to reversal of deficits and dramatic clinical improvement.

References

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Jeyaraj, P. (2015). Importance of early cranioplasty in reversing the “syndrome of the trephine/motor trephine syndrome/sinking skin flap syndrome”. *Journal of maxillofacial and oral surgery*, 14(3), 666-673.