Isolated Cranial Nerve VI Palsy: A Complication of Intrathecal Drug Delivery System: A Case Report

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Introduction

Intrathecal baclofen (ITB) pump implantation is a safe and effective therapeutic strategy frequently used to manage refractory spasticity in patients with spinal cord injury. We present a case of a 30 year-old Caucasian male with debilitating headache and a rare neurological complication following an ITB pump implantation.

Case presentation

A 30-year-old male with a history of traumatic spinal cord injury C5 AIS C and generalized spasticity MAS grade 3 who was admitted for acute inpatient rehabilitation. Therapies and functional gains were limited by uncontrolled spasticity despite titration of oral anti-spasmodyc medications and chemodenervation. Therefore, he underwent ITB pump placement after a positive intrathecal baclofen trial. Post operatively, he developed a severe positional headache and an isolated left cranial nerve sixth palsy causing double vision. Brain & C- Spine MRI revealed no evidence of acute stroke, meningitis, or cord compression. A lumbar puncture revealed an opening pressure of 26cm H20 with clear colorless CSF. He subsequently underwent a successful blood patch placement with clinical improvement in headache but not diplopia. However, he was able to achieve vision fusion with a 20pd base-out Fresnel Prism installed to the left lens of his glasses. He was ultimately discharged home after phase I of his inpatient rehabilitation. At home, he continued to make gains with outpatient therapies while using the Fresnel Prism. Upon admission for phase II of intensive inpatient rehabilitation, he was found to have complete resolution of his left esotropia and diplopia. His visual acuity was 20/20 bilaterally.

Discussion

This case illustrates the possibility of a rare and serious neurological complication following intrathecal drug delivery system procedures. Such procedures can cause intracranial hypotension (IHT) from persistent CSF leakage, which may lead to devastating injuries such as cranial nerve sixth palsy. A high index of suspicion for IHT after intrathecal procedures will lead to prompt diagnosis, decreased inappropriate investigations, and minimized progression of complications.

References