

Bölüm **17**

TÜKÜRÜK BEZİ TÜMÖRLERİ

Umut VAROL

GİRİŞ

Tükürük bezi tümörleri nadir görülen ve tüm baş-boyun tümörlerinin %6-8'ni oluşturan tümörlerdir. Bu tümörler biyolojik davranışları ve anatomik kökenle-rine göre heterojen bir grup neoplaziden oluşmaktadır. Habis ve iyi huylu birçok tükürük bezi tümörü vardır ve bunlar Dünya Sağlık Örgütü (2017) tarafındanca sı-niflendirilmiştir. [1, 2]. Ayrıca klinik davranışlarını ve metastaz potansiyellerini tanımlamak için düşük, orta derece ve yüksek grade şeklinde de sınıflandırılmak-tadırlar. Anatomik anlamda parotis bezi tükürük bezi tümörlerinin en sık saptan-dığı bölge dir, bu tümörlerin yaklaşık yüzde 80-85'ini oluşturur ve parotis tümör-lerinin dörtte üçü iyi huyludur. Daha nadir saptanan tükürük bezi tümörleri ise submandibular, sublingual ve minör tükürük bezlerinden köken almaktadır. Ağız boşluğunda 500 ile 1000 arasında minör tükürük bezi bulunmaktadır. Bu bezler ayrıca dudaklar, tonsiller, paranazal sinüs, nazofarinks, orofarinks, hipofarinks, la-rinks ve trakeada bulunmaktadır. Parotis tümörlerinin aksine diğer tükürük bezi tümörlerinin habis olasılığı daha yüksektir [3].

Histolojik olarak en sık saptanan ve tüm tükürük bezi tümörlerinin yaklaşık yarısını oluşturan iyi huylu tükürük bezi tümörü pleomorfik adenomdur. Pleo-morfik adenom en sık olarak parotis bezinin yüzeyindeki lobdan oluşur. Önerilen cerrahi olan yüzeyel parotidektomi sonrası tekrarlama riski yüzde beşin altıda-dır. Diğer nadir iyi huylu tükürük bezi tümörlerini Warthin tümörü, bazal hücreli adenom ve kanaliküler adenom oluşturmaktadır. En sık saptanan habis tükürük bezi tümörleri ise mukoepidermoid karsinom ve adenoid kistik karsinomdur. Di-ğer nadir habis tümörler düşük grade adenokanser, asinik hücreli karsinom, pleo-morfik adenomdan gelişmiş adenokanser, primer küçük hücreli karsinom ve yaşlı erkeklerde daha sık saptanan tükürük yolu karsinomudur. Lenf nodu metastazları

küler hedeflerden biri de c-Kit'tir. Adenoid kistik karsinomların %90'ı c-kit tirozin kinaz reseptörü eksprese etmektedir. Fakat c-kit eksprese eden adenoid kistik karsinomlu hastaları içeren iki farklı çalışmada gerek imatinib gerekse dasatinid ile belirgin bir etki gözlenmemiştir [79,80]. Epidermal büyümeye faktör reseptörü (EGFR) adenoid kistik ve mukoepidermoid kanserlerde eksprese olmaktadır. EGFR ekspresyonu olan tümörlerde hem gefinitib hem setuksimab hem de setuksimab ve kemoterapi (sisplatin ve florourasil) kombinasyonu ile hiç yanıt alınamamış ve sadece çok kısa süreli hastalık stabilizasyonu sağlanmıştır [81-83]. Hem EGFR hem de HER-2 eksprese eden metastatik tükürük bezi kanserli 40 hastayı içeren faz II bir çalışmada ikili inhibitör olan lapatinib ile hiç yanıt alınamamış fakat hastaların yaklaşık yarısında 6 aylık hastalık stabilizasyonu başarılmıştır [84]. Oral mTOR inhibitörü olan everolimus radyolojik progresyon göstermiş adenoid kistik karsinomlu 34 hastada denenmiş, fakat hiç yanıt alınanamıştır [85]. Çoklu hedef tirozin kinaz inhibitörleri olan sunitinib, nintedanib, sorafenib ve aksitinibin çoğunluğu adenoid kistik karsinomlu hastalardan oluşan sınırlı sayıdaki hasta ile yapılan çalışmalarında sunitinib ve nintedanib ile hiç yanıt alınamamış, sorafenib ile 6 hastada (%16) ve aksitinib ile 3 hastada (%9) yanıt alınabilmiştir. Bu dört ajanla da hastalık stabilizasyon oranları tatminkar bulunmuştur [86-89].

