



A Good Outcome After Incomplete Paraplegia Secondary to Thoracic Intramedullary Hemangioblastoma

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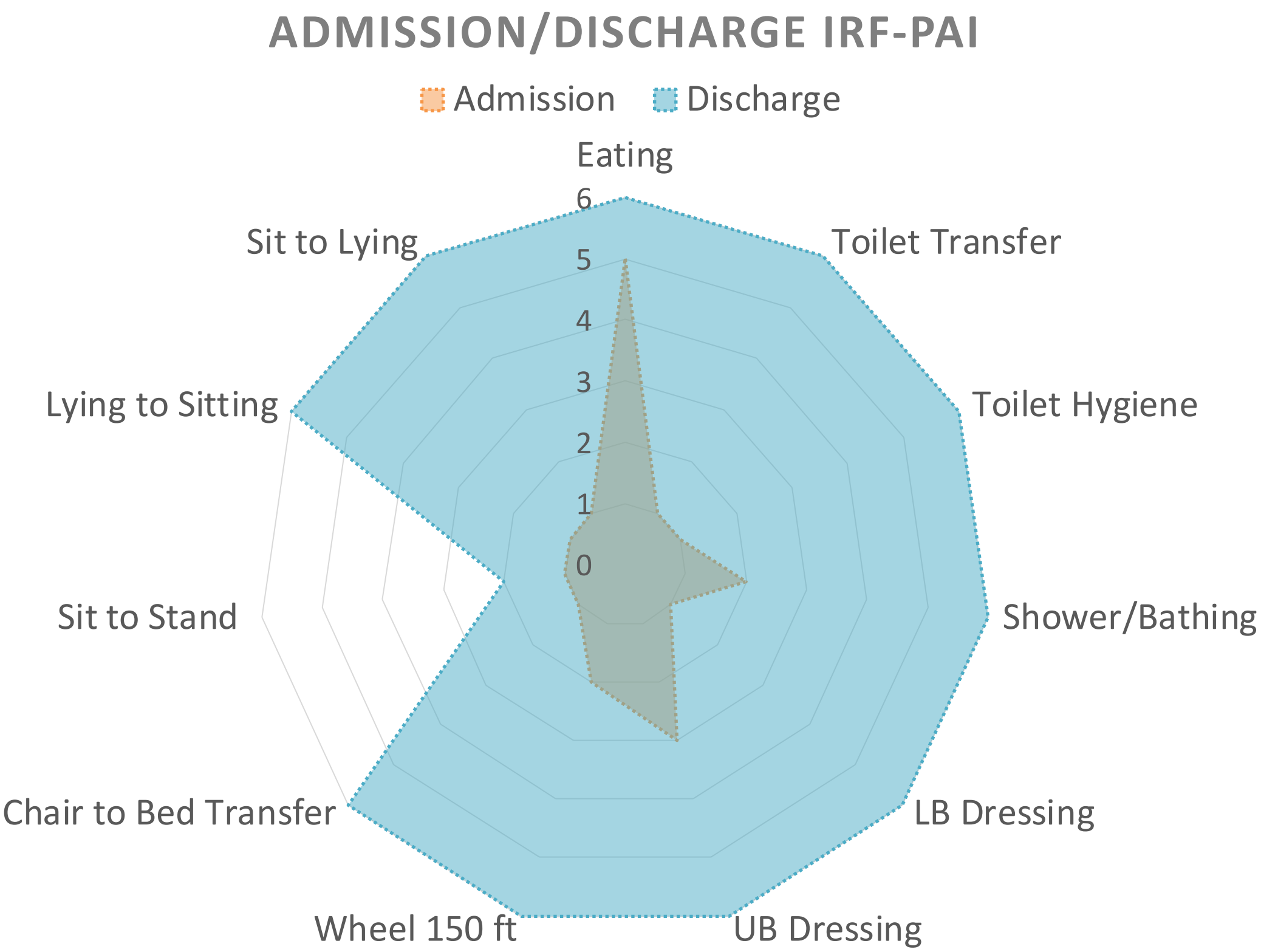
Case Description

- A 33-year-old male that had a long history of gait abnormality characterized by right more than left lower extremity weakness and impaired proprioception refractory to physical therapy in the past.
- He presented with acute worsening of bilateral lower extremity weakness and an MRI revealed a T10-T11 intramedullary mass.
- An angiogram revealed that the mass was vascular, and he eventually underwent resection of the mass via laminoplasty and then laminectomy to relieve postoperative edema.
- Upon admission to acute inpatient rehabilitation, the patient had trace hip extension, flexion and ankle strength.
- After several weeks on the rehabilitation unit, the patient was able to regain greater than anti-gravity strength distally and at least anti-gravity strength at his hips.
- Given the complicated situation of COVID-19 affecting disposition, the best option was outpatient therapies given limited access to Lokomat at transitional rehab programs.



Image Description (MRI Thoracic Spine)

An avidly enhancing intramedullary mass is seen at the T10-T11 level measuring 3.9 x 2.2 x 1.4 cm favored to represent hemangioblastoma. Extensive syringohydromyelia throughout the visualized cord is associated with diffuse cord enlargement and parenchymal thinning.



Discussion

- Hemangioblastomas are vascular tumors that can occur in the setting of such things as von Hippel-Lindau disease, but may occur as isolated lesions not associated with another disease.
- They often contribute to mass effect in the CNS sometimes causing syringomyelia or, at worst, an intramedullary hemorrhage.
- Intramedullary spinal cord tumors (IMSCTs) only account for 4-10% of CNS tumors.
- Hemangioblastomas account for only 3-8% of IMSCTs.
- Among IMSCTs, patients with hemangioblastomas or ependymomas typically have better neurologic recovery after resection or treatment.

Conclusions

- This patient presented with worsening lower extremity weakness and gait disturbance due to an uncommon spinal cord tumor. During the era of COVID-19, he was able to achieve a favorable outcome in the acute and rehabilitative phase of his recovery. His access to rehabilitation in the outpatient setting, including Lokomat, and thoughtful coordination of care proved to further enhance his recovery as he moved toward his goal of ambulation.

References

- Laviv Y, Rappaport ZH. Cord compression due to extradural thoracic nerve root hemangioblastoma. *British journal of neurosurgery*. 29(2):281-284. doi:10.3109/02688697.2014.958056.
- Peckham ME, Hutchins TA. Imaging of Vascular Disorders of the Spine. *Radiologic clinics of North America*. 57(2):307-318. doi:10.1016/j.rcl.2018.09.005.
- Juthani RG, Bilsky MH, Vogelbaum MA. Current Management and Treatment Modalities for Intramedullary Spinal Cord Tumors. *Current treatment options in oncology*. 16(8). doi:10.1007/s11864-015-0358-0.
- Gluf WM, Dailey AT. Hemorrhagic intramedullary hemangioblastoma of the cervical spinal cord presenting with acute-onset quadriplegia: case report and review of the literature. *The journal of spinal cord medicine*. 37(6):791-794. doi:10.1179/2045772314Y.0000000210.
- Pan J, Jabarkheel R, Huang Y, Ho A, Chang SD. Stereotactic radiosurgery for central nervous system hemangioblastoma: systematic review and meta-analysis. *Journal of neuro-oncology*. 137(1):11-22. doi:10.1007/s11060-017-2697-0.

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