# BÖLÜM 14

# OMUZ ARTRİTİ VE ARTROPLASTİSİ

Eren İMAMOĞLU [1]

## GİRİŞ

Osteoartrit(OA);sinovyal eklemlerin kalıcı ve ilerleyici kıkırdak kaybına yol açan dejeneratif bir hastalıktır. En çok kalça ve diz gibi yük taşıyan eklemleri etkilemekle birlikte yaşam beklentisi ve yaşlı popülasyonun artmasıyla omuz eklem OA sıklığıda artmaktadır. Omuz eklemi, kalça ve dizden sonra en çok protez uygulanan eklemdir (1).

Kadınlarda ve ileri yaşta omuz artrozu daha sık görülmektedir. Prevalans erkeklerde 45 yaş üstünde, kadınlarda 55 yaş üstünde giderek artış gösterir ve 60 yaş üstünde %32,8 oranındadır (2). Omuz osteoartriti humerus başı ve glenoid eklem yüzlerindeki hiyalin kıkırdağın kaybı ile eklem kapsülü ve kemik yapıların, mekanik ve biyokimyasal değişimlerini içeren ilerleyici,dejeneratif sürece bağlı gelişen ağrı ve fonksiyon kaybı ile karakterizedir.

Etyolojik açıdan bakıldığında omuz osteoartinin nedenleri primer ve sekonder olarak ikiye ayrılır (Tablo 1).Tekrarlayan mikrotravmalara bağlı,saptanabilen bir predispozan faktör bulunmaksızın primer olabileceği gibi; konjenital deformite,travma öyküsü,metabolik nedenler ve enfeksiyona bağlı doğal yapısını kaybetmiş eklemlerde sekonder olarakta ortaya çıkabilir (3).Primer omuz osteoartiti, sekonder artroz nedenlerine göre daha nadirdir ve kadınlarda daha sıktır;sekonder osteoartit ise genel olarak erkeklerde daha sık görülür (4).

Omuz osteoartinin tedavisi planlanırken; hastanın yaşı ve aktivite düzeyi,fizik muayne ve radyolojik bulguları,ek hastalıkları dikkatlice irdelenmelidir. Konservatif, restore edici ve rekonstrüktif gibi farklı tedavi seçenekler vardır. Konserva-

[1] Op. Dr., Konya Beyhekim Eğitim ve Araştırma Hastanesi, Ortopedi ve Travmatoloji Kliniği, imamolueren@gmail.com

kaygı verici şekilde azaldığını belirtmişlerdir (65). Başarısız HA ve TOA revizyonunda tTOA uygulaması tatmin edici iyi sonuçları bildirilmiştir (66,67).Triple ve ark. 80 yaş üzeri TOA ile tTOA uygulanan hastaları karşılaştırmış ve fonksiyonel sonuçlar benzer oranda iyileşme saptamışlardır, ancak ters omuz protezinde komplikasyon ve transfüzyon ihtiyacı daha fazla saptandığı bildirilmiştir (68). Yine TOA ile tTOA'nin karşılaştırıldığı başka bir çalışmada, postop 2. yılda VAS skoru ve ASES(American Shoulder and Elbow Surgeons score) her iki grupta benzer olduğu ancak TOA'nde fleksiyon ve dış rotasyonun daha iyi olduğu bildirilmiştir ve bu durumun ters omuz protezi uygulanan hastalarda rotator manşet fonksiyonunun olmamasına bağlanmıştır (69).

## OMUZ PROTEZ KOMPLİKASYONLARI

Son yıllarda tTOA tasarımlarının da gelişmesiyle omuz artroplasti yapılan hasta sayısı artışına paralel komplikasyon oranlarıda artmaktadır.İnstabilite, enfeksiyon, aseptik glenoid ve humerus gevşemesi, akromiyon ve spina skapula kırığı, glenoid ayrışması, humerus kırığı,aksiler veya radial sinir arazı gibi komplikasyonlar görülebilir.İnstabilite en sık görülen komplikasyondur ve implant malpozisyonu, yumuşak doku dengesizliği, kemik defekti gibi durumlarda görülebilir (70,71).

