

BÖLÜM 10

NAZOFARENKS KANSERLERİ

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ANATOMİ

Nazofarenks; kafa tabanının altında, burun boşluğunun arkasında bulunan küboidal şekilli bir boşluktur. Ortalama hacmi 14-15 cm³'tür. Farenksin en üst kısmıdır. Ön duvarı, burun boşlukları ve koana tarafından, arka duvarı ise ilk iki servikal vertebra, alt duvarı yumuşak damağın üst yüzü tarafından oluşturulur. Nazofarenks çatısı sfenoid kemik, oksipital kemik ve birinci vertebra ön bölümü ile sınırlıdır. Koana aracılığıyla burun boşluğu, östaki borusu aracılığıyla orta kulak boşluğu ile ilişkilidir. Östaki girişinin arkasında rosenmüller fossa bulunur. Nazofarenks karsinomlarının en sık geliştiği yer olması bakımından oldukça önemlidir (1, 2).

Nazofarenks maligniteleri nazofarengeal karsinom, düşük gradeli nazofarengeal papiller adenokarsinom, lenfoma, rabdomyosarkom, malign schwannom, liposarkom ve agresif kordomadır. Nazofarengeal karsinom; nazofarenkste en sık görülen tümör türüdür (3).

EPİDEMİYOLOJİ VE ETİYOLOJİ

Nazofarengeal karsinom, nazofarenks epitelinden köken alır. Diğer kanserlerle karşılaştırıldığında, nispeten nadirdir. Dünya çapında baş ve boyun karsinomları arasında yaklaşık %2 ve tüm kanser türlerinin %0,2'si kadar prevalansa sahiptir. Uluslararası Kanser Araştırma Ajansı'na göre, 2020'de yaklaşık 133.354 yeni nazofarengeal karsinom vakası mevcuttur. Bu sayı, 2020'de teşhis edilen tüm kanserlerin yalnızca %0,7'sini oluşturmaktadır. Dünyada insidansı 1.5 olup, bu oran erkek popülasyonunda 2.2, kadın popülasyonda 0.82' dir. Nazofarengeal karsinom insidansı erkeklerde

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KAYNAKLAR

1. Hyare H, Wisco JJ, Alusi G, et al. The anatomy of nasopharyngeal carcinoma spread through the pharyngobasilar fascia to the trigeminal mandibular nerve on 1.5 T MRI. *Surgical and Radiologic Anatomy*. 2010;32:937-944. doi: 10.1007/s00276-010-0638-0
2. Mendenhall WM, Million RR, Mancuso AA et al. Nasopharynx. In: Cassisi NJ (ed.) Management of head and neck cancer. A multi disciplinary approach. Second ed. Philadelphia: JB Lippicott Company; 1994. 23:599-626.
3. Lorenz RR, Couch ME, Burkey BB, Head and Neck. In: Townsend R, Beauchamp D, Evers M, Mattox K (eds.) Sabiston Textbook of Surgery. 20th ed. Philadelphia: Elsevier; 2016. p. 788-818.
4. Bray F, Ferlay J, Soerjomataram I, et al. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA: a cancer journal for clinicians*, 2018; 68(6): p. 394-424. doi: 10.3322/caac.21492
5. International Agency for Research on Cancer. Cancer Today. Available from: <https://gco.iarc.fr/today> (accessed Mar 12, 2023)
6. International Agency for Research on Cancer. "List of classifications by cancer sites with sufficient or limited evidence in humans, IARC monographs volumes 1-132a. Available from: <https://monographs.iarc.who.int> (Accessed 12th March 2023).
7. Poirier S, Hubert A, de-Thé G, et al. Occurrence of volatile nitrosamines in food samples collected in three high-risk areas for nasopharyngeal carcinoma. IARC Scientific Publications. 1987;(84):415-9.
8. Wang HY, Chang YL, To KF, et al. A new prognostic histopathologic classification of nasopharyngeal carcinoma. *Cancer Communications*. 2016;35(1):1-16. doi: 10.1186/s40880-016-0103-5
9. Pathmanathan R, Prasad U, Chandrika G, et al. Undifferentiated, nonkeratinizing, and squamous cell carcinoma of the nasopharynx. Variants of Epstein-Barr virus-infected neoplasia. *The American Journal of Pathology*. 1995;146(6):1355.
10. Young LS, Dawson CW. Epstein-Barr virus and nasopharyngeal carcinoma. *Chinese journal of cancer*. 2014;33(12):581. doi: 10.5732/cjc.014.10197
11. Rathore R. Nasopharyngeal Carcinoma. In: Fred Ff (ed.) Ferri's Clinical Advisor 2023. E-book: Elsevier; 2022. p.1043.
12. Lin Z, Khong B, Kwok S, et al. Human papillomavirus 16 detected in nasopharyngeal carcinomas in white Americans but not in endemic Southern Chinese patients. *Head & neck*. 2014;36(5): 709-714. doi: 10.1002/hed.23362
13. Ung A, Chen CJ, Levine PH, et al. Familial and sporadic cases of nasopharyngeal carcinoma in Taiwan. *Anticancer research*. 1999; 19(1B): 661-665.
14. Classi NJ. Clinical evaluation of pharyngeal tumors. In: Thawley S, Panje W (eds.) Comprehensive management of Head and Neck tumors, Philadelphia: WB Saunders Company; 1987. p.614.
15. Tiwawech D, Srivatanakul P, Karalak A, et al. Cytochrome P450 2A6 polymorphism in nasopharyngeal carcinoma. *Cancer letters*. 2006;241(1):135-141. doi: 10.1016/j.canlet.2005.10.026
16. Tsang RK, Wei WI. Carcinoma of the Nasopharynx. In: Genden EM (ed.) Head and Neck Cancer: Management and Reconstruction. New York: Thieme; 2019. p. 324-346.
17. Sham JS, Wei WI, Lau SK, et al. Serous otitis media: an opportunity for early recognition of nasopharyngeal carcinoma. *Archives of Otolaryngology-Head & Neck Surgery*. 1992;118(8):794-797. doi: 10.1001/archotol.1992.01880080016005
18. Sanguineti G, Geara FB, Garden AS, et al. Carcinoma of the nasopharynx treated by radiotherapy alone: determinants of local and regional control. *International Journal of Radiation Oncology, Biology, Physics*. 1997;37(5):985-96. doi: 10.1016/s0360-3016(97)00104-1

