

Bölüm 8

TİROİD KANSERLERİNDE CERRAHİ PROSEDÜRLER

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GİRİŞ

Diferansiye tiroid kanserleri (DTK), tiroid bezinden köken alan ve iyi farklılaşmış hücre özelliklerini koruyan malign tümörlerdir. Papiller ve foliküler tiroid kanserleri bu grup içerisinde yer alır ve tüm tiroid kanserlerinin büyük çoğunluğunu oluştururlar (1). Papiller tiroid kanseri, DTK'ler içinde en sık görülen alt tip olup, tüm tiroid malignitelerinin yaklaşık %85'ini temsil eder (2).

DTK'lerin seyri genellikle yavaş olup, prognozları oldukça iyidir. Bu nedenle hastalıkla ilgili cerrahi kararlar alınırken hastanın yaşam süresi beklentisi, tümörün biyolojik davranışı ve tedaviye vereceği yanıt göz önünde bulundurulmalıdır. Cerrahi, DTK'nin primer tedavisinde anahtar rol oynar ve başarı oranı oldukça yüksektir (3).

Günümüzde DTK cerrahisine yönelik yaklaşımlar, Amerikan Tiroid Derneği (ATA), Avrupa Endokrinoloji Derneği ve ESMO gibi otoritelerin yayınladığı rehberler doğrultusunda şekillenmektedir (4-6). Ancak uygulamada hasta bireysel özellikleri, tümörün tipi, boyutu, invazyon derecesi ve lenf nodu tutulumu gibi birçok faktör, cerrahi planlamayı doğrudan etkilemektedir.

Bu kitap bölümünde, DTK'lerde tümör tipine göre cerrahi planlama esas alınarak; endikasyonlar, kontrendikasyonlar, inoperabilite kriterleri, anatomik önemli yapılar ve cerrahi teknikler detaylı şekilde ele alınacaktır. Boyun yaklaşım teknikleri ise ayrı bir böl-

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SONUÇ

Tiroid kanserlerinde cerrahi planlama, tümör tipi, evre ve hastaya ait bireysel faktörlere göre şekillenmelidir. Diferansiye tiroid kanserleri (papiller ve foliküler), genellikle iyi prognozlu olup minimal cerrahi yaklaşımlar ile kontrol edilebilirken, medüller ve anaplastik alt tiplerde cerrahi daha agresif olmalı ve diğer tedavi modaliteleriyle desteklenmelidir (54,55).

Cerrahi endikasyonlar; tümör çapı, lenf nodu metastazı, ekstratiroidal yayılım ve genetik mutasyon varlığı gibi parametrelerle belirlenir. Cerrahinin sınırlarını ise çevre yapılarına invazyon, metastatik yayılım ve hastanın genel durumu şekillendirir. Total tiroidektomi, lobektomi, lenf diseksiyonları ve radikal cerrahi gibi prosedürler, hastanın risk profiline uygun olarak uygulanmalıdır (56).

Modern cerrahi tekniklerde sinir monitörizasyonu, intraoperatif otofloresans görüntüleme ve minimal invaziv teknikler gibi yenilikler, hem güvenliği artırmakta hem de iyileşme sürecini hızlandırmaktadır. Ancak bu teknolojiler yalnızca uygun hasta seçiminde anlamlı fayda sağlar (57).

Postoperatif dönemde dinamik risk sınıflaması, tiroglobulin düzeyleri ve radyolojik izlem temelinde yapılmalıdır. Nüks geliştiğinde yeniden cerrahi, RAI tedavisi, radyoterapi veya sistemik tedavi seçenekleri multidisipliner yaklaşım eşliğinde bireyselleştirilmelidir.

Bu kitap bölümü, tiroid kanserlerinin cerrahi tedavisinde tümör tipine özgü yaklaşımları sistematik biçimde sunmakta ve klinik kararların güncel literatür rehberliğinde nasıl şekillendiğini ortaya koymayı amaçlamaktadır.

