

27. BÖLÜM

AKSİLLER RADYOTERAPİ (BÖLGESEL LENF NODU IŞINLAMASI)

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GİRİŞ

Meme kanserinde bölgesel lenfatiklere radyoterapi önemli bir konudur. Meme kanserinde, lokal nüksü azaltmak ve sağkalımı uzatmak için postoperatif göğüs duvarına/memeye, supraklaviküler, aksillaya ve mamma interna lenf nodlarına radyoterapi önerilmektedir. Hangi hastada lenf nodu sahasına radyoterapi uygulanacağına karar vermek; yan etkileri azaltmak ve en az tedavi ile en fazla fayda sağlamak açısından önemlidir.

Lokal ileri meme kanserinde nüks en sık uzak metastaz şeklinde olurken, lokal bölgesel yineleme de görülmektedir. Hem uzak metastaza eşlik etmekte hem de izole nüks olarak da daha seyrek olsa da karşımıza çıkmaktadır.

Mastektomi sonrası radyoterapinin önemini belirlemek için günümüze dek birçok çalışma yapılmıştır. Eski çalışmalarda mastektomi sonrası radyoterapinin özellikle kardiyak nedenlerle mortaliteyi artırdığı ve bu nedenle sağkalımı olumsuz etkilediği bildirilmiştir.¹ Bu sonuç kullanılan eski radyoterapi teknikleri, yetersiz kemoterapi protokolleri ve hasta risk gruplarının belirlenmemesi gibi nedenlerle günümüzde değerini kaybetmiştir.

Danimarka Meme Kanseri Çalışma Grubu'nun yüksek riskli premenapozal hastalarda ve sonrasında postmenapozal hastalarda mastektomi sonrası radyoterapi sonuçlarını bildirdiği çalışmada radyoterapinin lokal kontrol ve sağkalım üzerindeki önemi belirlenmiştir.^{2,3}

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KAYNAKÇA

1. Cuzick J, Stewart H, Peto R, et al. Overview of randomized trials of postoperative adjuvant radiotherapy in breast cancer. *Cancer Treat Rep* 1987;71(1): 15-29.
2. Overgaard M, Hansen PS, Overgaard J, et al. Postoperative radiotherapy in high-risk premenopausal women with breast cancer who receive adjuvant chemotherapy. *N Engl J Med*. 1997; 2;337(14):949-55. Doi:10.1056/NEJM199710023371401.
3. Overgaard M, Jensen MB, Overgaard J, et al: Postoperative radiotherapy in high-risk postmenopausal breast cancer patients given adjuvant tamoxifen. Danish breast cancer cooperative group DBCG 82c randomized trial. *Lancet* 353:1641-1648, 199
4. Danish Breast Cancer Cooperative Group, Nielsen HM, Overgaard M, Grau C, et al. Study of failure pattern among high-risk breast cancer patients with or without postmastectomy radiotherapy in addition to adjuvant systemic therapy: long-term results from the Danish Breast Cancer Cooperative Group DBCG 82 b and c randomized studies. *J Clin Oncol*. 2006 May 20;24(15):2268-75. doi: 10.1200/JCO.2005.02.8738.
5. Strom E A, Woodward W A, Katz A et al. Clinical investigation: regional nodal failure patterns in breast cancer patients treated with mastectomy without radiotherapy. *Int J Radiat Oncol Biol Phys*. 2005; 63(5):1508-13. Doi: 10.1016/j.ijrobp.2005.05.044.
6. Clarke M, Collins R, Darby S, et al. Effects of radiotherapy and of differences in the extent of surgery for early breast cancer on local recurrence and 15-year survival: an overview of the randomised trials. *Lancet*. 2005; 366:2087-106.
7. McGale P, Taylor C, Correa C, et al. Effect of radiotherapy after mastectomy and axillary surgery on 10-year recurrence and 20-year breast cancer mortality: meta-analysis of individual patient data for 8135 women in 22 randomised trials. *Lancet*. 2014, 383-2127-35. Doi: 10.1016/S0140-6736(14)60488-8
8. Recht A, Gray R, Davidson NE, et al. Locoregional failure 10 years after mastectomy and adjuvant chemotherapy with or without tamoxifen without irradiation: experience of the Eastern Cooperative Oncology Group. *J Clin Oncol* 1999;17(6):1689-700.
9. Wallgren A, Bonetti M, Gelber RD, et al.; International Breast Cancer Study Group Trials I through VII. Risk factors for locoregional recurrence among breast cancer patients: results from International Breast Cancer Study Group Trials I through VII. *J Clin Oncol* 2003;21(7):1205-13.
10. NCCN (2020). National Comprehensive Cancer Network Guidelines Version 6.2020 Breast Cancer. (10/12/2020 tarihinde <http://nccn.org>. adresinden ulaşılmıştır
11. Taghian A, Jeong JH, Mamounas E, et al. Patterns of locoregional failure in patients with operable breast cancer treated by mastectomy and adjuvant chemotherapy with or without tamoxifen and without radiotherapy: results from five National Surgical Adjuvant Breast and Bowel Project randomized clinical trials. *J Clin Oncol* 2004;22(21):4247-54.
12. Kunkler IH, Canney P, van Tienhoven G, et al; MRC/EORTC (BIG 2-04) SUPREMO Trial Management Group. Elucidating the role of chest wall irradiation in 'intermediate-risk' breast cancer: the MRC/EORTC SUPREMO trial. *Clin Oncol (R Coll Radiol)*. 2008 Feb;20(1):31-4. doi: 10.1016/j.clon.2007.10.004. PMID: 18345543.
13. Whelan T J, Olivetto I A, Parulekar W R, et al. Regional Nodal Irradiation in Early-Stage Breast Cancer. *N Engl J Med*. 2015; 373(4): 307-316. Doi:10.1056/NEJMoa1415340.
14. Poortmans PM, Collette S, Kirkove C, et al. Internal Mammary and Medial Supraclavicular Irradiation in Breast Cancer. *N Engl J Med*. 2015 Jul 23; 373(4):317-27. Doi: 10.1056/NEJMoa1415369.
15. Poortmans PM, Weltens C, Fortpied C, et al. European Organisation for Research and Treatment of Cancer Radiation Oncology and Breast Cancer Groups. Internal mammary and medial supraclavicular lymph node chain irradiation in stage I-III breast cancer (EORTC 22922/10925): 15-year results of a randomised, phase 3 trial. *Lancet Oncol*. 2020 Dec;21(12):1602-1610. Doi:10.1016/S1470-2045(20)30472-1.

