14. BÖLÜM

SUBAKROMİYAL SIKIŞMA SENDROMU

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GİRİŞ

Birinci basamak sağlık hizmetlerinde hastaların kas-iskelet sistemine ait en sık başvuru nedenlerinden birisi omuz ağrısı olup; omuz ağrısı ile başvuran hastalarda en sık teşhis edilen hastalık subakromial sıkışma sendromudur (SSS) (1). SSS ilk olarak Neer tarafından 1972 yılında, rotator manşet tendonlarının akromiyonun antero-inferior kısmının altında ve omuzun öne fleksiyon ve iç rotasyon pozisyonunda mekanik olarak sıkışması şeklinde tarif edilmiştir (2). SSS'ndaki patofizyolojik süreçte subakromial boşlukta bulunan rotator manşet tendonları ve subakromial bursa etkilenir (3), dolayısı ile SSS'nu, sınırlı subakromiyal boşlukta rotator manşet ve subakromiyal bursanın semptomatik iritasyonu olarak da tanımlamak münkündür (1).

SSS'na neden olabilecek faktörlerin spektrumu oldukça geniştir. Subakromial boşluktaki tendonların ve bursanın enflamatuar süreçlerini takip eden pato-anatomik değişikliklerin varlığı, tendonlardaki dejeneratif değişiklikler, rotator manşet kasları disfonksiyon veya zayıflığı, skapular kas disfonksiyonları, posterior glenohumeral kapsül zayıflığı, vertebral kolon ve skapuladaki postural disfonksiyonlar, subakromiyal çıkıştaki kemik ya da yumuşak dokulara ait bozukluklar, SSS'na yol açabilecek faktörlerin başlıcalarıdır (3).

SSS, subakromiyal bursitten rotator manşet tendinopatisine ve tam kalınlıkta rotator manşet yırtıklarına kadar değişen bir patoloji spektrumunu temsil eder (4).

Hastalığın tanısı; klinik şüphe, ayrıntılı fizik muayene ve uygun radyolojik görüntüleme yöntemleri ile kolayca konabilir (5). Hastalar sıklıkla baş üstü seviyelerdeki aktiviteler sırasında oluşan ağrı yakınmasıyla ile başvururlar. Ayrıca etkilenen omuz üzerine yatmakla artan ve geceleri hareket sırasında artan omuz ağrısından şikâyet ederler (6). Bu şikayetler çok spesifik olmayıp diğer omuz sorunlarında da görülebilir. Bunun yanında, her ne kadar sıkışma ve subakromiyal bursit bulguları ile başvursalar da genç hastalarda ve özellikle voleybol, tenis, yüzme gibi baş üstü hareketleri içeren sporlar yapan atletlerde internal sıkışma nedenleri mutlaka akılda bulundurulmalıdır (4).

ANATOMİ

Subakromiyal boşluğun üst sınırı; akromiyon anterior 1/3'ünün inferior yüzeyi, korokoid çıkıntı ve korakoakromiyal bağ (KAB) tarafından oluşturulur. Akromiyon, korakoakromiyal bağ ve korakoid çıkıntı birlikte korakoakromiyal kemeri oluştururlar. Subakromiyal boşluğun alt sınırı ise humerus başı, superior glenohumeral eklem ve korakohumeral bağ tarafından oluşturulur

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termiştir. Bununla beraber cerrahi sonrası erken dönemde başlayan rehabilitasyon programları hastaların erken sürede normal aktivitelerine ve spor aktivitelerine dönmelerini sağlamaktadır.

