Spasticity-induced hip dislocation following hip hemiarthroplasty in a patient with tetraplegia

Michelle Copley, MD; Shawn Song, MD

1University of Washington, Department of Rehabilitation Medicine 2VA Puget Sound Health Care System, Spinal Cord Injury Service

Background

- Hip dislocation is the second most common complication following total hip arthroplasty.1
- Posterior approach is the strongest risk factor for dislocation.4
- In the able-bodied population, dislocation rates following posterior total hip arthroplasty range between 2-5%.3
- There is little research regarding best practices for postoperative management of SCI patients.
- Maintaining postoperative precautions is recommended to minimize possibility of hip dislocation.

The Case

68-year-old male with C5 AIS D tetraplegia who sustained a right intertrochanteric femur fracture secondary to a fall and was initially treated with intramedullary nail (IMN) fixation at an outside hospital. The patient was subsequently discharged, then admitted to the VA Puget Sound SCI Unit for further management and rehabilitation.

- Underwent right hip hemiarthroplasty with Orthopedic Surgery using a posterolateral approach.
- Right posterior hip precautions were implemented (no flexion past 90 degrees, no adduction past midline, no internal rotation past neutral).
- On admission, patient with significant spasticity and spasms of the right hip flexors and adductors despite management with baclofen 20mg PO QID.
- Initial radiographs showed no obvious hardware fracture.

Discussion

- Given improved life expectancy1 and the relatively high incidence of femur fracture following SCI, it is possible that the frequency of hip hemiarthroplasty in SCI patients will increase in the future.
- In the SCI population, spasticity-induced dislocation represents a unique post-operative complication that should be considered when planning surgery.2
- In the future, investigating the role of pre-operative botulinum toxin to help combat anticipated spasticity may be of clinical interest.

- Despite use of hip abduction pillow and addition of methocarbamol 1,000mg PO BID and tizanidine 2mg PO QHS, patient continued to experience spasms of the right hip adductors.
- Repeat radiographs revealed superior dislocation of right hemiarthroplasty. Attempts at closed reductions were unsuccessful.

- Patient continued to complain of frequent painful spasms. Patient declined additional antispasmodics.
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- In the future, investigating the role of pre-operative botulinum toxin to help combat anticipated spasticity may be of clinical interest.

References