

Bölüm **20**

SUPERIOR SULKUS (PANCOAST) TÜMÖRLERİNE YAKLAŞIM

Selnur ÖZKURT¹

GİRİŞ

Amerika Birleşik Devletleri’nde her yıl yaklaşık 220.000 yeni akciğer kanseri vakası tanı almakta, bu vakaların <%20’sine cerrahi rezeksiyon ana tedavi olarak veya kemoterapi (KT) ve/veya radyoterapi (RT) ile kombine olarak önerilmektedir.(1) Pancoast tümörleri, akciğer apeksi yerleşimli olup tüm akciğer kanserlerinin %3-5’ni oluşturmaktadır. (2)

Pancoast veya superior sulkus tümörleri ilk defa 1838 yılında Edwin Hare tarafından tariflenen karakteristik bir klinik sendromdur.(3) Asıl olarak 1932 yılında radyolog Henry Pancoast tarafından tanımlanmıştır.(4) Onun ilk izlenimi tümörün ekstrapulmoner kaynaklı olduğu, beşinci brankial klef epitelyal artığından oluştuğu yönündeydi. Ancak Tobias bu durumun bronkopulmoner dokudan kaynaklandığını tanımlamış ve tümörün lokalizasyonun spesifik olduğunu belirtmiştir. (5)

Pancoast-Tobias Sendromu; sekizinci servikal ile birinci ve ikinci torakal sinir gövdelerinin tutulumuna bağlı şiddetli ve geçmeyen omuz -kol ağrısı, aynı tarafa göz kapağı düşüklüğü (pitoz), göz bebeğinde küçülme (miyoz), gözde küçülme (enoftalmi), ve terlemede azalmanın (anhidroz) eşlik ettiği Horner sendromu ve el kaslarında atrofi ile klinik oluşturmaktadır.(6)

Pancoast tümörü için American College of Chest Physicians (ACCP)’nin klasik tanımlaması; Horner sendromu veya kola yayılan ağrı mevcudiyeti olmaksızın da görülebilen, akciğer apeksi yerleşimli, birinci kosta veya üzerindeki göğüs duvarı anatomik yapılarında tutulum gösteren akciğer kanseridir. Bu tümörler siklikla brakiyal pleksus, subklavyen arter / ven veya vertebral arteri invaze ederler.(7) (Şekil 1.)

¹ Uzm.Dr., SBÜ. İstanbul Bağcılar Sağlık Uygulama ve Araştırma Merkezi, Radyasyon Onkolojisi Birimi, selnur.ozkurt@saglik.gov.tr

kaydıyla umut verici sonuçlar vermektedir. Bugün preoperatif kemoradyoterapiyi takiben cerrahi uygulanması, bir kontrendikasyon yok ise, superior sulkus tümör-lü hastalarda standart tedavi olarak kabul görmüştür. Ancak bu prosedürler çok komplikedir.

Bu hasta gruplarında trimodal terapilerle etkili tedavi stratejileri belirlenmiş ve 5 yıllık sağkalım %50'ye ulaşmıştır. N2 mediastinal nodal hastalık varlığı kötü прогнозla ilişkili bulunsada, seçili hastalarda trimodal tedaviler uygulanabilir.

Morbidite ve mortaliteyi en aza indirmek, preoperatif KT + RT, biyolojik ajanlar, profilaktik kranial RT ve en iyi kombine tedavinin rolünü incelemek için ileri ve daha fazla çalışmaya ihtiyaç vardır.

Anahtar Kelimeler: Pancoast tümörü, Superior Sulkus Tümörü, Güncel Tedavi, Kemoterapi, Radyoterapi, Cerrahi.

