

## Bölüm 17

# ERKEN EVRE MEME KANSERİNDE RADYOTERAPİ

Rahşan HABİBOĞLU<sup>1</sup>

### GİRİŞ

Erken evre meme kanseri evre 1 ve 2 yi kapsar. American Joint Committee on Cancer (AJCC)'in 7. Versiyonuna göre T1N0M0, T0N1miMo, T1N1miM0, T0N1M0, T1N1M0, T2N0M0, T2N1M0 ve T3N0M0 olanlar erken evre olarak kabul edilirler <sup>(1)</sup>.

Erken evre meme kanserinde cerrahi sonrası uygulanan adjuvan radyoterapi (RT), lökorejyonel nüks (LRN) riskini azaltır aynı zamanda meme kanseri spesifik sağkalım (MKSS) ve genel sağkalımı (GS) artırır. Özellikle meme koruyucu cerrahi (MKC) sonrası tüm memenin ışınlanması ve tümör yatağına ek doz verilmesi standart tedavi haline gelmiştir. Eğer modifiye radikal mastektomi (MRM) yapılmış ise RT'nin endikasyonları sınırlı ve tartışmalıdır. Bu bölümde erken evre meme kanserinde radyoterapi özetlenecektir.

### MKC ADJUVAN RT

Meme koruyucu cerrahi yapılan hastaların hemem hemen tamamına radyoterapi uygulanması gerekmektedir <sup>(2)</sup>. MKC sonrası RT, LRN riskini ve MKS ölümü azaltır. 2011 yılında "Ealy Breast Cancer Trialists' Colloborative Group (EBCTC-G)"un meta-analizinde net olarak gösterilmiştir.<sup>(3)</sup> Bu meta-analizde 17 randomize çalışma değerlendirmeye alınmıştır. 10.000 meme kanserli hasta incelenmiştir. Sonuçta 10 yıllık herhangi bir alanda nüks riski, MKC 'ye RT eklenen hastalarda %50 azalırken (% 35 'e karşı % 19, %95 GA 0.48-0.56), 15 yıllık meme kanserinden ölüm riski %3.8 oranında azalmaktadır. Bu meta-analiz sonrası MKC sonrası RT tartışmasız uygulanmaktadır.

<sup>1</sup> Radyasyon Onkoloğu, Ankara Numune Eğitim ve Araştırma Hastanesi, habiboglu@gmail.com

üst ekstremitelerde lenfödem, omuz hareketlerinde kısıtlanma, brakiyal plexopati, kot fraktürü, kardiyak toksisite (modern RT teknikleri ile minimize edilmektedir)<sup>(37)</sup> görülür.

## SONUÇ

Postoperatif adjuvan radyoterapi hem MKC hem de mastektomi sonrası için çok önemli bir tedavi yaklaşımıdır. Adjuvan RT' nin HSK, LBN, MKSS ve genel sağkalımı anlamlı oranda iyileştirdiği pek çok çalışma ile gösterilmiştir. Bugün adjuvan RT' nin endikasyonları açısından (1-3 lef nodu tutulu hastalarda PMRT, düşük risk gurubu hastalarda İMRT ve SKRT, yaşlı ve düşük riskli hastalarda adjuvan RT gibi konularda) daha ileri kanıtlara ihtiyaç vardır. Günümüzde kullanılan modern tekniklerle yapılmış yeni çalışma sonuçlarına ve hastalara uygulanacak tedaviler konusunda yeni guruplamalar ve bunların ışığında görüş birliği oluşmuş rehberlere ihtiyaç duyulmaktadır. Devam eden çalışmalar bu sorulara cevap olacaktır.