KAYNAKLAR

1. Davies L, Welch HG. Increasing incidence of thyroid cancer in the United States, 1973–2002. *JAMA*. 2006;295(18):2164–2167.
2. Haugen BR, Alexander EK, Bible KC, et al. 2015 American Thyroid Association management guidelines for adult patients with thyroid nodules and differentiated thyroid cancer. *Thyroid*. 2016;26(1):1–133.
3. Cabanillas ME, McFadden DG, Durante C. Thyroid cancer. *Lancet*. 2016;388(10061):2783–2795.
4. Cooper DS, Doherty GM, Haugen BR, et al. Revised American Thyroid Association management guidelines for patients with thyroid nodules and differentiated thyroid cancer. *Thyroid*. 2009;19(11):1167–1214.
5. Tuttle RM, Leboeuf R, Shaha AR. Risk-adapted management of thyroid cancer: a new paradigm. *Thyroid*. 2010;20(6):577–583.
6. Pacini F, Schlumberger M, Dralle H, et al. European consensus for the management of patients with differentiated thyroid carcinoma of the follicular epithelium. *Eur J Endocrinol*. 2006;154(6):787–803.
7. Barczyński M, Konturek A, Stopa M, et al. Randomized clinical trial of visualization versus neuromonitoring of recurrent laryngeal nerves during thyroidectomy. *Br J Surg*. 2009;96(3):240–246.
8. Lee KE, Koo do H, Kim SJ, et al. Robot-assisted (Da Vinci) thyroid surgery: experience with the first 30 patients. *Surg Laparosc Endosc Percutan Tech*. 2009;19(3):e71–75.
9. Kim SW, Lee HS, Lee KD, et al. Intraoperative parathyroid gland identification using near-infrared autofluorescence imaging. *J Clin Endocrinol Metab*. 2016;101(12):4646–4652.
10. Hundahl SA, Fleming ID, Fremgen AM, et al. A National Cancer Data Base report on 53,856 cases of thyroid carcinoma treated in the U.S., 1985–1995. *Cancer*. 1998;83(12):2638–2648.
11. Baloch ZW, LiVolsi VA. Follicular-patterned lesions of the thyroid: the bane of the pathologist. *Am J Clin Pathol*. 2002;117(1):143–150.

