

ERKEN EVRE PROSTAT KANSERİNDE RADYOTERAPİ

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Klinik olarak lokalize prostat kanserinin optimal yönetimi tartışmalı olmayı sürdürmektedir. Prostat kanseri için çeşitli terapi yöntemleri yaşam kalitesini ve cinsel fonksiyonu farklı şekilde etkiler. Yaşam beklenisi ve kalitesiyle ilgili hususlar hasta ve diğer branşlarla multidisipliner konușulmalıdır. Benzer prognostik özelliklere sahip hastalar karşılaşıldığında biyokimyasal ve hastalıksız sağkalım açısından aktif gözlem, radikal prostatektomi (RP), yüksek doz External Beam Radyoterapi(EBRT), Stereotaktik Radyoterapi (SBRT) veya intertisyel brakiterapi arasında fark yoktur (1), (2), (3).

Literatüre bakıldığından tedavi seçenekleri tedaviye erişim olanakları açısından coğrafi bölgeye göre de değişiklik gösterebilmektedir. Genç ve komorbid durumu olmayan hastalarda cerrahi daha çok tercih edilirken, yaşlı ve komorbiditesi olan hastalarda radyoterapi daha çok tercih edilmektedir. Özellikle yaş tedavi seçiminde önemli olmaktadır.

SEER veritabanına dayanan son bir raporda, 65 yaş ve üstü prostat kanseri teşhisi konan 85.088 hasta raporlandı. Bu hastaların % 42'si radyasyon tedavisi (RT), % 21'i RP ,% 17'si birincil Androjen Deprivasyon Tedavisi(ADT), %20 'sinin ise aktif gözlem koluna alındığı görüldü. Bu raporda hastanın aldığı tedavinin gördüğü ilk uzman tipiyle (ürolog, radyasyon onkologu veya medikal onkolog) güçlü bir ilişkisi olduğu belirtilmiştir. 65-69 yaşları arasında olup üroloji tarafından değerlendirilen hastaların %70'i RP'ye giderken; 70-74 yaş arası olgularda bu oran %45'lerde kalmıştır. Hem radyasyon onkologu hem üroloji

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bir sonuç olasılığının yüksek ve cerrahi sonuçlarla karşılaştırılabilir olduğu konusunda hastalar bilgilendirilmelidir.

Kaynakça

1. D'Amico AV, Whittington R, Kaplan I, et al. Equivalent biochemical failurefree survival after external beam radiation therapy or radical prostatectomy in patients with a pretreatment prostate specific antigen of >4–20 ng/ml. *Int J Radiat Oncol Biol Phys* 1997;37:1053–1058.
2. Kupelian P, Katcher J, Levin H, et al. External beam radiotherapy versus radical prostatectomy for clinical stage T1–2 prostate cancer: therapeutic implications of stratification by pretreatment PSA levels and biopsy Gleason scores. *Cancer J Sci Am* 1997;3:78–87.
3. Zelefsky MJ, Eastham JA, Cronin AM, et al. Metastasis after radical prostatectomy or external beam radiotherapy for patients with clinically localized prostate cancer: a comparison of clinical cohorts adjusted for case mix. *J Clin Oncol* 2010;28:1508–1513.
4. Fowler FJ Jr, McNaughton Collins M, Albertsen PC, et al. Comparison of recommendations by urologists and radiation oncologists for treatment of clinically localized prostate cancer. *JAMA* 2000;283:3217–3222.
5. S., Webb. The physical basis of IMRT and inverse planning. *Br J Radiol* 2003;76:678–689.
6. Bill-Axelson A, Holmberg L, Garmo H, et al. Radical prostatectomy versus watchful waiting in early prostate cancer. *N Engl J Med* 2014;370:932–942.
7. A., Choudhury. Protecting low-risk prostate cancer. *Int J Radiat Oncol Biol Phys* 2017;99:515–517.
8. Hamdy FC, Donovan JL, Lane JA, et al. 10-Year outcomes after monitoring, surgery, or radiotherapy for localized prostate cancer. *N Engl J Med* 2016;375:1415–1424.
9. Donovan JL, Hamdy FC, Lane JA, et al. Patient-reported outcomes after monitoring, surgery, or radiotherapy for prostate cancer. *N Engl J Med* 2016;375:1425–1437.
10. NCCN. *Prostate Cancer*.
11. Zelefsky, Neil B. Desai and Michael J. Prostate Adenocarcinoma. [kitap yaz.] Nancy Y. Lee • Nadeem Riaz • Jiade J. Lu. *Target Volume Delineation for Conformal and Intensity-Modulated Radiation Therapy*.
12. Zelefsky MJ, Happerset L, Leibel SA, et al. The effect of treatment positioning on normal tissue dose in patients with prostate cancer treated with three-dimensional conformal radiotherapy. *Int J Radiat Oncol Biol Phys* 1997;37:13–19.
13. Zelefsky MJ, Crean D, Mageras GS et al. Quantification and predictors of prostate position variability in 50 patients evaluated with multiple CT scans during conformal radiotherapy. *Radiother Oncol* 1999;50:225–234.
14. Skwarchuk MW, Jackson A, Zelefsky MJ, et al. Late rectal toxicity after conformal radiotherapy of prostate cancer (I): multivariate analysis and doseresponse. *Int J Radiat Oncol Biol Phys* 2000;47:103–113.
15. Jackson A, Skwarchuk MW, Zelefsky MJ, et al. Late rectal bleeding after conformal radiotherapy of prostate cancer. II. Volume effects and dosevolume histograms. *Int J Radiat Oncol Biol Phys* 2001;49:685–698.
16. Kupelian PA, Thakkar VV, Khuntia D, et al. Hypofractionated intensitymodulated radiotherapy (70 gy at 2.5 Gy per fraction) for localized prostate cancer: long-term outcomes. *Int J Radiat Oncol Biol Phys* 2005;63:1463– 1468.
17. Pollack A, Hanlon AL, Horwitz EM, et al. Dosimetry and preliminary acute toxicity in the first 100 men treated for prostate cancer on a randomized hypofractionation dose escalation trial. *Int J Radiat Oncol Biol Phys* 2006;64:518–526.
18. Kuban DA, Tucker SL, Dong L, et al. Long-term results of the M. D. Anderson randomized dose-escalation trial for prostate cancer. *Int J Radiat Oncol Biol Phys*. 2008 Jan 1;70(1):67-74. Epub 2007 Aug 31.
19. Kupelian PA1, Elshaikh M, Reddy CA, Zippe C, Klein EA. Comparison of the efficacy of local therapies for localized prostate cancer in the prostate-specific antigen era: a large sing-