BAŞ BOYUN KANSERLERİ

19. Lee AW, Foo W, Law SC, et al. Nasopharyngeal carcinoma: presenting symptoms and duration before diagnosis. *Hong Kong Medical Journal*. 1997; 3(4):355–361.
20. Wei WI, Sham JS. Nasopharyngeal carcinoma. *The Lancet*. 2005; 365(9476):2041–2054. doi:10.1016/S0140-6736(05)66698-6
21. Liao XB, Mao YP, Liu LZ, et al. How does magnetic resonance imaging influence staging according to AJCC staging system for nasopharyngeal carcinoma compared with computed tomography? *International Journal of Radiation Oncology Biology Physics*. 2008;72(5): 1368–1377. doi:10.1016/j.ijrobp.2008.03.017
22. Chen WS, Li JJ, Hong L, et al. Comparison of MRI, CT and 18F-FDG PET/CT in the diagnosis of local and metastatic of nasopharyngeal carcinomas: an updated meta analysis of clinical studies. *American journal of translational research*. 2016; 8(11): 4532.
23. Peng H, Chen L, Tang LL, et al. Significant value of 18 F-FDG-PET/CT in diagnosing small cervical lymph node metastases in patients with nasopharyngeal carcinoma treated with intensity-modulated radiotherapy. *Chinese journal of cancer*. 2017; 36:1-10. doi:10.1186/s40880-017-0265-9
24. Wei J, Pei S, Zhu X. Comparison of (18) F-FDG PET/CT, MRI and SPECT in the diagnosis of local residual/recurrent nasopharyngeal carcinoma: a meta-analysis. *Oral oncology*. 2016; 52:11-17. doi:10.1016/j.oraloncology.2015.10.010
25. Chan SC, Yeh CH, Yen TC, et al. Clinical utility of simultaneous whole-body 18 F-FDG PET/MRI as a single-step imaging modality in the staging of primary nasopharyngeal carcinoma. *European journal of nuclear medicine and molecular imaging*. 2018; 45: 1297–1308. doi:10.1007/s00259-018-3986-3
26. Amin MB, Edge SB, Greene FL. AJCC cancer staging manual. Vol. 1024. 2017, New York: Springer.
27. Saleh-Ebrahimi L, Zwicker F, Muentner MW, et al. Intensity modulated radiotherapy (IMRT) combined with concurrent but not adjuvant chemotherapy in primary nasopharyngeal cancer—a retrospective single center analysis. *Radiation Oncology*. 2013; 8(1):1-10. doi: 10.1186/1748-717X-8-20
28. Lee AW, Sham JS, Poon YF. Treatment of stage I nasopharyngeal carcinoma: analysis of the patterns of relapse and the results of withholding elective neck irradiation. *International Journal of Radiation Oncology Biology Physics*. 1989;17(6):1183–1190. doi: 10.1016/0360-3016(89)90524-5
29. Mesic JB, Fletcher GH, Goepfert H. Megavoltage irradiation of epithelial tumors of the nasopharynx. *International Journal of Radiation Oncology Biology Physics*. 1981;7(4):447–453. doi: 10.1016/0360-3016(81)90129-2
30. Lee N, Xia P, Quivey JM, et al. Intensity-modulated radiotherapy in the treatment of nasopharyngeal carcinoma: an update of the UCSF experience. *International Journal of Radiation Oncology Biology Physics*. 2002;53(1): 12–22. doi: 10.1016/s0360-3016(02)02724-4
31. Kam MK, Teo PM, Chau Rm, et al. Treatment of nasopharyngeal carcinoma with intensity-modulated radiotherapy: the Hong Kong experience. *International Journal of Radiation Oncology Biology Physics*. 2004; 60(5):1440–1450. doi:10.1016/j.ijrobp.2004.05.022
32. Peng G, Wang T, Yang KY, et al. A prospective, randomized study comparing outcomes and toxicities of intensity-modulated radiotherapy vs. conventional two-dimensional radiotherapy for the treatment of nasopharyngeal carcinoma. *Radiotherapy and oncology*. 2012. 104(3):286–293. doi:10.1016/j.radonc.2012.08.013
33. Leung TW, Tung SY, Sze WK, et al. Salvage brachytherapy for patients with locally persistent nasopharyngeal carcinoma. *International Journal of Radiation Oncology Biology Physics*. 2000. 47(2):405–412. doi:10.1016/S0360-3016(00)00463-6

