Cardiothoracic Imaging: Unilateral Nerve of Kuntz

Natalie N Merchant¹ and Osita Onugha²*

¹Department of Medicine, David Geffen School of Medicine at UCLA, USA
²Department of Thoracic Surgery, John Wayne Cancer Institute, USA

Clinical Image

A 21-year-old female received bilateral sympathectomy for axillary, palmer, and plantar hyperhidrosis. Intraoperative findings show unilateral Nerve of Kuntz (KN) branching off the 5th Thoracic nerve (T5) across rib 5 (R5) (Figure 1). This nerve is rarely found intraoperatively (~10%), but is commonly found on cadaveric anatomic dissection (~80%). The KN contributes to an alternate pathway to the brachial plexus and contributes to the clinical reasoning behind extending the ablation of thoracic nerves starting 2 cm away from the sympathetic ganglia [1,2]. Incomplete KN dissection has been blamed for poor surgical outcome and the failure rate for sympathectomy [3]. By resecting 2 cm away from the ganglia, the KN fibers are disrupted thereby achieving complete resection of sympathetic nerve fibers which contribute to the pathophysiology of hyperhidrosis. For this patient, after ablating the T3, T4, T5 (including unilateral KN), this patient has had a successful surgical outcome.

Figure 1: Intraoperative images demonstrates the relationship of Kuntz nerve and sympathetic chain. TS: Sympathetic Trunk; R4: rib 4; R5: rib 5; Arrow: Nerve of Kuntz

References