Tükürük yolu karsinomlarındaki androjen reseptör ekspresyonu dışında diğer habis tükürük bezi kanserlerinde hormon reseptör ekspresyonu bulunmamaktadır. Metastatik tükürük yolu karsinomlu 36 hastanın kombine anti-androjen ajanlarla (löprolid ve bikalutamid) tedavi edildiği faz II bir çalışmada 4 hastada tam yanıt, 11 hastada kısmi yanıt ve 12 hastada stabil hastalık izlenmiştir. Otuz-dört hastanın retrospektif analizinde ise 6 hastada kısmi yanıt ve 11 hastada stabil hastalık görülmüştür. Ayrıca, tamoksifen ile tedavi edilen adenoid kistik kanserli hastalarda yanıt gözlenen vaka sunumları da bulunmaktadır [90-92].

Anahtar Kelimeler: Tükürük bezi, kanser, parotis, pleomorfik adenom

KAYNAKLAR

1. El-Naggar AK, Chan JKC, Grandis JR, et al. World Health Organization Classification of Tumours of Head and Neck, IARC, Lyon. 2017.
2. Guzzo M, Locati LD, Prott FJ, et al. Major and minor salivary gland tumors. Crit Rev Oncol Hematol. 2010;74:134.
3. Spiro RH. Salivary neoplasms: overview of a 35-year experience with 2,807 patients. Head Neck Surg. 1986;8:177.
4. Xiao CC, Zhan KY, White-Gilbertson SJ, Day TA. Predictors of Nodal Metastasis in Parotid Malignancies: A National Cancer Data Base Study of 22,653 Patients. Otolaryngol Head Neck Surg. 2016;154:121.
5. Dillon PM, Chakraborty S, Moskaluk CA, et al. Adenoid cystic carcinoma: A review of recent advances, molecular targets, and clinical trials. Head Neck. 2016;38:620.
6. Jayaprakash V, Merzianu M, Warren GW, et al. Survival rates and prognostic factors for infiltrating salivary duct carcinoma: Analysis of 228 cases from the Surveillance, Epidemiology, and End Results database. Head Neck. 2014;36:694.