KAYNAKÇA

1. De Witte P, Nagels J, Van Arkel E, Visser C, Nelissen R, De Groot J. Study protocol subacromial impingement syndrome: The identification of pathophysiologic mechanisms (SISTIM). *BMC Musculoskelet Disord*. 2011;12:282.
2. Neer CS 2nd. Anterior acromioplasty for the chronic impingement syndrome in the shoulder: a preliminary report. J Bone Joint Surg Am 1972;54(1):41–50.
3. Michener LA, McClure PW, Karduna AR. Anatomical and biomechanical mechanisms of subacromial impingement syndrome. *Clin Biomech*. 2003;18(5):369-379.
4. Witten A, Barfod KW, Thorborg K, Foverskov M, Clausen MB. Subacromial impingement syndrome. *Ugeskr Laeger*. 2019;181(14).
5. Neer CS 2nd. Impingement lesions. Clin Orthop Relat Res 1983;(173):70–7.
6. Koester MC, George MS, Kuhn JE. Shoulder impingement syndrome. *Am J Med*. 2005;118(5):452-455.
7. Umer M, Qadir I, Azam M. Subacromial impingement syndrome. Orthop Rev (Pavia) 2012;4:e18.
8. Mackenzie TA, Herrington L, Horlsey I, Cools A. An evidence-based review of current perceptions with regard to the subacromial space in shoulder impingement syndromes: Is it important and what influences it? *Clin Biomech*. 2015;30(7):641-648.
9. Özsoy MH, Fakıoğlu O, Aydoğan NH. Subakromiyal sıkışma sendromu. *TOTBID Derg*. 2013;12(4):340-352.
10. Burns, W.C., Whipple, T.L., 2013. Anatomic Relationships in the Shoulder Impingement Syndrome : Clinical Orthopaedics and Related Research. Clinical Orthopaedics & Related Research 294.
11. Brossmann, J., Preidler, K.W., Pedowitz, R.A., White, L.M., Trudell, D., Resnick, D., 1996. Shoulder impingement syndrome: influence of shoulder position on rotator cuff impingement--an anatomic study. American Journal of Roentgenology 167, 1511–1515.
12. Flatow, E.L., Soslowsky, L.J., Ticker, J.B., Pawluk, R.J., Hepler, M., Ark, J., Mow, V.C., Bigliani, L.U., 1994. Excursion of the Rotator Cuff Under the Acromion Patterns of Subacromial Contact. Am J Sports Med 22, 779–788.
13. Burkhart, S.S., 1995. Congenital subacromial stenosis. Arthroscopy: The Journal of Arthroscopic & Related Surgery 11, 63–68.
14. Werner, C.M.L., Conrad, S.J., Meyer, D.C., Keller, A., Hodler, J., Gerber, C., 2008. Intermethod agreement and interobserver correlation of radiologic acromiohumeral distance measurements. Journal of Shoulder and Elbow Surgery 17, 237–240.
15. Wilk, K.E., Reinold, M.M., Macrina, L.C., Porterfield, R., Devine, K.M., Suarez, K., Andrews, J.R., 2009. Glenohumeral Internal Rotation Measurements Differ Depending on Stabilization Techniques. Sports Health: A Multidisciplinary Approach 1, 131–136.
