Case report - Transient iatrogenic Horner syndrome following cervical selective nerve root block
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Introduction

- Horner syndrome results from disruption of the sympathetic innervation to the eye and is characterized by classic triad of ptosis, miosis, and anhidrosis.
- The purpose of this study was to report the iatrogenic Horner syndrome as a rarely reported complication following cervical selective nerve root block in a previously healthy 47-year-old male patient.

Case report

- 47-year-old male, police officer
- Chief complaint: Lt. shoulder to 4th finger radiating pain (O: 6 months ago)
- Trauma history: none, Underlying disease: none
- Physical exam
  - Neck ROM: full, Spurling test: +/-
  - Distal motor, sensory: intact
- Cervical spine injection, OP history: none
- X-ray: loss of lordosis
- MRI: HIVD C3-4, C6-7 central to right
  - Foraminal stenosis C5-6 both (Rt. >Lt.)
  - Foraminal stenosis C4-5, C7-T1 Lt.

- EMG-NCV: left mid to lower cervical radiculopathy
- Treatment plan: Selective nerve root block C8, Lt.
  - Contrast: Omnipaque (Iohexol 647 mg/ml)
  - Injection: 1.5cc (ropivacaine 7.5mg/ml) + 2% lidocaine 2cc + dexamethasone 1cc total 2.5 cc injection

- 5 min after the procedure, the patient complained a feeling of eyelid drooping, pressing of the left eyelid, burning sensation of the left arm.
  - Vital sign: stable
  - Conjunctiva redness: +/-
  - Ptosis: +/-
  - Anisocoria: +/-

- Left ptosis (eyelid drooped about 2mm compared to right eyelid) and anisocoria were observed.

- 3 weeks later follow up
  - Complete recovery of ptosis and anisocoria. The patient reported the Horner syndrome was completely resolved the day after the procedure. The symptoms of the radiculopathy had been alleviated about 40%.

Discussion

◆ Horner syndrome
  - Type: Central, preganglionic, or postganglionic
  - Cause: Tumor (m/c: 35~66%), traumatic (4~13%), iatrogenic (10~18.5%)
  - Iatrogenic cause: thyroideotomy (0.1%), thoracic surgery (1.3%), internal jugular vein catheterization (2%), cervical sympathetic chain block
  - Diagnosis: Clinical symptoms and signs are the most important. Pharmacologic testing (cocaine or hydroyamphetamine eye drops) can differentiate between the central, preganglionic and postganglionic type.
  - Treatment: Naphazolin eye drops and apraclonidine can alleviate the symptoms and surgical treatment such as levator muscle resection can be used for permanent ptosis.
  - In this case, temporary Horner syndrome might have been caused by blockade of C8 root, which constitute the sympathetic outflow to the face and eye.

◆ Limitation
  - Pharmacologic testing was not available to confirm the type of Horner syndrome.
  - Other imaging study (Brain CT/MRI) to detect nerve lesion was not carried out.

Conclusion

- Iatrogenic Horner syndrome can occur following C8 selective nerve root block. In our case, the symptom and sign lasted less than 24 hours and had complete resolution.
  - Treating physician should be aware of this rare complication when performing lower cervical nerve root block.
  - Other imaging study (Brain CT/MRI) to detect nerve lesion was not carried out.