7. O'Brien CJ, Malka VB, Mijailovic M. Evaluation of 242 consecutive parotidectomies performed for benign and malignant disease. *Aust N Z J Surg.* 1993;63:870.
8. Saku T, Hayashi Y, Takahara O, et al. Salivary gland tumors among atomic bomb survivors, 1950-1987. *Cancer.* 1997;79:1465.
9. Chowdhry AK, McHugh C, Fung C, et al. Second primary head and neck cancer after Hodgkin lymphoma: a population-based study of 44,879 survivors of Hodgkin lymphoma. *Cancer.* 2015;121:1436.
10. Boukheris H, Stovall M, Gilbert ES, et al. Risk of salivary gland cancer after childhood cancer: a report from the Childhood Cancer Survivor Study. *Int J Radiat Oncol Biol Phys.* 2013;85:776.
11. de Ru JA, Plantinga RF, Majoor MH, et al. Warthin's tumour and smoking. *B-ENT.* 2005;1:63.
12. Serraino D, Boschini A, Carrieri P, et al. Cancer risk among men with, or at risk of, HIV infection in southern Europe. *AIDS.* 2000;14:553.
13. Isayeva T, Said-Al-Naief N, Ren Z, et al. Salivary mucoepidermoid carcinoma: demonstration of transcriptionally active human papillomavirus 16/18. *Head Neck Pathol.* 2013;7:135.
14. Hafed L, Farag H, Shaker O, El-Rouby D. Is human papilloma virus associated with salivary gland neoplasms? An in situ-hybridization study. *Arch Oral Biol.* 2012;57:1194.
15. Horn-Ross PL, Ljung BM, Morrow M. Environmental factors and the risk of salivary gland cancer. *Epidemiology.* 1997;8:414.
16. Schramm VL Jr, Imola MJ. Management of nasopharyngeal salivary gland malignancy. *Laryngoscope.* 2001;111:1533.
17. Quesnel AM, Lindsay RW, Hadlock TA. When the bell tolls on Bell's palsy: finding occult malignancy in acute-onset facial paralysis. *Am J Otolaryngol.* 2010;31:339.
18. Lee YY, Wong KT, King AD, Ahuja AT. Imaging of salivary gland tumours. *Eur J Radiol.* 2008;66:419.
19. Koyuncu M, Sezen T, Akan H, et al. Comparison of computed tomography and magnetic resonance imaging in the diagnosis of parotid tumors. *Otolaryngol Head Neck Surg.* 2003;129:726.
20. Kotecha S, Bhatia P, Rout PG. Diagnostic ultrasound in the head and neck region. *Dent Update.* 2008;35:529.
21. Feld R, Nazarian LN, Needleman L, et al. Clinical impact of sonographically guided biopsy of salivary gland masses and surrounding lymph nodes. *Ear Nose Throat J.* 1999;78:905, 908.
22. Kim MJ, Kim JS, Roh JL, et al. Utility of 18F-FDG PET/CT for detecting neck metastasis in patients with salivary gland carcinomas: preoperative planning for necessity and extent of neck dissection. *Ann Surg Oncol.* 2013;20:899.
23. Maiorano E, Lo Muzio L, Favia G, Piattelli A. Warthin's tumour: a study of 78 cases with emphasis on bilaterality, multifocality and association with other malignancies. *Oral Oncol.* 2002;38:35.
24. Adelstein DJ, Rodriguez CP. What is new in the management of salivary gland cancers? *Curr Opin Oncol.* 2011;23:249.25.
25. Bradley PJ, Ferris RL. Surgery for Malignant Sublingual and Minor Salivary Gland Neoplasms. *Adv Otorhinolaryngol.* 2016;78:113-9.
26. Lim YC, Lee SY, Kim K, et al. Conservative parotidectomy for the treatment of parotid cancers. *Oral Oncol.* 2005;41:1021.
27. Roh JL, Park CI. Function-preserving parotid surgery for benign tumors involving the deep parotid lobe. *J Surg Oncol.* 2008;98:42.
28. Wennmo C, Spandow O, Emgård P, Krouthén B. Pleomorphic adenomas of the parotid gland: superficial parotidectomy or limited excision? *J Laryngol Otol.* 1988;102:603.
29. Lam KH, Wei WI, Ho HC, Ho CM. Whole organ sectioning of mixed parotid tumors. *Am J Surg.* 1990;160:377.
30. Terhaard C, Lubsen H, Tan B, et al. Facial nerve function in carcinoma of the parotid gland. *Eur J Cancer.* 2006;42:2744.
31. Kimata Y, Sakuraba M, Hishinuma S, et al. Free vascularized nerve grafting for immediate facial nerve reconstruction. *Laryngoscope.* 2005;115:331.