**Anahtar Kelimeler:** Meme kanseri, adjuvan radyoterapi, lenfatik radyoterapi

## KAYNAKLAR

1. Cuzick J, Stewart H, Peto R, et al: Overview of randomized trials of postoperative adjuvant radiotherapy in breast cancer. *Cancer Treat*; 1987; 71: 15-29
2. Early Breast Cancer Trialists' Collaborative Group: Favorable and unfavorable effects on long term survival of radiotherapy for early breast cancer. *Lancet*; 2000; 355: 1757-70
3. Whelan TJ, Julian J, Wright J, et al. Does locoregional radiation therapy improve survival in breast cancer? A meta-analysis. *J Clin Oncol*; 2000; 18: 1220 -9
4. Pötter R, Gnant M, Kwasny W, et al. Lumpectomy plus tamoxifen or anastrozole with or without whole breast irradiation in women with favorable early breast cancer. *Int J Radiat Oncol Biol Phys*. 2007; 68(2): 334. Epub 2007 Mar 23.
5. Hughes KS, Schnaper LA, Bellon JR, et al. Lumpectomy plus tamoxifen with or without irradiation in women age 70 years or older with early breast cancer: long-term follow-up of CALGB 9343. *J Clin Oncol*. 2013; 31(19): 2382. Epub 2013 May 20.
6. Julia White, An Tai, Douglas Arthur, et al. Breast Cancer Atlas for Radiation Therapy Planning: Consensus Definitions. sf 1-30
7. Whelan T, MacKenzie R, Julian J, et al. Randomized trial of breast irradiation schedules after lumpectomy for women with lymph node-negative breast cancer. *J Natl Cancer Inst*. 2002; 94(15): 1143-50
8. Owen JR, Ashton A, Bliss JM, et al. Effect of radiotherapy fraction size on tumor control in patients with early-stage breast cancer after local tumour excision: Long term results of a randomised trial. *Lancet Oncol* 2006; 7: 467-71
9. Yarnold J, Ashton A, Bliss J, et al. Fractionation sensitivity and dose response of late adverse effects in the breast after radiotherapy for early breast cancer: Long term results of a randomised trial. *Radiotherapy Oncol* 2005; 75: 9-17
10. START Trialists' Group, Bentzen SM, Agrawal RK, Aird EG, et al. The UK Standardisation of Breast Radiotherapy (START) Trial A of radiotherapy hypofractionation for treatment of early breast cancer: a randomised trial. *Lancet Oncol* 2008; 9(4): 331-41
11. START Trialists' Group, Bentzen SM, Agrawal RK, Aird EG, et al. The UK Standardisation of

- Breast Radiotherapy (START) Trial B of radiotherapy hypofractionation for treatment of early breast cancer: a randomised trial. *Lancet Oncol* 2008; 29: 371: 1098-107
12. Smith BD, Bentzen SM, Correria CR, et al. Fractination For Whole breast Irradiation: An American Society For Radiation Oncology (ASTRO) Evidence-Based Guideline. *Int J Radiation Oncology Biol. Phys* 2011; 81(1): 59-68
  13. Smith BD, Bellon JR, Blitzblau R, et al. Radiation therapy for the whole breast: Executive summary of an American Society for Radiation Oncology (ASTRO) evidence-based guideline. *Pract Radiat Oncol*. 2018;8(3):145. Epub 2018 Mar 12.
  14. Bartelink H, Horiot JC, Poortmans PM, et al. Impact of a higher radiation dose on local control and survival in breast-conserving therapy of early breast cancer: 10-year results of the randomized boost versus no boost EORTC 22881-10882 trial. *J Clin Oncol*. 2007;25(22):3259.
  15. Mansel RE, Fallowell L, Kissin M, et al. Randomized multicenter trial of sentinel node biopsy versus standart axillary treatment in operabl breast cancer: the ALMANAC Trial. *J Natl Cancer Inst* 2006; 98: 599-609
  16. Donker M, van Tienhoven G, Straver ME, et al. Radiotherapy or surgery of the axilla after a positive sentinel node in breast cancer (EORTC 10981-22023 AMAROS): a randomised, multicentre, open-label, phase 3 non-inferiority trial. *Lancet Oncol*. 2014;15(12):1303. Epub 2014 Oct 15.
  17. Poortmans PM, Collette S, Kirkove C, et al. Internal Mammary and Medial Supraclavicular Irradiation in Breast Cancer. *N Engl J Med*. 2015;373(4):317.
  18. Giuliano AE, McCall L, Beitsch P, et al. Locoregional recurrence after sentinel lymph node dissection with or without axillary dissection in patients with sentinel lymph node metastases: the American College of Surgeons Oncology Group Z0011 randomized trial. *Ann Surg*. 2010;252(3):426.
  19. Galimberti V, Cole BF, Zurrada 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 Apr;14(4):297-305. Epub 2013 Mar 11.
  20. Galimberti V, Cole BF, Viale G, et al. Axillary dissection versus no axillary dissection in patients with breast cancer and sentinel-node micrometastases (IBCSG 23-01): 10-year follow-up of a randomised, controlled phase 3 trial. *Lancet Oncol*. 2018;19(10):1385. Epub 2018 Sep 5.
  21. Giuliano AE, Hunt KK, Ballman KV, et al. Axillary dissection vs no axillary dissection in women with invasive breast cancer and sentinel node metastasis: a randomized clinical trial. *JAMA*. 2011;305(6):569.
  22. Overgaard M, Hansen PS, Overgaard J, Rose C, Andersson M, Bach F et al. Postoperative radiotherapy in high-risk premenopausal women with breast cancer who receive adjuvant chemotherapy. Danish Breast Cancer Cooperative Group 82b Trial. *N Engl J Med* 1997;337:949-55
  23. Ragaz J, Jackson SM, Le N, Plenderleith IH, Spinelli JJ, Basco VE et al. Adjuvant radiotherapy and chemotherapy in node-positive premenopausal woman with breast cancer. *N Engl J Med* 1997;337:956-62
  24. 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(9503):2087.
  25. 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 Jun;383(9935):2127-35. Epub 2014 Mar 19.
  26. Poortmans PM, Collette S, Kirkove C, et al. Internal Mammary and Medial Supraclavicular Irradiation in Breast Cancer. *N Engl J Med*. 2015;373(4):317.
  27. Ragaz J, Olivotto IA, Spinelli JJ, et al. Locoregional radiation therapy in patients with high-risk breast cancer receiving adjuvant chemotherapy: 20-year results of the British Columbia randomized trial. *J Natl Cancer Inst*. 2005;97(2):116.
  28. Huo D, Hou N, Jaskowiak N, et al. Use of Postmastectomy Radiotherapy and Survival Rates for