16. Thorsen LB, Offersen BV, Danø H, et al. DBCG-IMN: A Population-Based Cohort Study on the Effect of Internal Mammary Node Irradiation in Early Node-Positive Breast Cancer. *J Clin Oncol.* 2016 Feb 1;34(4):314-20. doi: 10.1200/JCO.2015.63.6456.
17. Hennequin C, Bossard N, Servagi-Vernat S, et al. Ten-year survival results of a randomized trial of irradiation of internal mammary nodes after mastectomy. *Int J Radiat Oncol Biol Phys.* 2013; 86:860–866. Doi: 10.1016/j.ijrobp.2013.03.021.
18. Zhao X, Tang Y, Wang S, et al. Locoregional Recurrence Patterns In Women With Breast Cancer Who Have Not Undergone Post-Mastectomy Radiotherapy. *Radiat Oncol.* 2020;15(1):212. Doi: 10.1186/s13014-020-01637-w.
19. Carey LA, Dees EC, Sawyer L, et al. The triple negative paradox: primary tumor chemosensitivity of breast cancer subtypes. *Clin Cancer Res.* 2007; 13:2329-34.
20. Cortazar P, Zhang L, Untch M, et al. Pathological complete response and long-term clinical benefit in breast cancer: the CTNeoBC pooled analysis. *Lancet.* 2014; 384:164-72.
21. Liedtke C, Mazouni C, Hess KR, et al. Response to neoadjuvant therapy and long-term survival in patients with triple-negative breast cancer. *J Clin Oncol.* 2008; 26:1275-81.
22. Wolmark N, Wang J, Mamounas E, et al. Preoperative chemotherapy in patients with operable breast cancer: nine-year results from National Surgical Adjuvant Breast and Bowel Project B-18. *J Natl Cancer Inst Monogr.* 2001;(30):96-102.
23. Bear HD, Anderson S, Smith RE, et al. Sequential preoperative or postoperative docetaxel added to preoperative doxorubicin plus cyclophosphamide for operable breast cancer: National Surgical Adjuvant Breast and Bowel Project Protocol B-27. *J Clin Oncol* 24:2019-2027, 2006
24. Mamounas EP, Anderson SJ, Dignam JJ, et al. Predictors of locoregional recurrence after neoadjuvant chemotherapy: results from combined analysis of National Surgical Adjuvant Breast and Bowel Project B-18 and B-27. *J Clin Oncol.* 2012; 30:3960-6. Doi: 10.1200/JCO.2011.40.8369.
25. Huang E H, Tucker S L, Strom E A, et al. Postmastectomy Radiation Improves Local-Regional Control and Survival for Selected Patients With Locally Advanced Breast Cancer Treated With Neoadjuvant Chemotherapy and Mastectomy. *J Clin Oncol.* 2004;22(23):4691-9. Doi: 10.1200/JCO.2004.11.129.
26. Krug D, Lederer B, Seither F, Nekljudova V, et al. Post-Mastectomy Radiotherapy After Neoadjuvant Chemotherapy in Breast Cancer: A Pooled Retrospective Analysis of Three Prospective Randomized Trials. *Ann Surg Oncol.* 2019 Nov;26(12):3892-3901. doi: 10.1245/s10434-019-07635-x. Epub 2019 Jul 26. PMID: 31350646.
27. Fayanju O M, Ren Y, Suneja G, et al. Nodal Response to Neoadjuvant Chemotherapy Predicts Receipt of Radiation Therapy after Breast Cancer Diagnosis. *Int J Radiat Oncol Biol Phys.* 2020;106(2):377-389. Doi: 10.1016/j.ijrobp.2019.10.039.
28. NSABP-51 (NRG 9353 randomized trial) Standard or Comprehensive Radiation Therapy in Treating Patients With Early-Stage Breast Cancer Previously Treated With Chemotherapy and Surgery <https://clinicaltrials.gov/ct2/show/NCT01872975> adresinden 12.01.2021'de ulaşıldı.
29. Comparison of Axillary Lymph Node Dissection With Axillary Radiation for Patients With Node-Positive Breast Cancer Treated With Chemotherapy (ALLIANCE A011202) [ClinicalTrials.gov](https://clinicaltrials.gov) [Internet] adresinden 12.01.2021'de ulaşıldı.
30. Giuliano AE, Ballman K, McCall L, et al. Locoregional recurrence after sentinel lymph node dissection with or without axillary dissection in patients with sentinel lymph node metastases: long-term follow-up from the American College of Surgeons Oncology Group (Alliance) ACOSOG Z0011 randomized trial. *Ann Surg.* 2016; 264:413-20.
31. Jagsi R, Chadha M, Moni J, et al. Radiation field design in the ACOSOG Z0011 (Alliance) trial. *J Clin Oncol.* 2014; 32:3600-6.
32. Donker M, Tienhoven G V, Straver M E, et al. Radiotherapy Or Surgery Of The Axilla After A Positive Sentinel Node In Breast Cancer (EORTC 10981-22023 AMAROS): A Randomi-

