



01/20/25 Morning Report with @CPSolvers



"One life, so many dreams" Case Presenter: Aye Thant (@AyeThant94) Case Discussants: Dr. Helen Shi (@), and Dr. Sebastian Green (@ebfgreen)

CC: 71 M presenting with progressive numbness & weakness in both arms

HPI: He first presented 6 years ago with completed paralysis and severe muscle atrophy proximally and distally. Over the last 6-12 mo he has begun developing similar symptoms in L arm, w numbness and tingling, there is no pain in either arms. He has right carpal tunnel release last year w/o electrodiagnostic testing and no benefit. No weakness or numbness in legs or bladder bowel dysfunction. He never had similar sx of weakness and numbness before 6 yr. There was no hx of stroke headache trauma to head neck or infection.

ROS: Rest other system is unremarkable.

PMH: oropharyngeal cancer radiation therapy in left neck 2011

Fam Hx: non

Soc Hx: non

Health-Related Behaviors:

Allergies:

Meds: non

non

Vitals: T: wnl BP: wnl RR: wnl HR: wnl

Exam: Gen: well groomed normal appearing, in no acute distress.

HEENT: normal range of motion, no icterus, no injection.

MSK: normal passive range of motion in both upper limbs w/o pain

Motor: severe global atrophy in the left upper extremity and similar but lesser pattern of atrophy in the right with similar some sparing in the deltoid, prominent fasciculation in the right deltoid and various other muscle groups of right arm MRC

Deltoid (R 3+/ L 1-2) Biceps (R 2+/ L 1-2) Triceps (R 3+/ L 1-2) Brachioradialis (R 3+/ L 1-2) wrist extensor (R 3+/ L 1-2) FDI (R 4+/ L 1-2) AFB (R 4+/ L 1-2) Grip(R 4+/ L 1-2) Iliopsoas (R 5/ L 5) Quadriceps (R 5/ L 5) Hamstring (R 5/ L 5) Tibialis ant (R 5/ L 5)

Skin: normal range of motion; prominent telangiectasia in the left subclavicular region where the radiation performed

Neuro: alert oriented with fluent speech and adequate attention

CN: pupils normal no ptosis EOM sho full version w/o nystagmus face asymmetric speech clear **Reflexes:** Biceps, Triceps, supinators all absent in both UL, ankles 2+ both LL plantar flexor **Sensory** pinprick is reduced globally in both UL, LL normal **Gait:** normal

EMG

Right median motor NCS, radial motor NCS, ulnar motors NCS from ADM and FDI are normal.

Right medial antebrachial cutaneous sensory NCS and lateral antebrachial cutaneous sensory NCS no response.

Right median sensory NCS from digit 2 and ulnar sensory NCS digit 5 show small SNAP amplitude w normal latency and right sensory NCS in the wrist shows a low normal SNAP amplitude w normal latency.

Needle EMG deltoid biceps EDC and FDI show varying degrees acute denervation along with abundant along with abundant fasciculation esp deltoid, occasionally w a grouped o myokymic appearance although classic marching myokymia not observed.

Impression: radiation plexopathy. Consistent w brachial plexus disease including diffusely small to absent sensory responses, confirming a postganglionic pattern of injury. Needle EMG shows varying degree of acute denervation w abundant fasciculation w a grouped myokymic appearance

Dx: Radiation plexopathy, cervical plexus, both upper limbs

Problem Representation: 71 M p/w chronic progressive numbness & weakness in both arms with PMH radiation to the neck region, exam shows muscular atrophy/fasciculation/ absence reflexes in UL EMG shows absence of sensory response w abundant fasciculation plus myokymic appearance.

Teaching Points: (Debora)

- Progressive numbness + weakness: spine, peripheral neuropathy process.
- Tempo: Progressive: can be happening for while, eg subacute.6 years Ddx: toxic exposure, malignancy.
- **Localization:** Peripheral → sensory change, brain (unusual for this presentation). Pain: spinal cord
- **Length dependent:** Infections, autoimmune, HIV, toxic exposure.
- **Non-length dependent:** Diabetes, Vitamin B12
- **PMH:** Cancer can cause paraneoplastic syndrome. And Radiation can cause fibrosis, many effects of radiation are not immediate.
- **LMN signs:** Hipotonia, reduced/ areflexia, atrophy. Indicates a peripheral nerve system problem.
- **Telangiectasia** after radiation can cause: Vascular damage, radiation dermatitis.
- **Radiation plexopathy** is a disorder characterized by impairment of the peripheral nervous system at the level of the brachial or lumbosacral plexus following radiation therapy. They present with nonspecific neurologic changes, such as numbness, paresthesia, neuropathic pain, vasomotor changes, and weakness, which can progress to complete loss of function of the affected limb.
- **Radiation + Neurologic manifestations:** Cerebral edema, radiation necrosis (can be months or years later), vascular changes (atherosclerosis), stroke, embolic events.