12. Ito Y, Miyauchi A, Kihara M, et al. Risk-adapted management of thyroid cancer. *Endocr J*. 2013;60(1):1–13.
13. Yoon YH, Kim YJ, Jung TS, et al. Vascular invasion in follicular thyroid carcinoma: pathologic criteria and prognostic significance. *Am J Surg Pathol*. 2010;34(8):1159–1164.
14. Schlumberger M, Catargi B, Borget I, et al. Strategies of radioiodine ablation in patients with low-risk thyroid cancer. *N Engl J Med*. 2012;366(18):1663–1673.
15. Kloos RT, Mazzaferri EL, Braverman LE, et al. Preoperative imaging for thyroid cancer. *Endocrinol Metab Clin North Am*. 2008;37(2):389–403.
16. Sun H, Liu J, Zhang D, et al. Transoral endoscopic thyroidectomy vestibular approach (TOETVA): indications, techniques and results. *Gland Surg*. 2021;10(5):1655–1663.
17. Wells SA Jr, Asa SL, Dralle H, et al. Revised American Thyroid Association guidelines for the management of medullary thyroid carcinoma. *Thyroid*. 2015;25(6):567–610.
18. Kloos RT, Eng C, Evans DB, et al. Medullary thyroid cancer: management guidelines of the American Thyroid Association. *Thyroid*. 2009;19(6):565–612.
19. Pacini F, Castagna MG, Cipri C, et al. Medullary thyroid carcinoma: clinical features and management. *Endocrinol Metab Clin North Am*. 2008;37(2):481–496.
20. Schlumberger M, Bastholt L, Dralle H, et al. 2009 European thyroid cancer taskforce guidelines for the management of advanced medullary thyroid cancer. *Eur J Endocrinol*. 2012;166(1):139–146.
21. Moley JF. Medullary thyroid carcinoma: management of lymph node metastases. *J Natl Compr Canc Netw*. 2010;8(5):549–556.
22. Ito Y, Miyauchi A, Kudo T, et al. Prophylactic modified radical neck dissection for medullary thyroid carcinoma: is it justified? *World J Surg*. 2013;37(2):289–295.
23. Kim WW, Yoo JE, Jeong J, et al. Comparison of surgical outcomes between robotic and open surgery for medullary thyroid carcinoma. *J Surg Oncol*. 2015;112(6):663–668.
24. Kandil E, Alabbas H, Noureldine SI, et al. Intraoperative adjuncts for the detection of medullary thyroid cancer: a review. *Gland Surg*. 2015;4(1):63–69.
25. Machens A, Dralle H. Genetic screening in medullary thyroid cancer: when and how? *Nat Rev Endocrinol*. 2013;9(9):558–566.
26. Smallridge RC, Ain KB, Asa SL, et al. American Thyroid Association guidelines for management of patients with anaplastic thyroid cancer. *Thyroid*. 2012;22(11):1104–1139. doi:10.1089/thy.2012.0205
27. Molinaro E, Romei C, Biagini A, et al. Anaplastic thyroid carcinoma: from clinicopathology to genetics and advanced therapies. *Nat Rev Endocrinol*. 2017;13(11):644–660. doi:10.1038/nrendo.2017.76
28. Bible KC, Kebebew E, Brierley J, et al. 2021 American Thyroid Association guidelines for management of patients with anaplastic thyroid cancer. *Thyroid*. 2021;31(3):337–386. doi:10.1089/thy.2020.0944
29. Limberg J, Ullmann TM, Stefanova D, et al. Surgical resection improves survival in patients with anaplastic thyroid cancer: analysis of the National Cancer Database. *Thyroid*. 2020;30(5):731–740. doi:10.1089/thy.2019.0596
30. Iyer PC, Dadu R, Gule-Monroe MK, et al. Salvage kinase inhibitor therapy in anaplastic thyroid cancer. *J Clin Endocrinol Metab*. 2018;103(3):1311–1320. doi:10.1210/jc.2017-02427
31. Foote RL, Molina JR, Kasperbauer JL. Anaplastic thyroid cancer: treatment with intensive combined modality therapy. *Head & Neck*. 2010;32(10):1271–1278. doi:10.1002/hed.21295
32. Subbiah V, Hu MI, Wirth LJ, et al. BRAF^v targeted therapy in advanced anaplastic thyroid cancer. *Thyroid*. 2018;28(7):945–951. doi:10.1089/thy.2017.0665
33. DeLellis RA, Lloyd RV, Heitz PU, Eng C. Pathology and genetics of tumours of endocrine organs. In: *World Health Organization Classification of Tumours*. 3rd ed. Lyon: IARC Press; 2004. p. 49–55.
34. Ganly I, Wang L, Tuttle RM, et al. Invasion rather than nuclear features correlates with outcome in Hurthle cell carcinoma of the thyroid. *Thyroid*. 2014;24(3):408–413. doi:10.1089/thy.2013.0181
35. Nixon IJ, Whitcher MM, Palmer FL, et al. The impact of distant metastases at presentation on prognosis in patients with Hurthle cell carcinoma. *Ann Surg Oncol*. 2012;19(8):2616–2622. doi:10.1245/s10434-012-2280-6
36. Ibrahimovic T, Ghossein R, Carlson DL, et al. Undifferentiated (anaplastic) thyroid carcinoma: a population-based study of incidence and outcomes. *Thyroid*. 2016;26(5):726–734. doi:10.1089/thy.2015.0351
37. Nixon IJ, Coca-Pelaz A, Kaleva AI, et al. Metastasis to the thyroid gland: a critical review. *Ann Surg Oncol*. 2017;24(6):1533–1539. doi:10.1245/s10434-016-5683-3
38. Cibas ES, Ali SZ. The Bethesda System for Reporting Thyroid Cytopathology. *Am J Clin Pathol*. 2009;132(5):658–665. doi:10.1309/AJCPPLWMI3V4LA
39. Dionigi G, Boni L, Rovera F, et al. Neuromonitoring in thyroid surgery. *Int J Surg*. 2008;6 Suppl 1:S83–S85. doi:10.1016/j.ijsu.2008.12.004