- sed, Multicentre, Open-Label, Phase 3 Non-Inferiority Trial. *Lancet Oncol.* 2014; 15(12): 1303–1310. Doi:10.1016/S1470-2045(14)70460-7.
33. Galimberti V, Cole BF, Zurrída S, et al. Axillary dissection versus no axillary dissection in patients with sentinel-node micrometastases (IBCSG 23-01): a phase 3 randomised controlled trial. *Lancet Oncol.* 2013; 14:297-305.
 34. Sávolt Á, Péley G, Polgár C, et al. Eight-year follow up result of the OTOASOR trial: The Optimal Treatment Of the Axilla - Surgery Or Radiotherapy after positive sentinel lymph node biopsy in early-stage breast cancer: A randomized, single centre, phase III, non-inferiority trial. *Eur J Surg Oncol.* 2017 Apr;43(4):672-679. doi: 10.1016/j.ejso.2016.12.011.
 35. Castelo M, Hu SY, Dossa F, et al. Comparing Observation, Axillary Radiotherapy, and Completion Axillary Lymph Node Dissection for Management of Axilla in Breast Cancer in Patients with Positive Sentinel Nodes: A Systematic Review. *Ann Surg Oncol.* 2020 Aug;27(8):2664-2676. doi: 10.1245/s10434-020-08225-y. Epub 2020 Feb 4. PMID: 32020394.