Rehabilitation of Bell's Cruciate Paralysis in Type II Odontoid Fracture: Case Report.

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CASE DESCRIPTION

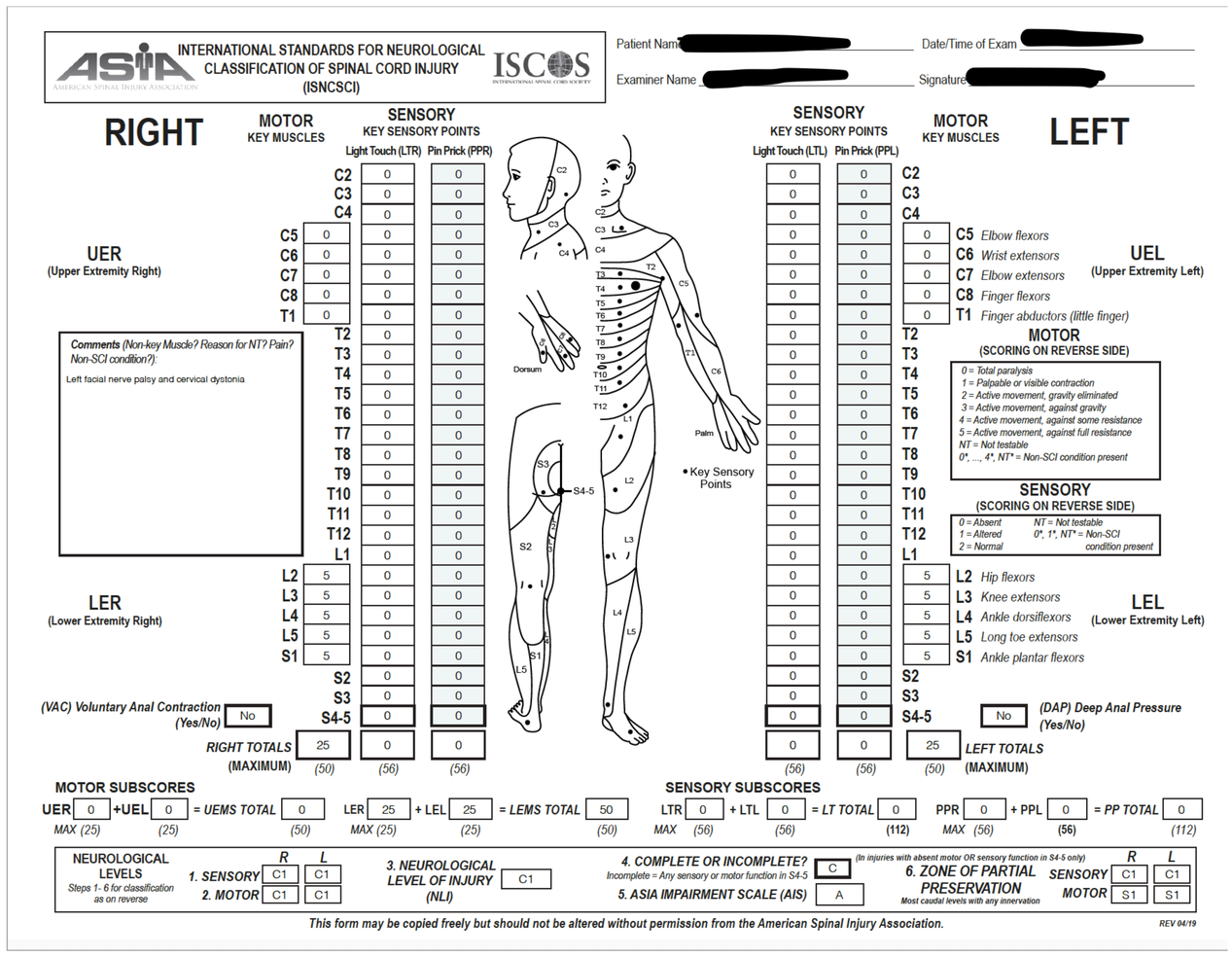
A 23-year-old man sustained Type II odontoid fracture with mild anterior displacement and a comminuted displaced fracture along the anterior arch of C1. He underwent posterior cervical fusion of C1-C2. Post op he failed extubation trials eventually requiring Tracheostomy and G tube placement. Once medically stabilized he was transferred to in-patient rehabilitation to address his spinal cord injury rehabilitation issues. His clinical and ASIA exam was completed. He had facial nerve palsy, cervical dystonia and upper extremity weakness with minimal or no involvement of the lower extremities that is consistent with Bell's Cruciate Paralysis. His spasticity, neurogenic bowel and bladder was optimized. Prognosis with his functional status was addressed along with a safe discharge plan.

DISCUSSION

Bell's Cruciate Paralysis is a rare incomplete spinal cord syndrome presenting as upper extremity weakness with minimal or no involvement of the lower extremities. Cranial nerves can be compromised. It usually occurs due to trauma to the axis and/or atlas. Clinical presentation as well as magnetic resonance imaging (MRI) can aid in confirming the diagnosis. Physiatry involvement is vital to facilitate the rehabilitation plan and ensure optimal recovery. Respiratory care is one of the important aspects given the involvement of respiratory muscles such as sternocleidomastoid and the scalene muscles.

Patient might require chemo denervation to manage cervical dystonia. Nutrition can be maintained with PEG tube at the early stages as the upper extremities weakness might interfere with proper feeding. Patient may initially require manual wheelchair to mobilize independently. Prognosis varies depending on patient's premorbid physical endurance, social supports and the mechanism of injury.

MRI showing Cruciate Paralysis



Initial INSCSCI exam

CONCLUSION

Cruciate Paralysis is an important cause of brachial diplegia and must be differentiated from acute Central Cord syndrome which can have similar clinical features. Cranial nerve injury can be involved. This report illustrates the significance of Physiatry involvement in high spinal cord injuries and the ability to detect rare injuries and ensure adequate and appropriate management in a timely manner.

REFERENCE

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