

4. BÖLÜM

FOLİKÜLER TİROID KANSERİ MEDİKAL TEDAVİSİ

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GİRİŞ

Tiroid follikül epitelinden kaynaklanan karsinomlar arasında papiller, foliküler ve anaplastik tiroid kanseri bulunur. Papiller ve foliküler tiroid kanserleri, diferansiyeli tiroid kanserleri olarak tanımlanırlar. Foliküler tiroid kanseri, papiller tiroid kanserinden daha az yaygındır. İyot yetersizliğinin bulunmadığı alanlarda, tüm tiroid kanserlerinin yüzde 12'ye kadarı foliküler kanseri iken, yüzde 85'i papiller tiroid kanseridir (1). Bu bölümde foliküler tiroid kanserinin epidemiyolojisi, risk faktörleri, klinik özellikleri, tanısı, evrelemesi ve tedavi yaklaşımları incelenecaktır.

Epidemiyoloji

Foliküler tiroid kanseri, diğer diferansiyeli tiroid kanserleriyle karşılaştırıldığında daha yaşlı bir popülasyonda ortaya çıkma eğilimindedir. En yüksek insidansı, 30 ila 50 yaşları arasında daha erken pik yapan papiller tiroid kanseri ile karşılaştırıldığında 40 ila 60 yaşları arasındadır. Ek olarak, foliküler tiroid kanseri kadınlarda erkeklerle göre yaklaşık üç kat daha yaygındır (2). İyot, foliküler tiroid kanseri epidemiyolojisinde de rol oynamaktadır. Dünyanın iyot eksikliği olan bölgelerinde, iyot yeterli bölgelere göre daha yüksek foliküler kanseri prevalansı vardır. İyotun devreye girmesiyle birlikte bazı çalışmalar foliküler tiroid kanseri insidansının azaldığını, papiller tiroid kanserinin ise arattığını göstermiştir (3, 4).

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supresyon tedavisi yer almaktadır. Takipte hastaların %10-15’inde metastaz gelişebilir. Radyoaktif iyot refrakter hastalıkta sitotoksik kemoterapi etkili değildir ve günümüzde kullanılmamaktadır. Sitotoksik kemoterapinin yerini hedefe yönelik tedaviler almıştır.

KAYNAKLAR

1. R Michael Tuttle, M., Follicular thyroid cancer (including Hürthle cell cancer). UpToDate, 2021.
2. <https://seer.cancer.gov/statfacts/html/thyro.html> (Accessed on March 08.
3. Harach, H., et al., Thyroid carcinoma and thyroiditis in an endemic goitre region before and after iodine prophylaxis. European Journal of Endocrinology, 1985. 108(1): p. 55-60.
4. Pettersson, B., et al., Trends in thyroid cancer incidence in Sweden, 1958–1981, by histopathologic type. International journal of cancer, 1991. 48(1): p. 28-33.
5. Aschebrook-Kilfoy, B., et al., Follicular thyroid cancer incidence patterns in the United States, 1980–2009. Thyroid, 2013. 23(8): p. 1015-1021.
6. Schneider, A.B. and D.H. Sarne, Long-term risks for thyroid cancer and other neoplasms after exposure to radiation. Nature clinical practice Endocrinology & metabolism, 2005. 1(2): p. 82-91.
7. GÜLER, E.N., Folliküler Tiroid Kanseri. Turkiye Klinikleri J Med Oncol-Special Topics 2017, 2017. 10(1): p. 66-79.
8. Güler, E.N., et al., Thyroid cancer, in Neuroendocrine Tumours. 2015, Springer. p. 353-388.
9. Pal, T., et al., Increased risk for nonmedullary thyroid cancer in the first degree relatives of prevalent cases of nonmedullary thyroid cancer: a hospital-based study. The Journal of Clinical Endocrinology & Metabolism, 2001. 86(11): p. 5307-5312.
10. Antonelli, A., et al., Thyroid cancer in HCV-related chronic hepatitis patients: a case-control study. Thyroid, 2007. 17(5): p. 447-451.
11. Kitahara, C.M., et al., Impact of overweight and obesity on US papillary thyroid cancer incidence trends (1995–2015). JNCI: Journal of the National Cancer Institute, 2020. 112(8): p. 810-817.
12. Rossing, M.A., et al., Reproductive factors and risk of papillary thyroid cancer in women. American journal of epidemiology, 2000. 151(8): p. 765-772.
13. Abu-Lebdeh, H., M. Menefee, and K. Bible, Thyroid and adrenal carcinomas. Handbook of cancer chemotherapy. Wolters Kluwer, Philadelphia, 2011: p. 258-276.
14. Amin, M.B. and S.B. Edge, AJCC cancer staging manual. 2017: springer.
15. Grebe, S.K. and I.D. Hay, Follicular thyroid cancer. Endocrinology and metabolism clinics of North America, 1995. 24(4): p. 761-801.
16. Mazzaferri, E.L. and S.M. Jhiang, Long-term impact of initial surgical and medical therapy on papillary and follicular thyroid cancer. The American journal of medicine, 1994. 97(5): p. 418-428.