32. Eisele DW, Wang SJ, Orloff LA. Electrophysiologic facial nerve monitoring during parotidectomy. *Head Neck.* 2010;32:399.
33. de Bree R, van der Waal I, Leemans CR. Management of Frey syndrome. *Head Neck.* 2007;29:773.
34. Linkov G, Morris LG, Shah JP, Kraus DH. First bite syndrome: incidence, risk factors, treatment, and outcomes. *Laryngoscope.* 2012;122:1773.
35. Baek CH, Jeong HS. Endoscope-assisted submandibular sialadenectomy: a new minimally invasive approach to the submandibular gland. *Am J Otolaryngol.* 2006;27:306.
36. Hong KH, Yang YS. Surgical results of the intraoral removal of the submandibular gland. *Otolaryngol Head Neck Surg.* 2008;139:530.
37. Kaszuba SM, Zafereo ME, Rosenthal DI, et al. Effect of initial treatment on disease outcome for patients with submandibular gland carcinoma. *Arch Otolaryngol Head Neck Surg.* 2007;133:546.
38. Yu T, Gao QH, Wang XY, et al. Malignant sublingual gland tumors: a retrospective clinicopathologic study of 28 cases. *Oncology.* 2007;72:39.
39. Rinaldo A, Shaha AR, Pellitteri PK, et al. Management of malignant sublingual salivary gland tumors. *Oral Oncol.* 2004;40:2.
40. Chou C, Zhu G, Luo M, Xue G. Carcinoma of the minor salivary glands: results of surgery and combined therapy. *J Oral Maxillofac Surg.* 1996;54:448.
41. Cianchetti M, Sandow PS, Scarborough LD, et al. Radiation therapy for minor salivary gland carcinoma. *Laryngoscope.* 2009;119:1334.
42. Terhaard CH, Lubsen H, Rasch CR, et al. The role of radiotherapy in the treatment of malignant salivary gland tumors. *Int J Radiat Oncol Biol Phys.* 2005;61:103.
43. Stennert E, Kisner D, Jungehuelsing M, et al. High incidence of lymph node metastasis in major salivary gland cancer. *Arch Otolaryngol Head Neck Surg.* 2003;129:720.
44. Zbären P, Schüpbach J, Nuyens M, Stauffer E. Elective neck dissection versus observation in primary parotid carcinoma. *Otolaryngol Head Neck Surg.* 2005;132:387.
45. Chen AM, Garcia J, Lee NY, et al. Patterns of nodal relapse after surgery and postoperative radiation therapy for carcinomas of the major and minor salivary glands: what is the role of elective neck irradiation? *Int J Radiat Oncol Biol Phys.* 2007;67:988.
46. Mendenhall WM, Morris CG, Amdur RJ, et al. Radiotherapy alone or combined with surgery for salivary gland carcinoma. *Cancer.* 2005;103:2544.
47. Ghosh-Laskar S, Murthy V, Wadasadawala T, et al. Mucoepidermoid carcinoma of the parotid gland: factors affecting outcome. *Head Neck.* 2011;33:497.
48. Dillon PM, Chakraborty S, Moskaluk CA, et al. Adenoid cystic carcinoma: A review of recent advances, molecular targets, and clinical trials. *Head Neck.* 2016;38:620.
49. Amini A, Waxweiler TV, Brower JV, et al. Association of Adjuvant Chemoradiotherapy vs Radiotherapy Alone With Survival in Patients With Resected Major Salivary Gland Carcinoma: Data From the National Cancer Data Base. *JAMA Otolaryngol Head Neck Surg.* 2016;142:1100.
50. Chen AM, Bucci MK, Quivey JM, et al. Long-term outcome of patients treated by radiation therapy alone for salivary gland carcinomas. *Int J Radiat Oncol Biol Phys.* 2006;66:1044.
51. Romesser PB, Cahlon O, Scher E, et al. Proton beam radiation therapy results in significantly reduced toxicity compared with intensity-modulated radiation therapy for head and neck tumors that require ipsilateral radiation. *Radiother Oncol.* 2016;118:286.
52. Douglas JG, Koh WJ, Austin-Seymour M, Laramore GE. Treatment of salivary gland neoplasms with fast neutron radiotherapy. *Arch Otolaryngol Head Neck Surg.* 2003;129:944.
53. Hocwald E, Korkmaz H, Yoo GH, et al. Prognostic factors in major salivary gland cancer. *Laryngoscope.* 2001;111:1434.
54. Vander Poorten VL, Balm AJ, Hilgers FJ, et al. Prognostic factors for long term results of the treatment of patients with malignant submandibular gland tumors. *Cancer.* 1999;85:2255.
55. Carrillo JF, Vázquez R, Ramírez-Ortega MC, et al. Multivariate prediction of the probability of recurrence in patients with carcinoma of the parotid gland. *Cancer.* 2007;109:2043.