16. Seitz, A.L., McClure, P.W., Finucane, S., Boardman III, N.D., Michener, L.A., 2011. Mechanisms of rotator cuff tendinopathy: Intrinsic, extrinsic, or both? Clinical Biomechanics 26, 1–12.
17. Harrison AK, Flatow EL. Subacromial impingement syndrome. *J Am Acad Orthop Surg*. 2011;19(11):701-708.
18. Watson-Jones R. Fractures and other bone and joint injuries. Baltimore, MD, Williams & Wilkins, 1940.
19. Neer CS II, Marberry TA: On the disadvantages of radical acromionectomy. J Bone Joint Surg Am 1981;63(3):416-419.
20. Bigliani LU. The morphology of the acromion and its relationship to rotator cuff tears. Orthop Translat 1986;10:228.
21. Epstein RE, Schweitzer ME, Frieman BG, Fenlin JM Jr, Mitchell DG. Hooked acromion: prevalence on MR images of painful shoulders. Radiology 1993;187(2):479–81.
22. Toivonen DA, Tuite MJ, Orwin JF. Acromial structure and tears of the rotator cuff. J Shoulder Elbow Surg 1995;4(5):376–83.
23. Chambler AF, Bull AM, Reilly P, Amis AA, Emery RJ. Coracoacromial ligament tension in vivo. J Shoulder Elbow Surg 2003;12:365-7.
24. Yamamoto N, Muraki T, Sperling JW, et al: Contact between the coracoacromial arch and the rotator cuff tendons in nonpathologic situations: A cadaveric study. J Shoulder Elbow Surg 2010;19(5):681-687.
25. Witten A, Barfod KW, Thorborg K, Foverskov M, Clausen MB. Subacromial impingement syndrome. *Ugeskr Laeger*. 2019;181(14).
26. Ogata S, Uhthoff HK: Acromial enthesopathy and rotator cuff tear: A radiologic and histologic postmortem investigation of the coracoacromial arch. Clin Orthop Relat Res 1990;254:39-48.
27. Lohr JF, Uhthoff HK. The microvascular pattern of the supraspinatus tendon. Clin Orthop Relat Res 1990;(254):35–8.
28. Clark JM, Harryman DT II: Tendons, ligaments, and capsule of the rotator cuff: Gross and microscopic anatomy. J Bone Joint Surg Am 1992;74(5):713- 725.
29. Gerber C, Galantay R V., Hersche O. The pattern of pain produced by irritation of the acromioclavicular joint and the subacromial space. *J Shoulder Elb Surg*. 1998;7(4):352-355.
30. Kanatlı U. (Ed.), Baybars M.A, Uğurlu M. (2017) Subakromiyal sıkışma sendromu. Omuz Hastalıkları ve Artroskopisi (292-293). Ankara : US Akademi.
31. Park HB, Yokota A, Gill HS, El Rassi G, McFarland EG. Diagnostic accuracy of clinical tests for the different degrees of subacromial impingement syndrome. J Bone Joint Surg Am 2005;87(7):1446–55.
32. Hawkins RJ, Brock RM, Abrams JS, Hobeika P. Acromioplasty for impingement with an intact rotator cuff. J Bone Joint Surg Br 1988;70(5):795–7.
33. Pappas GP, Blemker SS, Beaulieu CF, McAdams TR, Whalen ST, Gold GE. Invivo anatomy of the Neer and Hawkins sign positions for shoulder impingement. J Shoulder Elbow Surg 2006;15(1):40–9.

