



BÖLÜM 17

OMUZDA TUZAK NÖROPATİLERİ

Nur ALPARSLAN ¹

GİRİŞ

Omuz çevresinde görülen tuzak nöropatiler, omuz çevresinde bulunan supraskapular, dorsal skapular, spinal, uzun torasik ve aksiller sinirlerin fibro-osseoöz bir tünelden geçerken mekanik ve dinamik kompresyona uğramasına sekonder gelişir. Hareket kısıtlılığı, ağrı, güçsüzlük kliniği bulgusu veren omuz tuzak nöropatileri nadir görülmekle birlikte ayırcı tanıda akılda tutulmalıdır (1).

SPİNAL AKSESUAR SINİR

Anatomı

Spinal Aksesuar Sinir Anatomisi

Spinal aksesuar sinirin internal ve eksternal dalı bulunmaktadır. Eksternal parçası spinal kordun C1-C5 segmentinden ve internal parçası bulbus-tan çıkış kafa içinde birleşerek aksesuar siniri oluşturur. Foramen jugulareden geçen aksesuar sinir öncelikle sternokleidomastoid kasını sonra arka boyun üçgenine girip trapez kasını inner-ve eden motor sinirdir. Trapez kasının üst lifleri skapulayı süperiora, alt lifleri inferiora, orta lifleri vertebralara doğru çeker. Sternokleidomastoid

kas, çift taraflı kasıldığından servikal fleksiyon yapar. Tek taraflı kasıldığından başı kendi tarafına, yüzü karşı tarafa çevirir (1-3).

Etyoloji

Posterior boyun üçgenine girerken yüzeyel seyre-den spinal aksesuar sinir yaralanmalar açısından risk taşır. Spinal aksesuar sinir hasarı en sık posterior servikal bölgeye yapılan cerrahi girişimler sonrası görülür. Travmalar, omuza ağır yük yüklenmesi, juguler foramen tümörleri, akromioklaviküler eklem çıkıştı, motor nöron hastalıkları, poliomiyelit ve siringomiyeli spinal aksesuar si-nirde hasar oluşturabilen diğer sebepler arasında yer alır (4-6).

Klinik

Spinal aksesuar sinir hasarı oluşan kişilerde en önemli semptom, omuzun uzun süreli kullanımıyla ortaya çıkan ağrıdır. Ağrıya güçsüzlük de eşlik edebilir. Ağır yük kaldırma, yazı yazma, kesme ve doğrama işlemleri ile baş üzeri aktiviteleri yapmakta hastalar zorlanırlar. Bakılan fizik muayenede hastaların trapez kaslarında atrofi, omuz kuşağında düşüklük, skapulada kanatlaşma

