E-Poster

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Spinal Cord Injury Secondary to High-Voltage Electrical Burn: A Case Report on Rehabilitation Management and Outcomes

Topic: Miscellaneous

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BACKGROUND

Spinal cord injury (SCI) is a rare complication of high-voltage electrical burns, its occurrence often delayed days after the accident. The resulting neurological deficits and complications can aggravate initial disabilities and reduce the patient's quality of life.

This report details the case of a patient with paraplegia from SCI due to a high-voltage electrical burn, highlighting the coordinated care provided by the physical medicine and rehabilitation team alongside the Plastic Surgery and Burns Department at Ibn Rochd University Hospital of Casablanca.

CASE DESCRIPTION

A 30-year-old male sustained a high-voltage electrical burn from a power line, with entry and exit sites on his left arm and foot, respectively. He suffered intermediate to deep burns on his left arm, upper torso, and left hip and foot. A week after hospitalization at the Plastic Surgery and Burns Unit, he developed paraplegia and neuropathic pain and was diagnosed with SCI, confirmed by MRI findings.

Examination revealed lower limb amyotrophy, motor deficit, hyperreflexia, spasticity and neuropathic pain, with no evident sensory loss. He also presented with urinary retention requiring catheterization. Pressure ulcers had started developing at the occipital and sacral regions. The patient was unable to transfer or sit independently. Standing position and walking were impossible.

An early, optimized rehabilitation program was initiated, aimed on preventing complications, recovering motor function, improving mobility and regaining autonomy. For bladder function management, the permanent urinary catheter was replaced with intermittent catheterization. The patient showed significant progress in motor function, mobility, and transfer ability. However, severe tissue loss in the left arm hindered the use of any walking aids or mobility devices.

DISCUSSION

This case highlights the importance of early, patient-specific rehabilitation and multidisciplinary collaboration in improving outcomes for patients with SCI secondary to high-voltage electrical burns.

CONCLUSION

Due to its rare occurrence, predicting functional recovery and designing personalized rehabilitation for SCI caused by high-voltage electrical burns is challenging. Furthermore, the functional disabilities and complications related to the initial injury often complicate management, which emphasizes the need of effective coordination among different medical and paramedical professionals.

Statement of Disclosures

None

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