34. Mair SD, Viola RW, Gill TJ, Briggs KK, Hawkins RJ. Can the impingement test predict outcome after arthroscopic subacromial decompression? J Shoulder Elbow Surg 2004;13(2):150–3.
35. Lim JT, Acornley A, Dodenhoff RM. Recovery after arthroscopic subacromial decompression: prognostic value of the subacromial injection test. Arthroscopy 2005;21(6):680–3.
36. Mayerhoefer ME, Breitenseher MJ, Wurnig C, Roposch A. Shoulder impingement: Relationship of clinical symptoms and imaging criteria. *Clin J Sport Med*. 2009;19(2):83-89.
37. Bölükbaşı S, Kanatlı U. Rotator manşet hastalıklarında tanı ve tedavi algoritması. TOTBİD (Türk Ortoped ve Travmatoloji Birliği Derneği) 2003 cilt 2 sayı1-2.
38. Schmitt J, Haake M, Tosch A, Hildebrand R, Deike B, Griss P. Low-energy extracorporeal shock-wave treatment (ESWT) for tendinitis of the supraspinatus. A prospective, randomised study. J Bone Joint Surg Br 2001;83(6):873–6.
39. Downing DS, Weinstein A. Ultrasound therapy of subacromial bursitis. A double blind trial. Phys Ther 1986;66(2):194–9.
40. Morrison DS, Frogameni AD, Woodworth P. Non-operative treatment of subacromial impingement syndrome. *J Bone Jt Surg - Ser A*. 1997;79(5):732-737.
41. Dorrestijn O, Stevens M, Winters JC, van der Meer K, Diercks RL. Conservative or surgical treatment for subacromial impingement syndrome? A systematic review. *J Shoulder Elb Surg*. 2009;18(4):652-660.
42. Cummins CA, Sasso LM, Nicholson D. Impingement syndrome: Temporal outcomes of nonoperative treatment. *J Shoulder Elb Surg*. 2009;18(2):172-177.
43. Bigliani LU, Levine WN: Subacromial impigement syndrome. J Bone Joint Surgery Am 1997;79(12):1854-1868.
44. Kromer TO, Tautenhahn UG, de Bie RA, Staal JB, Bastiaenen CH. Effects of physiotherapy in patients with shoulder impingement syndrome: a systematic review of the literature. J Rehabil Med 2009;41(11):870–80.
45. Karthikeyan S, Kwong HT, Upadhyay PK, Parsons N, Drew SJ, Griffin D. A double-blind randomised controlled study comparing subacromial injection of tenoxicam or methylprednisolone in patients with subacromial impingement. J Bone Joint Surg Br 2010;92(1):77.
46. Hawkins RJ, Misamore GW, Hobeika PE. Surgery for full-thikness rotator cuff tears. J J Bone Joint Surg Am. 1985 67(9):1349-55.
47. Chang WK. Shoulder impingement syndrome. Phys Med Rehabil Clin N Am 2004;15(2):493–510.
48. Magaji SA, Singh HP, Pandey RK. Arthroscopic subacromial decompression is effective in selected patients with shoulder impingement syndrome. J Bone Joint Surg Br 2012;94(8):1086–9.
49. Odenbring S, Wagner P, Atroshi I. Longterm outcomes of arthroscopic acromioplasty for chronic shoulder impingement syndrome: a prospective cohort study with a minimum of 12 years' follow-up. Arthroscopy 2008;24(10):1092–8.
50. McCallister WV, Parsons IM, Titelman RM, Matsen FA 3rd. Open rotator cuff repair without acromioplasty. J Bone Joint Surg Am 2005;87(6):1278–83.
51. Donigan JA, Wolf BR. Arthroscopic subacromial decompression: acromioplasty versus bursectomy alone--does it really matter? A systematic review. Iowa Orthop J 2011;31:121–6.
52. Green A, Griggs S, Labrador D. Anterior acromial anatomy: Relevance to arthroscopic acromioplasty. Arthroscopy 2004;20(10):1050–4.
53. Colman WW, Kelkar R, Flatow EL, et al: The effect of anterior acromioplasty on rotator cuff contact: An experimental and computer simulation. J Shoulder Elbow Surg 1996;5:S8-S9.
54. Jobe, F.W., Pink, M.M., 1996. Shoulder pain in golf. Clinics in sports medicine 15, 55–63.
55. Kibler, W.B., Sciascia, A., 2009. Current concepts: scapular dyskinesis. British Journal of Sports Medicne 44, 300–305.
56. Garofalo R, Castagna A, Cesari E, Marcopoulos N, Borroni M, Conti M. Anterior and posterior internal impingement: An evidence-based review. *Br J Sports Med*. 2010;44(5):382-388.
57. Cheung S. Shoulder injuries in the throwing athlete. Orth Sports Med 2011;4:173–84.
58. Reinold MM, Gill TJ. Current concepts in the evaluation and treatment of the shoulder in overhead throwing athletes, part 1: physical characteristics and clinical examination. Sports Health 2010;2(1):39–50.
59. Ellenbecker, T.S., Cools, A., 2010. Rehabilitation of shoulder impingement syndrome and rotator cuff injuries: an evidence-based review. British Journal of Sports Medicine 44, 319–327.
60. Walch G, Liotard JP, Boileau P, Noël E. Postero-superior glenoid impingement. Another impingement of the shoulder. J Radiol 1993;74(1):47–50.
61. Andrews JR, Broussard TS, Carson WG. Arthroscopy of the shoulder in the management of partial tears of the rotator cuff: a preliminary report. Arthroscopy 1985;1(2):117–22.
62. Burkhard SS, Morgan CD. Peel-back mechanism: its role in producing and extending posterior type II lesions and its effect on SLAP repair rehabilitation. Arthroscopy 1998;14(6):637–40.
63. Behrens S, Compas J, Deren ME, Drakos M. Internal impingement. a review on a common cause of shoulder pain in throwers. Phys Sportsmed 2010;38(2):11–8.
64. Singh B, Bakti N, Gulihar A. Current concepts in the diagnosis and treatment of shoulder impingement. *Indian J Orthop*. 2017;51(5):516-523.
65. Michener LA, Walsworth MK, Burnet EN. Effectiveness of rehabilitation for patients with subacromial impingement syndrome: A systematic review. *J Hand Ther*. 2004;17(2):152-164.
66. Dugas JR, Andrews JR. Thermal capsular shrinkage in the throwing athlete. Clin Sports Med 2002;21(4):771–6.