56. Gutschenritter T, Machiorlatti M, Vesely S, et al. Outcomes and Prognostic Factors of Resected Salivary Gland Malignancies: Examining a Single Institution's 12-year Experience. *Anticancer Res.* 2017;37:5019.
57. Gao M, Hao Y, Huang MX, et al. Clinicopathological study of distant metastases of salivary adenoid cystic carcinoma. *Int J Oral Maxillofac Surg.* 2013;42:923.
58. Dai D. Postoperative irradiation in malignant tumors of submandibular gland. *Cancer Invest.* 1999;17:36.
59. Chen AM, Garcia J, Bucci MK, et al. Recurrent salivary gland carcinomas treated by surgery with or without intraoperative radiation therapy. *Head Neck.* 2008;30:2.
60. Haddad RI, Posner MR, Busse PM, et al. Chemoradiotherapy for adenoid cystic carcinoma: preliminary results of an organ sparing approach. *Am J Clin Oncol.* 2006;29:153.
61. Pederson AW, Haraf DJ, Blair EA, et al. Chemoreirradiation for recurrent salivary gland malignancies. *Radiother Oncol.* 2010;95:308.
62. Spiro RH. Distant metastasis in adenoid cystic carcinoma of salivary origin. *Am J Surg.* 1997;174:495.
63. Sung MW, Kim KH, Kim JW, et al. Clinicopathologic predictors and impact of distant metastasis from adenoid cystic carcinoma of the head and neck. *Arch Otolaryngol Head Neck Surg.* 2003;129:1193.
64. Laurie SA, Ho AL, Fury MG, et al. Systemic therapy in the management of metastatic or locally recurrent adenoid cystic carcinoma of the salivary glands: a systematic review. *Lancet Oncol.* 2011;12:815.
65. Gilbert J, Li Y, Pinto HA, et al. Phase II trial of taxol in salivary gland malignancies (E1394): a trial of the Eastern Cooperative Oncology Group. *Head Neck.* 2006;28:197.
66. Licitra L, Marchini S, Spinazzè S, et al. Cisplatin in advanced salivary gland carcinoma. A phase II study of 25 patients. *Cancer.* 1991;68:1874.
67. Verweij J, de Mulder PH, de Graeff A, et al. Phase II study on mitoxantrone in adenoid cystic carcinomas of the head and neck. EORTC Head and Neck Cancer Cooperative Group. *Ann Oncol.* 1996;7:867.
68. Vermorken JB, Verweij J, de Mulder PH, et al. Epirubicin in patients with advanced or recurrent adenoid cystic carcinoma of the head and neck: a phase II study of the EORTC Head and Neck Cancer Cooperative Group. *Ann Oncol.* 1993;4:785.
69. Airoldi M, Pedani F, Succo G, et al. Phase II randomized trial comparing vinorelbine versus vinorelbine plus cisplatin in patients with recurrent salivary gland malignancies. *Cancer.* 2001;91:541.
70. Dreyfuss AI, Clark JR, Fallon BG, et al. Cyclophosphamide, doxorubicin, and cisplatin combination chemotherapy for advanced carcinomas of salivary gland origin. *Cancer.* 1987;60:2869.
71. Dimery IW, Legha SS, Shirinian M, Hong WK. Fluorouracil, doxorubicin, cyclophosphamide, and cisplatin combination chemotherapy in advanced or recurrent salivary gland carcinoma. *J Clin Oncol.* 1990;8:1056.
72. Venook AP, Tseng A Jr, Meyers FJ, et al. Cisplatin, doxorubicin, and 5-fluorouracil chemotherapy for salivary gland malignancies: a pilot study of the Northern California Oncology Group. *J Clin Oncol.* 1987;5:951.
73. Farhat F, Kattan J, Culine S, et al. [Efficacy of the combination of 5 fluorouracil, adriamycin and cisplatin (FAP protocol) in the treatment of metastatic cylindroma. Apropos of a case with review of the literature]. *Bull Cancer.* 1994;81:47.
74. Drilon A, Laetsch TW, Kummar S, et al. Efficacy of Larotrectinib in TRK Fusion-Positive Cancers in Adults and Children. *N Engl J Med.* 2018;378:731.
75. Weed DT, Gomez-Fernandez C, Pacheco J, et al. MUC4 and ERBB2 expression in major and minor salivary gland mucoepidermoid carcinoma. *Head Neck.* 2004;26:353.
76. Glisson B, Colevas AD, Haddad R, et al. HER2 expression in salivary gland carcinomas: dependence on histological subtype. *Clin Cancer Res.* 2004;10:944.
77. Haddad R, Colevas AD, Krane JF, et al. Herceptin in patients with advanced or metastatic sali-