- Breast Cancer Patients with T1-T2 and One to Three Positive Lymph Nodes. *Ann Surg Oncol*. 2015 Dec;22(13):4295-304. Epub 2015 Mar 28.
29. Recht A, Gray R, Davidson N, 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: 1689-1700.
  30. Katz A, Strom EA, Buchholz TA, et al. Locoregional recurrence patterns after mastectomy and doxorubicin based chemotherapy: implications for postoperative irradiation. *J Clin Oncol* 2000; 18: 2817-27.
  31. Wallgren A, Bonetti M, Gelber RD, et al. Risk factors for locoregional recurrence among breast cancer patients: results from International Breast Cancer Study Group Trials I-VIII. *J Clin Oncol* 2003; 21: 1205-13.
  32. Taghian A, Jeong J-H, 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 randomised clinical trials. *J Clin Oncol* 2004; 22: 4247-54.
  33. Cheng JC, Chen C, Liu M, et al. Locoregional failure of postmastectomy patients with 1-3 positive axillary lymph nodes without adjuvant radiotherapy. *Int J Radiat Oncol Biol Phys* 2002; 52: 980-88. 26.
  34. Warren LE, Miller CL, Horick N, et al. The impact of radiation therapy on the risk of lymphedema after treatment for breast cancer: a prospective cohort study. *Int J Radiat Oncol Biol Phys*. 2014;88(3):565. Epub 2014 Jan 7.
  35. Chandra RA, Miller CL, Skolny MN, et al. Radiation therapy risk factors for development of lymphedema in patients treated with regional lymph node irradiation for breast cancer. *Int J Radiat Oncol Biol Phys*. 2015;91(4):760.
  36. Uptodate 2019. (10.06.2019 tarihinde [https://www.uptodate.com/contents/radiation-therapy-techniques-for-newly-diagnosed-non-metastatic-breast-cancer?sectionName=REGIONAL+NODE+RADIATION+THERAPY&topicRef=739&anchor=H24915189&source=see\\_link#H24915189](https://www.uptodate.com/contents/radiation-therapy-techniques-for-newly-diagnosed-non-metastatic-breast-cancer?sectionName=REGIONAL+NODE+RADIATION+THERAPY&topicRef=739&anchor=H24915189&source=see_link#H24915189) 10 adresinden ulařılmıştır.
  37. Harris EE. Cardiac mortality and morbidity after breast cancer treatment. *Cancer Control*. 2008 Apr;15(2):120-9.