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Management of Spinal Cord Trauma in Physical Medicine and Rehabilitation

Topic: Miscellaneous

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BACKGROUND

Traumatic spinal cord injuries (SCI) result in significant neuromuscular deficits and vesico-sphincteric dysfunctions, severely impacting patients' quality of life. Early multidisciplinary rehabilitation and precise urodynamic assessment are essential for optimizing functional recovery. This case highlights the critical role of physical medicine in the management of SCI and its sequelae.

CASE DESCRIPTION

We report the case of a 34-year-old male transferred from the neurosurgery department of CHU Mohammed VI for specialized rehabilitation following a traumatic spinal cord injury. The patient sustained a work-related fall from a two-story height, leading to lower limb motor impairment and secondary urinary dysfunction.

On clinical examination, the patient exhibited paraparesis with assisted ambulation requiring a technical aid. A motor deficit in right plantar flexion (Medical Research Council grade 3/5) was noted, with preserved deep tendon reflexes and intact sensory function. The patient also reported urinary incontinence, pollakiuria, dysuria, and abdominal straining during micturition.

A comprehensive urodynamic evaluation identified a neurogenic overactive bladder with mixed dysfunction, hyposensitivity, impaired detrusor contractility, and vesico-sphincteric dyssynergia.

The rehabilitation program included progressive muscle strengthening, balance training , proprioceptive exercises and Gait rehabilitation with EzyGain® treadmill system, integrating weight-supported training and real-time biofeedback to enhance motor recovery and gait stability. Additionally, self-catheterization training and anticholinergic therapy were introduced for bladder management

DISCUSSION

Early and structured rehabilitation facilitated substantial improvements in motor function and bladder management. Progressive weight-bearing and neuromotor exercises enabled the patient to regain autonomous ambulation without assistive devices. Urological rehabilitation strategies, including pharmacological treatment and intermittent catheterization, resulted in enhanced urinary continence and voiding dynamics.

CONCLUSION

Urodynamic assessment is fundamental in the characterization of bladder dysfunctions in SCI, guiding tailored rehabilitative interventions. Early and structured rehabilitation integrating motor recovery and bladder management is pivotal in restoring functional independence and optimizing long-term outcomes

Statement of Disclosures

None

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