## KAYNAKLAR


1. Lin DJ,Wong TT,Kazam JK.Shoulder Arthroplasty,from indication to complication:What the radiologist needs to know.RadioGraphics 2016;192-208.
2. Millett PJ, Gobezie R, Boykin RE. Shoulder osteoarthritis: diagnosis and management. Am Fam Physician 2008;78:605-11
3. Stoller DW.Magnetic resonance imaging in orthopedics and sports medicine.Lippincott Williams&Wilkins, Vol 1.2007
4. Farid N, Bruce D, Chung CB Miscellaneous conditions of the shoulder: anatomical, clinical, and pictorial review emphasizing potential pitfalls in imaging diagnosis. Eur J Radiol. 2008;68:88-105.
5. ChiellemiC,FranceschiniV. Shoulder osteoarthritis. Arthritis. 2013; 2013: 370231 .
6. Cole BJ,Yanke A,Provencher MT.Nonarthroplasty alternatives for treatment of glenohumeral arthritis.J Shoulder Elbow Surg. 2007;16(5 Suppl):S231-40
7. Gerber A, Lehtinen JT, Warner JJ. Glenohumeral osteoarthritis in active patients: diagnostic tips and complete management options. Phys Sportsmed. 2003;31:33-40.
8. Gem M, Şenol M.S,Kanatlı U. Omuz artriti tanısı ve cerrahi dışı tedavisi.Kanatlı U.(ed.)*Omuz artroplastisi* içinde. İzmir:Us Akademi :2018 p.143-147
9. Brophy RH,Marx RG.Osteoarthritis following shoulder pain.Med Clin North AM.2005;24(1):47-56.
10. Riordan J,Dieppe P. Arthritis of glenohumeral joint.Baillieres Clin Rheumatol.1989;3(3):607-25
11. Gomoll AH, Katz JN, Warner JJ. Rotator cuff disorders: recognition and management among

patients with shoulder pain. Arthritis Rheum 2004;50:3751-61.
12. Grennberg DL. Evaluation and treatment of shoulder pain.Med Clin North Am. 2014;98(3):487-504.
13. Rockwood CA, Matsen FA, Wirth MA. The Shoulder.2nd ed. Philedelphia, Pa:Saunders; 1998. P. 840-964.
14. Willick SE, Sanders RK. Radiologic evaluation of the shoulder girdle. Phys Med Rehabil Clin N Am. 2004;15:373-406.
15. Brox JI, Lereim P, Merckoll E. Radiographic classification of glenohumeral arthrosis. Acta Orthop Scand 2003;74:186-9.
16. Walch G,Badet R,Boulahia A.Morphologic study of the glenoid in primary glenohumeral osteoarthritis.J Arhroplasty 1999;14(6):756-760
17. Sher JS,Iannotti JP,Williams GR. The effect of magnetic resonance on imaging clinical decision making.J Shoulder Elbow surg. 1998;13(3):311-9
18. Mc Carty LP, Cole BJ.Nanoarthroplasty treatment of glenohumeral cartialge lesions .Arthroscopy.2005;21(9):1131-42.
19. Reineck JR,Krishnan SG,Burkhead WZ.Early glenohumeral arthritis in the competig athlete. Clin Sports Med.2008;27(4):803-19
20. Menge TJ, Boykin RE, Byram IR. A comprehensive approach to glenohumeral arthritis. Southern medical journal. 2014;107(9):567-73
21. Sperling JW, Cofield RH, Rowland CM. Minimum fifteen year follow-up of Neer hemiarthroplasty and total shoulder arthroplasty in patients aged fifty years or younger. J Shoulder Elbow Surg. 2004;13(6):604-13
22. Schoch B, Schleck C, Cofield RH. Shoulder arthroplasty in patients younger than 50 years: minimum 20 year follow -up. J Shoulder Elbow Surg. 2015;24(5):705-10.
23. Mitchell JJ, Horan MP, Greenspoon JA. Survivorship and Patient-Reported Outcomes After Comprehensive Arthroscopic Management of Glenohumeral Osteoarthritis: Minimum 5-Year Follow-up. The American Journal of Sports Medicine. 2016;44(12):3206-13
24. Daldal İ,Bozkurt H,Ulunay K. Primer omuz artritinde artroplasti. Kanatlı U.(ed) *Omuz Artroplastisi* içinde.İzmir:Us Akademi :2018 p.149-153
25. Harjula JN, Paloneva J, Haapakoski J. Increasing incidence of primary shoulder arthroplasty in Finland – a nationwide registry study BMC Musculoskeletal Disorders (2018) 19:245
26. Matsen FA, Warme WJ, Jackins SE. Can the ream and run procedure improve glenohumeral relationships and function for shoulders with the arthritic triad? Clin Orthop Relat Res. 2014;473(6): 2088-96.
27. Matsen F, Lippitt S. Current technique for the ream-and-run arthroplasty for glenohumeral osteoarthritis. J Bone Joint Surg Essent Surg Technol. 2012;2:e20
28. Saltzman MD,Chamberlain AM,Mercer DM. Shoulder hemiarthroplasty with concentric glenoid reaming in patients 55 yeras ald ar less.J shoulder Elbow Surg.2011;20:609-15
29. Levine WN,Fischer CR,Nguyen D.Long term follow-up of shoulder hemiarthroplasty for glenohumeral osteoarthritis.Ther Journal of bone and joint surgery A merican volume. 2012;94(22):e164.
30. Schoch B,Schleck C,Cofield RH.Shoulder arthroplasty in patients younger than 50 yeasrs:minimum 20 year follow up.Journal of shoulder and elbow surgery.2015;24(5):705-10.
31. Merolla G,Wagner E,Sperling JW. Revision of failed shoulder hemiarthroplasty tor everse total arthroplasty:analysis of 157 revision implants.Journal of shoulder and elbow surgery.2018;27(1):75-81
32. F. Gadea, G. Alami, G. Pape. Shoulder hemiarthroplasty: Outcomes and long-term survival analysis according to etiology Orthopaedics & Traumatology: Surgery & Research (2012) 98, 659—665
33. Thomas SR,Sforza G,Levy O.Geometrical analysis of Copeland surface replacament shoulder arthroplasty in relation to normal anatomy.Journal of shoulder and elbow sur-