34. Al-Sarraf M, LeBlanc M, Giri PG, et al. Chemoradiotherapy versus radiotherapy in patients with advanced nasopharyngeal cancer: phase III randomized Intergroup study 0099. *Journal of clinical oncology*. 1998. 16(4):1310-1317.
35. Chan AT, Ma BB, Lo YD, et al. Phase II study of neoadjuvant carboplatin and paclitaxel followed by radiotherapy and concurrent cisplatin in patients with locoregionally advanced nasopharyngeal carcinoma: therapeutic monitoring with plasma Epstein-Barr virus DNA. *Journal of Clinical Oncology* 2004. 22(15):3053-3060. doi:10.1200/JCO.2004.05.178
36. Liu YP, Li H, You R, et al. Surgery for isolated regional failure in nasopharyngeal carcinoma after radiation: Selective or comprehensive neck dissection. *The Laryngoscope*. 2019. 129(2):387-395. doi:10.1002/lary.27317
37. Liu YP, Wen YH, Tang J, et al. Endoscopic surgery compared with intensity-modulated radiotherapy in resectable locally recurrent nasopharyngeal carcinoma: a multicentre, open-label, randomised, controlled, phase 3 trial. *The lancet oncology*. 2021. 22(3):381-390. doi:10.1016/S1470-2045(20)30673-2
38. Lee N, Riaz N, Ove R et al. Nasopharyngeal Carcinoma. In: Gunderson L, Tepper J (eds.) *Clinical Radiation Oncology*. 4th ed. Philadelphia: WB Saunders; 2016. p.629-48.
39. Hui EP, Taylor GS, Jia H, et al. Phase I Trial of Recombinant Modified Vaccinia Ankara Encoding Epstein-Barr Viral Tumor Antigens in Nasopharyngeal Carcinoma Patients Therapeutic Vaccination of Epstein-Barr Virus Malignancies. *Cancer research*. 2013. 73(6):1676-1688. doi:10.1158/0008-5472.CAN-12-2448
40. Taylor GS, Jia H, Harrington K, et al. A Recombinant Modified Vaccinia Ankara Vaccine Encoding Epstein-Barr Virus (EBV) Target Antigens: A Phase I Trial in UK Patients with EBV-Positive Cancer Therapeutic Vaccination to Treat EBV Malignancies. *Clinical Cancer Research*. 2014. 20(19):5009-5022. doi:10.1158/1078-0432.CCR-14-1122-T
41. Hui EP, Ma BB, Loong HH, et al. Efficacy, Safety, and Pharmacokinetics of Axitinib in Nasopharyngeal Carcinoma: A Preclinical and Phase II Correlative Study Axitinib in Nasopharyngeal Carcinoma. *Clinical Cancer Research*. 2018. 24(5):1030-1037. doi:10.1158/1078-0432.CCR-17-1667