- le-institution experience with radical prostatectomy and external-beam radiotherapy. *J Clin Oncol.* 2002 Aug 15;20(16):3376-85.
20. Zelefsky MJ, Yamada Y, Cohen G, et al. Postimplantation dosimetric analysis of permanent transperineal prostate implantation: improved dose distributions with an intraoperative computer-optimized conformal planning technique. *Int J Radiat Oncol Biol Phys* 2000;48:601-608.
 21. Beyer D, Nath R, Butler W, et al. American Brachytherapy Society recommendations for clinical implementation of NIST-1999 standards for (103)palladium brachytherapy. The clinical research committee of the American Brachytherapy Society. *Int J Radiat Oncol Biol Phys* 2000;47:273-275.
 22. Dicker AP, Lin CC, Leeper DB, et al. Isotope selection for permanent prostate implants? An evaluation of 103 Pd versus 125I based on radiobiological effectiveness and dosimetry. *Semin Urol Oncol* 2000;18:152- 159.
 23. Cha CM, Potters L, Ashley R, et al. Isotope selection for patients undergoing prostate brachytherapy. *Int J Radiat Oncol Biol Phys* 1999;45:391-395.
 24. Stock RG, Stone NN, Dahlgren M, et al. What is the optimal dose for 125I prostate implants? A dose-response analysis of biochemical control, posttreatment prostate biopsies, and long-term urinary symptoms. *Brachytherapy* 2002;1:83-89.
 25. Collins CD, Lloyd-Davies RW, Swan AV. Radical external beam radiotherapy for localised carcinoma of the prostate using a hypofractionation technique. *Clin Oncol (R Coll Radiol)* 3(3):127-132, 1991.
 26. Duncan W, et al. Carcinoma of the prostate: Results of radical radiotherapy (1970-1985). *Int J Radiat Oncol Biol Phys* 26(2):203-210, 1993.
 27. Arcangeli S, et al. Updated results and patterns of failure in a randomized hypofractionation trial for high-risk prostate cancer. *Int J Radiat Oncol Biol Phys* 84(5):1172-1178, 2012.
 28. Pollack A, et al. Randomized trial of hypofractionated external-beam radiotherapy for prostate cancer. *J Clin Oncol* 31(31):3860-3868, 2013.
 29. Katz A, et al. Stereotactic body radiotherapy for organ-confined prostate cancer, 2010, p. 1.
 30. Katz A, Formenti SC, Kang J. Predicting Biochemical Disease-Free Survival after Prostate Stereotactic Body Radiotherapy: Risk-Stratification and Patterns of Failure. *Front Oncol.* 2016 Jul 8;6:168.
 31. Kuban DA, Thames HD, Levy LB, et al. Long-term multi-institutional analysis of stage T1-T2 prostate cancer treated with radiotherapy in the PSA era. *Int J Radiat Oncol Biol Phys* 2003;57:915-928.
 32. Kuban DA, Tucker SL, Dong L, et al. Long-term results of the M. D. Anderson randomized dose-escalation trial for prostate cancer. *Int J Radiat Oncol Biol Phys* 2008;70:67-74.
 33. Zietman AL, DeSilvio ML, Slater JD, et al. Comparison of conventional dose vs high-dose conformal radiation therapy in clinically localized adenocarcinoma of the prostate: a randomized controlled trial. *JAMA* 2005;294:1233-1239.
 34. Zelefsky MJ, Pei X, Chou JF, et al. Dose escalation for prostate cancer radiotherapy: predictors of long-term biochemical tumor control and distant metastases-free survival outcomes. *Eur Urol* 2011;60:1133-1139.
 35. Michalski J, Winter K, Roach M, et al. Clinical outcome of patients treated with 3D conformal radiation therapy 3D-CRT for prostate cancer on RTOG 9406. *Int J Radiat Oncol Biol Phys* 2012;83:e363-e370.
 36. Kupelian PA, Potters L, Khuntia D, et al. Radical prostatectomy, external beam radiotherapy <72 Gy, external beam radiotherapy > or = 72 Gy, permanent seed implantation, or combined seeds/external beam radiotherapy for stage T1-T2 prostate cancer. *Int J Radiat Oncol Biol Phys* 2004;58:25- 33.