KAYNAKLAR

1. Blasberg JD, Kim C, Chilakamarri S. (2018) Special types of lung cancer. In: Tanoue L, Detterbeck F. Lung cancer: A practical approach to evidence-based clinical evaluation and management (Chapter 8, pp.131-146). USA: Elsevier Health Sciences.
2. Escalon J, Detterbeck F. (2009) Carcinoid tumors. In: Shields T, LoCicero JI, Reed C, et al., eds. General Thoracic Surgery (pp.1539-1554). Philadelphia: Lippincott Williams & Wilkins.
3. Hare ES. Tumour involving certain nerves. Lond Med Gaz. 1838;1:16-18
4. Pancoast HK. Superior pulmonary sulcus tumor. JAMA. 1932;99(17):1391-1396.
5. Tobias JW. Sindrome apico-costo-vertebral doloroso por tumour apexiano: su valor diagnostico en el cancer primitivo pulmonar. Rev Med LatinoAm.1932;17:1522-56.
6. Marulli G, Battistella L, Mammana M, et al. Superior sulcus tumors (Pancoast tumors). Ann Transl Med. 2016;4(12):239.
7. Kozower BD, Larner JM, Detterbeck FC, et al. Special treatment issues in non-small cell lung cancer: Diagnosis and management of lung cancer, 3rd ed: American College of Chest Physicians evidence-based clinical practice guidelines. Chest. 2013;143:369-99.
8. Arcasoy S, Jett JR. Superior pulmonary sulcus tumors and Pancoast's syndrome. N Eng J Med. 1997; 337:1370-1376.
9. Van Houtte P, MacLennan I, Poulter C, et al. External radiation in the management of superior sulcus tumor. Cancer. 1984;54:223.
10. Grover FL, Komaki R. (1995) Superior sulcus tumors. In: Roth JA, Ruckdeschel JC, Weisenburger TH (Eds). Thoracic Oncology (2nd, p.225). Philadelphia: WB Saunders.
11. Shahian DM, Neptune WB, Ellis FH Jr. Pancoast tumors: improved survival with preoperative and postoperative radiotherapy. Ann Thorac Surg. 1987;43:32.
12. Miller JI, Mansour KA, Hatcher CR Jr. Carcinoma of the superior pulmonary sulcus. Ann Thorac Surg. 1979;28:44.
13. Komaki R. Preoperative radiation therapy for superior sulcus lesions. Chest Surg Clin North Am. 1991;1:13.
14. Rusch VW, Giroux DJ, Kraut MJ, et al. Induction chemoradiation and surgical resection for superior sulcus nonsmall-cell lung carcinomas: long-term results of Southwest Oncology Group trial 9416 (intergroup trial 0160). J Clin Oncol. 2007;25(3):313-318.
15. Silvestri GA, Pastis NJ, Tanner NT, et al. (2016) Clinical aspects of lung cancer. In: Broaddus VC, Ernst JD, King TE Jr, et al. Murray & Nadels' textbook of respiratory medicine (Sixth edi-

- tion, Chapter 53, pp.940-964). USA: Elsevier Health Sciences.
15. Heelan R, Demas B, Caravelli J, et al. Superior sulcus tumors: CT and MR imaging. *Radiology*. 1989;170:637-641.
 16. Bruzz JF, Komaki R, Walsh GL, et al. Imaging of non-small cell lung cancer of the superior sulcus: part 2: initial staging and assessment of resectability and therapeutic response. *RadioGraphics*. 2008;28:561-572.
 17. Laissy JP, Soyer P, Sekkal SR, et al. Assessment of vascular involvement with magnetic resonance angiography (MRA) in Pancoast syndrome. *Magn Reson Imaging*. 1995;13:523-530.
 18. Maxfeld R, Aranda C. The role of fiberoptic bronchoscopy and transbronchial biopsy in the diagnosis of Pancoast's tumor. *N Y State J Med*. 1987;87:326-329.
 19. Walls W, Thornburg J, Naylor B. Pulmonary needle aspiration biopsy in the diagnosis of Pancoast tumors. *Radiology*. 1974;111:99-102.
 20. Ginsberg RJ, Martini N, Zaman M, et al. Influence of surgical resection and brachytherapy in the management of superior sulcus tumor. *Ann Thorac Surg*. 1994;57:1440-1445.
 21. Panagopoulos N, Leivaditis V, Koletsis E, et al. Pancoast tumors: characteristics and preoperative assessment. *J Thorac Dis*. 2014;6(suppl 1):108-115.
 22. Paulson DL, Weed TE, Rian RL. Cervical approach for percutaneous needle biopsy of Pancoast tumors. *Ann Thorac Surg*. 1985;39:586.
 23. Yang PC, Lee LN, Luh KT, et al. Ultrasonography of Pancoast tumor. *Chest*. 1988;94:124.
 24. uptodate.com (2019). Arcasoy SM, Schild SM. Superior pulmonary sulcus (Pancoast) tumors. (07.05.2019 tarihinde <https://www.uptodate.com/contents/superior-pulmonary-sulcus-pancoast-tumors/print> adresinden ulaşılmıştır).
 25. Case records of the Massachusetts General Hospital. Weekly clinicopathological exercises. Case 18-2000. A 45-year-old woman with a thoracic mass and Pancoast's syndrome. *N Engl J Med*. 2000; 342(24):1814-21.
 26. Chong KM, Hennox SC, Sheppard MN. Primary hemangioendothelioma presenting as a Pancoast tumor. *Ann Thorac Surg*. 1993;55(2):9.
 27. Hatton MQ, Allen MB, Cooke NJ. Pancoast syndrome: an unusual presentation of adenoid cystic carcinoma. *Eur Respir J*. 1993;6(2):271-2.
 28. Mills PR, Han LY, Dick R, et al. Pancoast syndrome caused by a high grade B cell lymphoma. *Thorax*. 1994;49(1):92-3.
 29. Vandenplas O, Mercenier C, Trigaux JP, et al. Pancoast's syndrome due to *Pseudomonas aeruginosa* infection of the lung apex. *Thorax*. 1991;46(9):683-4.
 30. Gallagher KJ, Jeffrey RR, Kerr KM, et al. Pancoast syndrome: an unusual complication of pulmonary infection by *Staphylococcus aureus*. *Ann Thorac Surg*. 1992;53(5):903-4.
 31. Shaw RR, Paulson DL, Kee JL. Treatment of Superior Sulcus Tumor by Irradiation Followed by Resection. *Ann Surg*. 1961;154:29-40.
 32. Glassman LR, Hyman K. Pancoast tumor: a modern perspective on an old problem. *Curr Opin Pulm Med*. 2013;19(4):340-3.
 33. Rusch VW. Management of Pancoast tumours. *Lancet Oncol*. 2006;7(12):997-1005.
 34. Herbert PA, Watson TS. Tumour of the thoracic inlet producing the Pancoast syndrome. *Arch Pathol*. 1946;42:88-103.
 35. Chardack WM, MacCallum JD. Pancoast tumor; five year survival without recurrence or metastases following radical resection and postoperative irradiation. *J Thorac Surg*. 1956;31(5):535-542.
 36. Shaw RR. Pancoast's tumor. *Ann Thorac Surg*. 1984;37(4):343-345.
 37. Paulson DL. Carcinoma in the superior pulmonary sulcus. *Ann Thorac Surg*. 1979;28(1):3-4.
 38. Hilaris BS, Martini N, Luomanen RKJ, et al. Superior sulcus lung cancer: a 35 year experience. *Int J Radiat Oncol Biol Phys*. 1979;5:54. 40: Paulson DL. (1985) Te superior sulcus lesion. In: Delarue N, Eschapasse H, editors. International trends in general thoracic surgery (pp.121-131). Philadelphia, PA:Saunders.
 39. Neal CR, Amdur RJ, Mendenhall WM, et al. Pancoast tumor: radiation therapy alone versus pre-operative radiation therapy and surgery. *Int J Radiat Oncol Biol Phys*. 1991;21:651-660.

