

Setting

Kingsbrook Jewish Medical Center, Brooklyn, NY

Patient

43 y/o F, PMHx bipolar d/o and HTN, previously independent in all areas

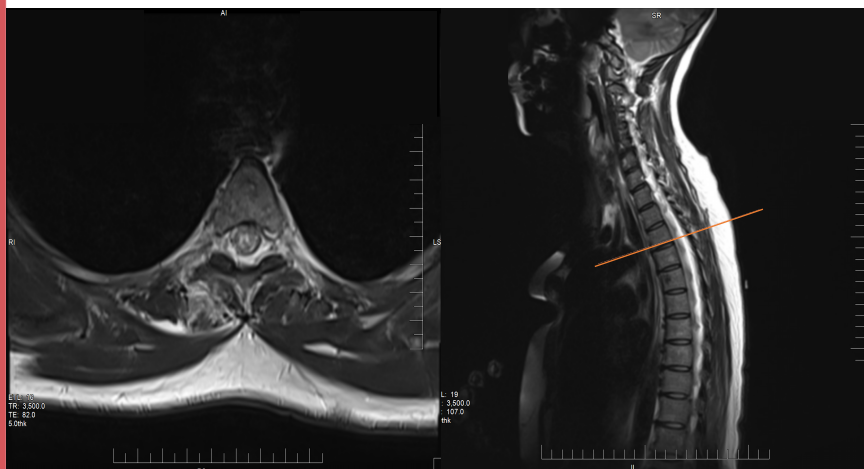
Case Description

- Patient admitted to hospital with paraplegia after attempted suicide by ingesting an unknown amount of acetaminophen, oxycodone and propranolol
- Upon regaining consciousness, she had loss of sensation and motor function in her legs with urinary retention
- The only lower body motor function found on initial physical exam was hip flexion (1/5) on the right
- Patient reported a similar episode following a previous suicide attempt which resolved on its own
- MRI showed thoracic cord edema with an expansion of central thoracic cord cross-section from T3 to T6, suggestive of infarction

Assessment/Results

- 3 weeks after discharge, lower extremity spasticity persisted, and the patient regained some lower body sensation
- Still unable to walk and required serial catheterizations for urinary retention

Imaging



Paraplegia After Propranolol Overdose: A Case Report

Presenter

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Discussion

- Maintaining adequate perfusion is essential to prevent tissue death
- The artery of Adamkiewicz supplies the lower 2/3 of the spinal cord
- Damage to this artery has been documented to cause urinary/ fecal incontinence, and paraplegia
- The mid thoracic region (T4-T6) is supplied by fewer radicular arteries and has a greater ischemic vulnerability (“Watershed Zone”)
- Ischemic cord injuries in thoracic area usually are the result of surgical procedures, rarely from medication side effect
- In this patient’s case, hypotension secondary to propranolol overdose resulted in hypoperfusion to the “Watershed Zone” leading to an infarction at the level of T3-T6
- Warning ischemic signs were reported by this patient when she had her first similar suicide attempt
- Workup with diagnostic imaging of her spinal cord after first suicide attempt could have helped highlight susceptibility to hypoperfusion and infarction of her spinal cord

Conclusion

- Hypoperfusion can cause infarction of watershed zones in susceptible patients, especially if on antihypertensive medications
- Clinicians need to have a suspicion of spinal cord ischemia when a patient presents with transient bilateral lower extremity weakness or sensory loss.
- This may subsequently result in permanent neurological deficit should the patient suffer an ischemic episode to the vulnerable area.

References

1. Vongveeranonchai, N., Zawahreh, M., Strbian, D., & Sundararajan, S. (2014). Evaluation of a patient with spinal cord infarction after a hypotensive episode. *Stroke*, 45(10), e203–e205. <https://doi.org/10.1161/STROKEAHA.114.006490>
2. Singh, U (1994). Hypotensive Infarction of The Spinal Cord. *Paraplegia*, 32, 314-322.