gery.2005;14(2):186-92
34. Copeland S. The continuing development of shoulder replacement: "reaching the surface". J Bone Joint Surg Am. 2006;88: 900-5
35. Levy O, Tsvieli O, Merchant J. Surface replacement arthroplasty for glenohumeral arthropathy in pa-tients aged younger than fifty years: results after a minimum ten-year follow-up. J Shoulder Elbow Surg (2015) 24, 1049-60.
36. Mullett H, Levy O, Raj D. Copeland surface replacement of the shoulder: results of an hydroxyapatite-coated cementless implantin patients over 80 years of age. J Bone Joint Surg Br. 2007;89:1466-9.
37. Scalise jj,Miniaci A,Iannotti JP.Resufacing arthroplasty of the humerus:indications,surgical techniques and clinical results.Tech Shoulder Elbow Surg.2007:8;152-60
38. Fuerst M,Fink B,Ruther W. The DUROM cup humeral surface replacement in patients with rheumatoid arthritis.J Bone Joint Surg Am.2007;89:1756-62
39. Westermann RW, Pugely AJ, Martin CT. Reverse shoulder arthroplasty in the Unite(/' States: a comparison of national volume, patient demograpics, complications, and surgical indications, Iowa Orthop, j, 2015;35:1-7
40. Simone JP, Streubel PH, Sperling JW Anatomical total shoulder replacement with rotator cuff repair for osteoarthritis of the shoulder, Bone Joint jt 2014;96-b(2):224-8
41. Styron JF,Higuera CA,Strnad G.Greater patient confidence yields greater functional outcomes after primary total shoulder arthroplasty.Journal of Shoulder and Elbow Surgery.2015;24(8):1263-7
42. Rodosky MW,Bigliani LU:Indications for glenoid resurfacing in shoulder arthroplasty.J Shoulder Elbow Surg 1996;5:231-48.
43. Gartsman GM,Roddey TS,Hammerman SM.Shoulder arthroplasty with or without resurfacing of the glenoid in patients who have osteoarthritis.J Bone Joint Surg Am 2000;82:26-34.
44. Somerson JS, Wirth MA. Self-assessed and radiographic out-comes of humeral head replacement with nonprosthetic gle-noid arthroplasty. J Shoulder Elbow Surg. 2015;24:1041-8.
45. Matsen FA. Early effectiveness of shoulder arthroplasty for patients who have primary glenohumeral degenerative joint disease. J Bone Joint Surg Am. 1996;78:260-4.
46. Garcia GH,Liu JN,Mahony GT. Hemiarthplasty versus total shoulder arthroplasty for shoulder osteoarthritis:A matched comparasion of return to sports.AM J Sports Med 2016;Epub
47. Pfahler M,Jena F,Neyton L.Hemiarthroplasty versus total shoulder prosthesis:results of cemented glenoid components.JShoulder Elb Surg 2006;15(2):154-63
48. Sandow M[1], David H, Bentall S. Hemiarthroplasty vs total shoulder replacement for rotator cuff intact osteoarthritis: how do they fare after a decade? JShoulder Elbow Surg 2013;22:877-885.
49. Young AA,Walch G,Pape G.Secondary rotator cuff dysfunction following total shoulder arthroplasty for primary glenohumeral osteoarthritis: results of a multicenter study with more than five years of follow-up. J Bone Joint Surg Am.2012;94(8):685-93.
50. D K Kuechle [1], S R Newman, E Itoi Shoulder muscle moment arms during horizontal flexion and elevation. J Shoulder Elbow Surg1997;6(5):429-39
51. Özturan K.,Kaya Y.,Najafov E.,Kanatlı U. Ters total omuz artroplastisi Kanatlı U.(ed) Omuz Artroplastisi içinde.İzmir:Us Akademi :2018 p.111-124.
52. D Molé [1], L Favard [Excentered scapulohumeral osteoarthritis] Rev Chir Orthop Reparatrice Appar Mot.2007;93(6 Suppl):37-94.
53. Ackland DC,Roshan-Zamir S,Richardson M. Moment arms of shoulder musculature after