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KAYNAKLAR

1. Akgün K. Omuz çevresi tuzak nöropatileri. Sarıdoğan M, editör. Üst Ekstremité Tuzak Nöropatileri. 1 Baskı Ankara: Türkiye Klinikleri. 2019:p.1-10.
2. Lee S, Yang S, Lee J, Kim I. Spinal accessory neuropathy associated with the tumor located on the jugular foramen. *Ann Rehabil Med.* 2013;37(1):133-7.
3. Nason RW, Abdulrauf BM, Stranc MF. The anatomy of the accessory nerve and cervical lymph node biopsy. *Am J Surg.* 2000;180(3):241-3.
4. Popovski V, Benedetti A, Popovic-Monevska D, Grcev A, Stamatoski A, Zhivadinovik J. Spinal accessory nerve preservation in modified neck dissections: surgical and functional outcomes. *Acta Otorhinolaryngol Ital.* 2017;37(5):368-74.
5. Wiater JM, Bigliani LU. Spinal accessory nerve injury. *Clin Orthop Relat Res.* 1999(368):5-16.
6. Kim DH, Cho YJ, Tiel RL, Kline DG. Surgical outcomes of 111 spinal accessory nerve injuries. *Neurosurgery.* 2003;53(5):1106-12; discussion 2-3.
7. Bodner G, Harpf C, Gardetto A, Kovacs P, Gruber H, Peer S, et al. Ultrasonography of the accessory nerve: normal and pathologic findings in cadavers and patients with iatrogenic accessory nerve palsy. *J Ultrasound Med.* 2002;21(10):1159-63.
8. Casaleto E, Lin B, Wolfe SW, Lee SK, Sneag DB, Feinberg JH, et al. Ultrasound imaging of nerves in the neck: Correlation with MRI, EMG, and clinical findings. *Neurol Clin Pract.* 2020;10(5):415-21.
9. Giordano L, Sarandria D, Fabiano B, Del Carro U, Bussi M. Shoulder function after selective and superselective neck dissections: clinical and functional outcomes. *Acta Otorhinolaryngol Ital.* 2012;32(6):376-9.
10. Milenovic A, Knezevic P, Boras VV, Gabric D, Rogulj AA, Virag M. [Influence of Neck Dissection on the Corresponding Motor and Sensory Nerves]. *Lijec Vjesn.* 2015;137(7-8):219-23.
11. Goransson H, Leppanen OV, Vastamaki M. Patient outcome after surgical management of the spinal accessory nerve injury: A long-term follow-up study. *SAGE Open Med.* 2016;4:2050312116645731.
12. Bertelli JA, Ghizoni MF. Long thoracic nerve: anatomy and functional assessment. *J Bone Joint Surg Am.* 2005;87(5):993-8.
13. Hamada J, Igarashi E, Akita K, Mochizuki T. A cadaveric study of the serratus anterior muscle and the long thoracic nerve. *J Shoulder Elbow Surg.* 2008;17(5):790-4.
14. Yazar F, Kilic C, Acar HI, Candir N, Comert A. The long thoracic nerve: Its origin, branches, and relationship to the middle scalene muscle. *Clin Anat.* 2009;22(4):476-80.
15. Ebraheim NA, Lu J, Porshinsky B, Heck BE, Yeasting RA. Vulnerability of long thoracic nerve: an anatomic study. *J Shoulder Elbow Surg.* 1998;7(5):458-61.
16. Martin RM, Fish DE. Scapular winging: anatomical review, diagnosis, and treatments. Current reviews in musculoskeletal medicine. 2008;1(1):1-11.
17. Misirlioglu TO, Palamar D, Akgun K. Periscapular muscle ultrasound as a diagnostic aid in scapular winging secondary to long thoracic nerve lesion. Comment on "Magnetic resonance imaging of dynamic scapular winging secondary to a lesion of the long thoracic nerve" by Nguyen et al. and on "A case of traumatic long thoracic nerve suffering: High-frequency ultrasound finding" by Coraci et al. *Joint Bone Spine.* 2019;86(2):281-2.
18. Aktaş İ, Akgun K. Kanat Skapula. *Turkish Journal of Physical Medicine & Rehabilitation/Turkiye Fiziksels Tip ve Rehabilitasyon Dergisi.* 2007;53(3).
19. Chang KV, Lin CP, Lin CS, Wu WT, Karmakar MK, Ozccakar L. Sonographic tracking of trunk nerves: essential for ultrasound-guided pain management and research. *J Pain Res.* 2017;10:79-88.
20. Blum A, Lecocq S, Louis M, Wassel J, Moisei A, Teixeira P. The nerves around the shoulder. *Eur J Radiol.* 2013;82(1):2-16.
21. Farrell C, Kiel J. Anatomy, Back, Rhomboid Muscles. *StatPearls.* Treasure Island (FL)2022.
22. Bishop KN, Varacallo M. Anatomy, Shoulder and Upper Limb, Dorsal Scapular Nerve. *StatPearls.* Treasure Island (FL)2022.
23. Chen D, Gu Y, Lao J, Chen L. Dorsal scapular nerve compression. Atypical thoracic outlet syndrome. *Chin Med J (Engl).* 1995;108(8):582-5.
24. Akgun K, Aktas I, Terzi Y. Winged scapula caused by a dorsal scapular nerve lesion: a case report. *Arch Phys Med Rehabil.* 2008;89(10):2017-20.
25. Cummins CA, Messer TM, Nuber GW. Suprascapular nerve entrapment. *J Bone Joint Surg Am.* 2000;82(3):415-24.
26. Post M, Mayer J. Suprascapular nerve entrapment. Diagnosis and treatment. *Clin Orthop Relat Res.* 1987(223):126-36.
27. Memon AB, Dymm B, Ahmad BK, Sripathi N, Schultz L, Chandok A. Suprascapular neuropathy: A review of 87 cases. *Muscle Nerve.* 2019;60(3):250-3.
28. Toth C, McNeil S, Feasby T. Peripheral nervous system injuries in sport and recreation: a systematic review. *Sports Med.* 2005;35(8):717-38.
29. Moen TC, Babatunde OM, Hsu SH, Ahmad CS, Levine WN. Suprascapular neuropathy: what does the literature show? *J Shoulder Elbow Surg.* 2012;21(6):835-46.
30. Demirhan M, Imhoff AB, Debski RE, Patel PR, Fu FH, Woo SL. The spinoglenoid ligament and its relationship to the suprascapular nerve. *J Shoulder Elbow Surg.* 1998;7(3):238-43.
31. Akgun K, Erdogan F, Aydingoz O, Kanberoglu K. Entrapment neuropathy of the inferior branch of the suprascapular nerve by a ganglion cyst mimicking cervical disk disease. *Ann Rheum Dis.* 2003;62(10):1025-6.
32. Walsworth MK, Mills JT, 3rd, Michener LA. Diagnosing suprascapular neuropathy in patients with shoulder dysfunction: a report of 5 cases. *Phys Ther.* 2004;84(4):359-72.
33. Wu WT, Chang KV, Mezian K, Nanka O, Lin CP, Ozccakar L. Basis of Shoulder Nerve Entrapment Syndrome: An Ultrasonographic Study Exploring Factors Influen-

