

Incomplete Spinal Cord Injury caused by trauma, complicated by intramedullary hematoma of spinal cord status post TPA for presumed stroke: A case report

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Case Report

86-year old female had a witnessed fall at home and struck her head on a table, without loss of consciousness. She presented to the emergency room with left sided weakness. CT of head and neck were negative for fracture, dislocation, or hemorrhage, and she received TPA for presumed acute ischemic stroke and transferred to the ICU. Several hours later she developed right upper and lower extremity weakness. MRI of head and neck were negative for stroke, but revealed intramedullary spinal cord hemorrhage and edema from C1 through T2-3. Neurosurgery recommended medical management.

Rehab Course

Repeat MRI showed stability of the hemorrhage and she transferred to the general medical floor and began therapies. She was deemed a candidate for acute inpatient rehabilitation for spinal cord injury. The patient was previously independent with cares and mobility. Upon admission to rehabilitation she required total assistance and had new urinary retention. In therapy she benefitted from use of xcite functional electrical stimulation 3 times weekly.

Initial Imaging

Initial noncontrast CT sagittal image is without hyperattenuation within the spinal canal to suggest acute intramedullary hemorrhage. Note absence of prevertebral soft tissue abnormality.



2 Days Later

Follow-up MRI performed two days later. Sagittal T2 image demonstrates interval evolution of intramedullary hemorrhage and increased cord edema. There is redistribution of prevertebral hemorrhage.



Discussion

Her motor and FIM scores improved greatly and she voided independently. Her level of assistance for ambulation and steps in her home required her to be discharged to a TCU. This is the first reported case, to our knowledge, of intramedullary spinal cord hemorrhage in a patient receiving thrombolytic agents for treatment of stroke. The anticoagulation likely provoked or exacerbated a traumatic bleed.

Conclusion

The presumption and misdiagnosis of acute ischemic stroke often leads to improper use of thrombolytic agents in conditions that present with acute hemiparesis. The most common cause of intramedullary spinal cord hemorrhage is trauma, and extra surveillance should be considered when anticoagulating a patient who reports a fall.

References

Chapman SN, Mehndiratta P, Johansen MC, McMurry TL, Johnston KC, Southerland AM. Current perspectives on the use of intravenous recombinant tissue plasminogen activator (tPA) for treatment of acute ischemic stroke. *Vasc Health Risk Manag.*

1 Day Later

MRI performed the following day secondary to declining neurological status. Sagittal T2 image demonstrates extensive intramedullary hemorrhage from C3 to T1. Interval development of large prevertebral hematoma.



Follow-up MRI sagittal T1 fat-saturated post-contrast image is without pathologic intramedullary enhancement to suggest underlying etiology for hemorrhage. Small hypointense intramedullary focus is visualized at C4-5..