17. Ries, L., et al., SEER Cancer Statistics Review, 1975-2001, National Cancer Institute. Bethesda, MD. Bethesda, MD: <http://www.seer.cancer.gov/csr>, 2004.
18. Mazzaferri, E., Papillary and follicular. Endocrine tumors, 1993: p. 278-333.
19. Collini, P., et al., Minimally invasive (encapsulated) follicular carcinoma of the thyroid gland is the low-risk counterpart of widely invasive follicular carcinoma but not of insular carcinoma. *Virchows Archiv*, 2003. 442(1): p. 71-76.
20. Lin, J.-D., C. Hsueh, and T.-C. Chao, Early recurrence of papillary and follicular thyroid carcinoma predicts a worse outcome. *Thyroid*, 2009. 19(10): p. 1053-1059.
21. Kushchayeva, Y., et al., Comparison of clinical characteristics at diagnosis and during follow-up in 118 patients with Hurthle cell or follicular thyroid cancer. *The American journal of surgery*, 2008. 195(4): p. 457-462.
22. Lai, H.-W., et al., Insular thyroid carcinoma: collective analysis of clinicohistologic prognostic factors and treatment effect with radioiodine or radiation therapy. *Journal of the American College of Surgeons*, 2006. 203(5): p. 715-722.
23. Haugen, B.R., et al., 2015 American Thyroid Association management guidelines for adult patients with thyroid nodules and differentiated thyroid cancer: the American Thyroid Association guidelines task force on thyroid nodules and differentiated thyroid cancer. *Thyroid*, 2016. 26(1): p. 1-133.
24. Flynn, M.B., et al., Local complications after surgical resection for thyroid carcinoma. *The American journal of surgery*, 1994. 168(5): p. 404-407.
25. carcinoma, N.N.C.C.N.T., Clinical Practice Guidelines in Oncology. Version 1. 2021., 2021.
26. Pacini, F., et al., Thyroid cancer: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Annals of Oncology*, 2012. 23: p. vii110-vii119.
27. Steven I Sherman, M.G.G., MD, FACE, Differentiated thyroid cancer refractory to standard treatment: Systemic therapy. UpToDate, 2021.
28. Lal, G., et al., Cancer of the endocrine system. *Abeloff's Clinical Oncology*. 4th ed. Philadelphia, Pa: Elsevier, 2008: p. 1271-1305.
29. Wilhelm, S.M., et al., BAY 43-9006 exhibits broad spectrum oral antitumor activity and targets the RAF/MEK/ERK pathway and receptor tyrosine kinases involved in tumor progression and angiogenesis. *Cancer research*, 2004. 64(19): p. 7099-7109.
30. Brose, M.S., et al., Sorafenib in radioactive iodine-refractory, locally advanced or metastatic differentiated thyroid cancer: a randomised, double-blind, phase 3 trial. *The Lancet*, 2014. 384(9940): p. 319-328.
31. Cabanillas, M.E., et al., A phase 2 trial of lenvatinib (E7080) in advanced, progressive, radioiodine-refractory, differentiated thyroid cancer: a clinical outcomes and biomarker assessment. *Cancer*, 2015. 121(16): p. 2749-2756.
32. Schlumberger, M., et al., Lenvatinib versus placebo in radioiodine-refractory thyroid cancer. *New England Journal of Medicine*, 2015. 372(7): p. 621-630.
33. Blevins, D.P., et al., Aerodigestive fistula formation as a rare side effect of antiangiogenic tyrosine kinase inhibitor therapy for thyroid cancer. *Thyroid*, 2014. 24(5): p. 918-922.
34. Laetsch, T.W., et al., Larotrectinib for paediatric solid tumours harbouring NTRK gene fusions: phase 1 results from a multicentre, open-label, phase 1/2 study. *The Lancet Oncology*, 2018. 19(5): p. 705-714.

35. Drilon, A., et al., Efficacy of larotrectinib in TRK fusion-positive cancers in adults and children. *New England Journal of Medicine*, 2018. 378(8): p. 731-739.
36. Tan, D., et al., Larotrectinib efficacy and safety in TRK fusion cancer: an expanded clinical dataset showing consistency in an age and tumor agnostic approach. *Annals of Oncology*, 2018. 29: p. ix23.
37. Wirth, L.J., et al., Efficacy of selpercatinib in RET-altered thyroid cancers. *New England Journal of Medicine*, 2020. 383(9): p. 825-835.
38. Hu, M., et al., Clinical activity of selective RET inhibitor, BLU-667, in advanced RET-altered thyroid cancers: updated results from the phase 1 ARROW study (short call oral 5). *Thyroid*, 2018. 28(Suppl): p. A-2.
39. Brose, M.S., et al., Vemurafenib in patients with BRAFV600E-positive metastatic or unresectable papillary thyroid cancer refractory to radioactive iodine: a non-randomised, multicentre, open-label, phase 2 trial. *The lancet oncology*, 2016. 17(9): p. 1272-1282.
40. Shah, M.H., et al., Results of randomized phase II trial of dabrafenib versus dabrafenib plus trametinib in BRAF-mutated papillary thyroid carcinoma, 2017, American Society of Clinical Oncology.
41. Rothenberg, S.M., et al., Redifferentiation of iodine-refractory BRAF V600E-mutant metastatic papillary thyroid cancer with dabrafenib. *Clinical Cancer Research*, 2015. 21(5): p. 1028-1035.