reverse total shoulder arthroplasty.J BoneJoint Surg AM.2010;92(5):1221-30
54. Jobin CM,Brown GD,Bahu MJ. Reverse total shoulder arthroplasty for cuff tear arthropathy: the clinical effect of deltoid lengthening and center of rotation medialization J Shoulder Elbow Surg. 2012;21(10):1269-77.
55. Gerber C,Pennington SD,Nyffeler RW Reverse total shoulder arthroplasty J Am Acad Orthop Surg. 2009;17(5):284-95.
56. Sirveaux F,Favard L,Oudet D Grammont inverted total shoulder arthroplasty in the treatment of glenohumeral osteoarthritis with massive rupture of the cuff. J Bone Joint Surg Br. 2004 Apr;86(3):388-95.
57. Lévigne C, Boileau P, Favard L. Scapular notching in reverse shoulder arthroplasty.J Shoulder Elbow Surg 2008;17:925-35.
58. Leung B,Horodyski M,Struk AM. Functional outcome of hemiarthroplasty compared with reverse total shoulder arthroplasty in the treatment of rotator cuff tear arthropathy. J Shoulder Elbow Surg 2012;21:319-23.
59. Werner CM, Steinmann PA, Gilbart M. Treatment of painful pseudoparesis due to irreparable rotator cuff dysfunction with the Delta III reverse-ball-andsocket total shoulder prosthesis. J Bone Joint Surg Am 2005;87:1476-86.
60. Young AA, Smith MM, Bacle G. Early results of reverse shoulder arthroplasty in patients with rheumatoid arthritis. J Bone Joint Surg Am 2011;93:1915-23.
61. Klein M, Juschka M, Hinkenjann B. Treatment of comminuted fractures of the proximal humerus in elderly patients with the Delta III reverse shoulder prosthesis. J Orthop Trauma 2008;22:698-704. http://dx.doi.org/10.1097/BOT.0b013e31818afe40
62. Cazeneuve JF, Cristofari DJ, Charalambous CP. The reverse shoulder prosthesis in the treatment of fractures of the proximal humerus in the elderly. J Bone Joint Surg Br 2010;92:535-9.
63. Boileau P,Gonzales JF,Chuinard C. Reverse total shoulder arthroplasty after failed rotator cuff surgery.J Shoulder Elbow Surg 2009;18:600-6.
64. Boileau P,Watkinson D,Hatzidakis AM. NeerAward 2005: The Grammont reverse shoulder prosthesis:results in cuff tear arthritis, fracture sequelae, and revision arthroplasty J Shoulder Elbow Surg. 2006;15(5):527-40
65. Guery J,Favard L,Sirveaux F. Reverse total shoulder arthroplasty. Survivorship analysis of eighty replacements followed for five to ten years. J Bone Joint Surg Am 2006;88:1742-7.
66. Melis B,Bonneville N,Neyton L. Glenoid loosening and failure in anatomical total shoulder arthroplasty: is revision with a reverse shoulder arthroplasty a reliable option? J Shoulder Elbow Surg. 2012;21(3):342-9.
67. Williams PN,Trehan SK,Tsouris N. Functional Outcomes of Modular Conversion of Hemiarthroplasty or Total to Reverse Total Shoulder Arthroplasty HSS Journal 2017 Jul;13(2):102-107
68. Triplet JJ,Everding NG,Levy JC. Anatomic and Reverse Total Shoulder Arthroplasty in Patients Older Than 80 Years. Orthopedics.2015;38(10):e904-10.
69. Kiet TK,Feeley BT,Naimark M. Outcomes after shoulder replacement: comparison between reverse and anatomic total shoulder arthroplasty. J Shoulder Elbow Surg.2015;24(2):179-85.
70. Zumstein MA,Pinedo M,Old J Problems, complications, reoperations, and revisions in reverse total shoulder arthroplasty: a systematic review J Shoulder Elbow Surg. 2011;20(1):146-57
71. Boileau P,Melis B,Duperron D. Revision surgery of reverse shoulder arthroplasty. J Shoulder Elbow Surg. 2013;22(10):1359-70.