



Better Get an Xray: Thoracic Outlet Syndrome Manifested as Paresthesias in Ulnar Nerve Distribution

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CASE DESCRIPTION

This is a 43 year old female with a history of double mastectomy without chemotherapy or radiation for breast cancer who presented to the clinic with right arm numbness and tingling. Her symptoms began years ago but have progressively worsened. The paresthesias distribute down her arm and extended to the fourth, fifth, and half of her third digit. These symptoms were exacerbated when she was at work and when she would raise her arms for long periods of time, most notably at work as a dentist. On exam, she had full range of motion, sensation, and strength of the upper extremity, however provocative tests on the right were positive for Roos, Adson's, and cubital tunnel tapping at the elbow. Cervical X-ray was obtained and revealed a bilateral cervical rib at C7, which would predispose her to the symptoms consistent with neurogenic thoracic outlet syndrome.

PHYSICAL EXAM

Inspection: no bony abnormalities, no muscular atrophy in arms of hands, no erythema, no edema

Palpation: No TTP to paraspinal musculature; or supraclavicular tenderness.

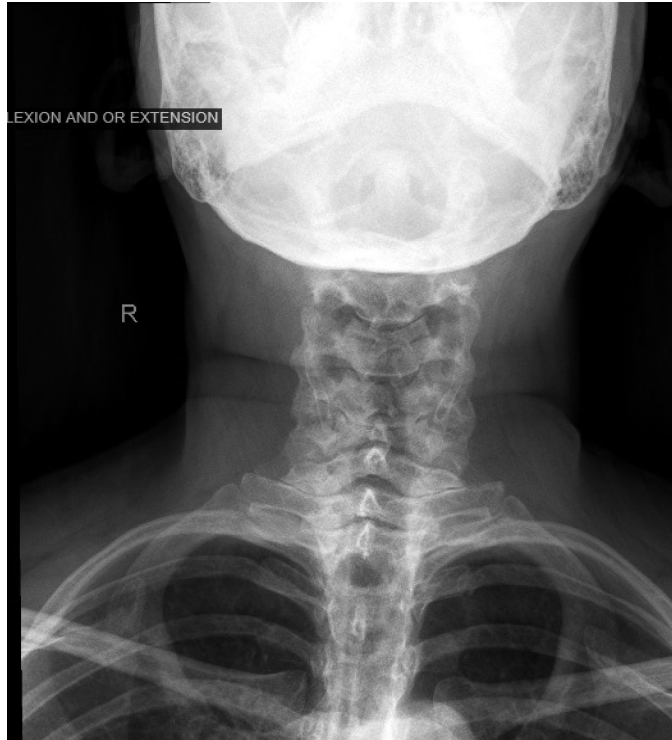
ROM: Full AROM in UE at shoulder flexion and extension, bicep flexion, and wrist flexion / extension.

Strength: 5/5 in Elbow Flexion/Extension/Wrist Extension, finger Abduction bilaterally.

Sensation: preserved and equal to light touch in both arms/hands.

Provocative +Roos and Adson's maneuvers increases sensation, palpation and tapping at scalenes did not increase sensation.

Cervical Rib



DISCUSSION

Neurogenic thoracic outlet syndrome (nTOS) is caused by compression of the brachial plexus from muscle or anatomical variations such as a cervical rib. Diagnosis of nTOS can be difficult as symptoms can overlap with other peripheral nerve entrapments. It is necessary to perform a thorough history and physical exam, and bilateral upper extremities should be evaluated with special testing including Adson's, Roos, and Elvey tests. If there is high suspicion for nTOS, cervical imaging to identify anatomical variants, and EMG should be performed. Treatment is multimodal and conservative, but could eventually result in surgery if an attributable cause is discovered and symptoms persist. nTOS-focused physical therapy, such as active stretching, targeted muscle strengthening, with analgesics for neuropathic pain will optimize recovery.

Neurogenic thoracic outlet syndrome can be masked as other peripheral neuropathies, and therefore can go undiagnosed if a thorough workup is not performed. It is very important to keep in the differential when patients present with upper extremity paresthesias, as more specific targeted therapy can be applied.

REFERENCES

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6514035/>