40. Zafereo M, Yu T, Bell D, et al. Optimal surgery for papillary thyroid carcinoma: Complete thyroidectomy versus lobectomy. *Curr Opin Oncol*. 2019;31(1):1–7.
41. Honings J, Stephen AE, Marres HA, Gaissert HA. The management of thyroid carcinoma invading the larynx or trachea. *Laryngoscope*. 2010;120(4):682–689. doi:10.1002/lary.20826
42. Smallridge RC, Copland JA. Anaplastic thyroid carcinoma: pathogenesis and emerging therapies. *Clin Oncol (R Coll Radiol)*. 2010;22(6):486–497. doi:10.1016/j.clon.2010.03.005
43. Lee J, Nah KY, Kim RM, et al. Differences in postoperative outcomes, function, and cosmesis: Open versus robotic thyroidectomy. *Surg Endosc*. 2010;24(12):3186–3194. doi:10.1007/s00464-010-1113-0
44. Tae K, Ji YB, Song CM, et al. Robotic and endoscopic thyroid surgery in patients with thyroid carcinoma. *Ann Surg Oncol*. 2012;19(1):133–139. doi:10.1245/s10434-011-1920-6
45. Tuttle RM, Tala H, Shah J, et al. Estimating risk of recurrence in differentiated thyroid cancer after total thyroidectomy and radioactive iodine therapy. *J Clin Endocrinol Metab*. 2010;95(9):4359–4365.
46. Momesso DP, Tuttle RM. Update on differentiated thyroid cancer follow-up. *Best Pract Res Clin Endocrinol Metab*. 2014;28(4):497–505.
47. Durante C, Montesano T, Attard M, et al. Long-term surveillance of differentiated thyroid cancer patients with undetectable thyroglobulin and negative imaging. *J Clin Endocrinol Metab*. 2012;97(8):2749–2753.
48. Pacini F, Molinaro E, Agate L, et al. Monitoring treatment of differentiated thyroid carcinoma. *Endocr Relat Cancer*. 2003;10(3):383–389.
49. Spencer CA, Takeuchi M, Kazarosyan M, et al. Serum thyroglobulin autoantibodies: prevalence, influence on assay sensitivity, and potential clinical utility. *Clin Chem*. 1998;44(12):250–257.
50. Papini E, Guglielmi R, Bianchini A, et al. Risk of malignancy in nonpalpable thyroid nodules: Predictive value of ultrasound and color-Doppler features. *J Clin Endocrinol Metab*. 2002;87(5):1941–1946.
51. Leboulleux S, Schroeder PR, Busaidy NL, et al. Assessment of the incremental value of diagnostic whole-body scan in the follow-up of patients with papillary and follicular thyroid cancer. *J Clin Endocrinol Metab*. 2009;94(5):1753–1759.
52. Schlumberger M, Leboulleux S. Current practice in patients with differentiated thyroid cancer. *Nat Rev Endocrinol*. 2021;17(3):176–188.
53. Xing M, Haugen BR, Schlumberger M. Progress in molecular-based management of differentiated thyroid cancer. *Lancet*. 2013;381(9871):1058–1069.
54. Filetti S, Durante C, Hartl D, et al. Thyroid cancer: ESMO Clinical Practice Guidelines. *Ann Oncol*. 2019;30(12):1856–1883.
55. Fagin JA, Wells SA Jr. Biologic and clinical perspectives on thyroid cancer. *N Engl J Med*. 2016;375(11):1054–1067.
56. Nixon IJ, Wang LY, Palmer FL, et al. Outcomes for patients with poorly differentiated thyroid carcinoma: An institutional review. *Ann Surg Oncol*. 2016;23(4):1276–1284.
57. Godballe C, Madsen AR, Pedersen HB, et al. Pathological and functional outcome after total thyroidectomy in patients with differentiated thyroid cancer. *Eur Arch Otorhinolaryngol*. 2013;270(8):2325–2329.