- vary gland carcinomas. A phase II study. *Oral Oncol.* 2003;39:724.
- 78. Takahashi H, Tada Y, Saotome T, et al. Phase II Trial of Trastuzumab and Docetaxel in Patients With Human Epidermal Growth Factor Receptor 2-Positive Salivary Duct Carcinoma. *J Clin Oncol.* 2019;37:125.
 - 79. Pfeffer MR, Talmi Y, Catane R, et al. A phase II study of Imatinib for advanced adenoid cystic carcinoma of head and neck salivary glands. *Oral Oncol.* 2007;43:33.
 - 80. Wong SJ, Garrison T, Hayes DN, et al. Phase II trial of dasatinib for recurrent or metastatic c-KIT expressing adenoid cystic carcinoma and for nonadenoid cystic malignant salivary tumors. *Ann Oncol.* 2016;27:318.
 - 81. Jakob JA, Kies MS, Glisson BS, et al. Phase II study of gefitinib in patients with advanced salivary gland cancers. *Head Neck.* 2015;37:644.
 - 82. Locati LD, Bossi P, Perrone F, et al. Cetuximab in recurrent and/or metastatic salivary gland carcinomas: A phase II study. *Oral Oncol.* 2009;45:574.
 - 83. Hitre E, Budai B, Takács-Nagy Z, et al. Cetuximab and platinum-based chemoradio- or chemotherapy of patients with epidermal growth factor receptor expressing adenoid cystic carcinoma: a phase II trial. *Br J Cancer.* 2013;109:1117.
 - 84. Agulnik M, Cohen EW, Cohen RB, et al. Phase II study of lapatinib in recurrent or metastatic epidermal growth factor receptor and/or erbB2 expressing adenoid cystic carcinoma and non adenoid cystic carcinoma malignant tumors of the salivary glands. *J Clin Oncol.* 2007;25:3978.
 - 85. Kim DW, Oh DY, Shin SH, et al. A multicenter phase II study of everolimus in patients with progressive unresectable adenoid cystic carcinoma. *BMC Cancer.* 2014;14:795.
 - 86. Chau NG, Hotte SJ, Chen EX, et al. A phase II study of sunitinib in recurrent and/or metastatic adenoid cystic carcinoma (ACC) of the salivary glands: current progress and challenges in evaluating molecularly targeted agents in ACC. *Ann Oncol.* 2012;23:1562.
 - 87. Kim Y, Lee SJ, Lee JY, et al. Clinical trial of nintedanib in patients with recurrent or metastatic salivary gland cancer of the head and neck: A multicenter phase 2 study (Korean Cancer Study Group HN14-01). *Cancer.* 2017;123:1958.
 - 88. Thomson DJ, Silva P, Denton K, et al. Phase II trial of sorafenib in advanced salivary adenoid cystic carcinoma of the head and neck. *Head Neck.* 2015;37:182.
 - 89. Ho AL, Dunn L, Sherman EJ, et al. A phase II study of axitinib (AG-013736) in patients with incurable adenoid cystic carcinoma. *Ann Oncol.* 2016;27:1902.
 - 90. Elkin AD, Jacobs CD. Tamoxifen for salivary gland adenoid cystic carcinoma: report of two cases. *J Cancer Res Clin Oncol.* 2008;134:1151.
 - 91. Fushimi C, Tada Y, Takahashi H, et al. A prospective phase II study of combined androgen blockade in patients with androgen receptor-positive metastatic or locally advanced unresectable salivary gland carcinoma. *Ann Oncol.* 2018;29:979.
 - 92. Boon E, van Boxtel W, Buter J, et al. Androgen deprivation therapy for androgen receptor-positive advanced salivary duct carcinoma: A nationwide case series of 35 patients in The Netherlands. *Head Neck.* 2018;40:605.