

POINT OF VIEW

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This case report does a good job of demonstrating a potential diagnostic conundrum that most of us rarely see in practice. The key issues of mechanism of injury, thorough physical exam, and the inclusion of myelography in the workup of this lesion were nicely emphasized. The standard of care for evaluation of the cervical spine in trauma patients is outlined below [1]:

- *The asymptomatic patient can be cleared by history and physical exam and does not require any imaging of the cervical spine.*
- *The symptomatic patient requires evaluation with computerised tomography (CT) scan followed by advanced imaging such as magnetic resonance imaging (MRI) and/or CT myelography when indicated.*
- *The temporarily unassessable patient requires initial CT scan if the patient is able to tolerate one. If not, the patient should be reassessed within 24–48h, depending on mental status and concomitant injuries.*
- *The completely obtunded patient should undergo initial CT scan for clearance. There is some controversy regarding follow-up studies in the obtunded patient after a negative CT scan; usually these decisions are made on a patient-to-patient basis.*

The patient in this study falls into the symptomatic, assessable category. He underwent appropriate imaging, but there was some discrepancy between the initial CT scan and the patient's physical exam, which prompted more advanced imaging. However, the MRI showed a cervical cord contusion, which was not consistent with the patient's exam either. Finally, CT myelography clearly revealed the cervical root avulsions.

Myelography has been shown to be the gold standard for evaluation of traumatic brachial plexus injuries, in both adults and children [2, 3]. Obviously this is an invasive test and not indicated on the vast majority of trauma patients. However, as the case here illustrates, high clinical suspicion for a plexus injury is an indication for proceeding with this advanced imaging modality.

Once the diagnosis was made, the patient underwent an uneventful nerve transfer, the outcome of which remains to be seen. A key issue to look out for in the future is the formation of a symptomatic pseudomeningocele. After brachial plexus injury, pseudomeningoceleles are quite common, but are usually asymptomatic [2]. However, they can involve herniation of or compression of the spinal cord that can become problematic, often requiring further myelography and surgical intervention.

In short, I feel that this is an interesting case that was treated appropriately. The principles outlined here can be used not only in the acute situation, but also in distinguishing chronic multilevel cervical radiculopathy from chronic brachial plexus injury.

1. **Anderson PA, Gugala Z, Lindsey RW, et al** (2010) Clearing the cervical spine in the blunt trauma patient. *J Am Acad Orthop Surg*; 18:149–159.
2. **Drzymalski DM, Tuli J, Lin N, et al** (2010) Cervicothoracic intraspinal pseudomeningocele with cord compression after a traumatic brachial plexus injury. *Spine J. (11):e1–5. Epub 2010 Sep 25.*
3. **Walker AT, Chaloupka JC, de Lotbiniere AC, et al** (1996) Detection of nerve rootlet avulsion on CT myelography in patients with birth palsy and brachial plexus injury after trauma. *AJR Am J Roentgenol*; 167:1283–1287.