- cing Cross-Sectional Area of the Suprascapular Nerve. *Front Neurol.* 2018;9:902.
34. Apaydin N, Tubbs RS, Loukas M, Duparc F. Review of the surgical anatomy of the axillary nerve and the anatomic basis of its iatrogenic and traumatic injury. *Surg Radiol Anat.* 2010;32(3):193-201.
 35. Safran MR. Nerve injury about the shoulder in athletes, part 1: suprascapular nerve and axillary nerve. *Am J Sports Med.* 2004;32(3):803-19.
 36. McClelland D, Paxinos A. The anatomy of the quadrilateral space with reference to quadrilateral space syndrome. *J Shoulder Elbow Surg.* 2008;17(1):162-4.
 37. Linker CS, Helms CA, Fritz RC. Quadrilateral space syndrome: findings at MR imaging. *Radiology.* 1993;188(3):675-6.
 38. Amin MF, Berst M, el-Khoury GY. An unusual cause of the quadrilateral space impingement syndrome by a bone spike. *Skeletal Radiol.* 2006;35(12):956-8.
 39. Aktas I, Akgun K, Gunduz OH. Axillary mononeuropathy after herpes zoster infection mimicking subacromial impingement syndrome. *Am J Phys Med Rehabil.* 2008;87(10):859-61.
 40. Feng SH, Hsiao MY, Wu CH, Ozcakar L. Ultrasound-Guided Diagnosis and Management for Quadrilateral Space Syndrome. *Pain Med.* 2017;18(1):184-6.
 41. Clavert P, Lutz JC, Wolfram-Gabel R, Kempf JF, Kahn JL. Relationships of the musculocutaneous nerve and the coracobrachialis during coracoid abutment procedure (Latarjet procedure). *Surg Radiol Anat.* 2009;31(1):49-53.
 42. Besleaga D, Castellano V, Lutz C, Feinberg JH. Musculocutaneous neuropathy: case report and discussion. *HSS J.* 2010;6(1):112-6.
 43. Tagliafico AS, Michaud J, Marchetti A, Garello I, Padua L, Martinoli C. US imaging of the musculocutaneous nerve. *Skeletal Radiol.* 2011;40(5):609-16.
 44. LEBLEBICIOGLU G. Brakial Pleksus Yaralanmalari. *Türk Noroşirürji Dergisi.* 2005;15(3):227-49.
 45. Sanders RJ, Annest SJ. Thoracic outlet and pectoralis minor syndromes. *Semin Vasc Surg.* 2014;27(2):86-117.
 46. Illig KA, Donahue D, Duncan A, Freischlag J, Gelabert H, Johansen K, et al. Reporting standards of the Society for Vascular Surgery for thoracic outlet syndrome. *J Vasc Surg.* 2016;64(3):e23-35.
 47. Sanders RJ, Annest SJ. Pectoralis Minor Syndrome: Subclavicular Brachial Plexus Compression. *Diagnostics (Basel).* 2017;7(3).
 48. Boulanger X, Ledoux JB, Brun AL, Beigelman C. Imaging of the non-traumatic brachial plexus. *Diagn Interv Imaging.* 2013;94(10):945-56.