40. Maggi G, Casadio C, Pischedda F, et al. Combined radiosurgical treatment of Pancoast tumor. Ann Thorac Surg. 1994;57:198-202.
41. Darteville P, Chapelier AR, Macchiarini P, et al. Anterior transcervical-thoracic approach for radical resection of lung tumors invading the thoracic outlet. J Thorac Cardiovasc Surg. 1993;105:1025-34.
42. Darteville PG. Herbert Sloan Lecture. Extended operations for the treatment of lung cancer. Ann Thorac Surg. 1997;63(1):12-9.
43. Mazel C, Grunenwald D, Laudrin P, et al. Radical excision in the management of thoracic and cervicothoracic tumors involving the spine: results in a series of 36 cases. Spine. 2003;28(8):782-92.
44. Mountain C. Revisions in the international system for staging lung cancer. Chest. 1997;111:1710-1717.
45. Kunitoh H, Kato H, Tsuboi M, et al: Phase II trial of preoperative chemoradiotherapy followed by surgical resection in patients with superior sulcus non-small-cell lung cancers: report of Japan Clinical Oncology Group trial 9806. J Clin Oncol. 2008;26:644-649.
46. Kwong KE, Edelman MJ, Suntharalingam M, et al. Highdose radiotherapy in trimodality treatment of Pancoast tumors results in high pathologic complete response rates and excellent long-term survival. J Thorac Cardiovasc Surg. 2005;129(6):1250-1257.
47. Rusch VW, Giroux DJ, Kraut MJ, et al. Induction chemoradiation and surgical resection for non-small cell lung carcinomas of the superior sulcus: Initial results of Southwest Oncology Group Trial 9416 (Intergroup Trial 0160). J Thorac Cardiovasc Surg. 2001;121:472.
48. Rush VW, Van Chil PE. (2017) Extended resection for lung cancer: Chest wall and Pancoast tumors. In: Pass H, Ball D, Scagliotti G. IASLC Thoracic Oncology (Second edition, Chapter 30, pp.295-303). USA: Elsevier Health Sciences.
49. Martinez-Monge R, Herreros J, Aristu JJ, et al. Combined treatment in superior sulcus tumors. Am J Clin Oncol. 1994;17:317-22.
50. Marra A, Eberhardt W, Poettgen C, et al. Induction chemotherapy, concurrent chemoradiation and surgery for Pancoast tumor. Eur Respir J. 2007;29:117-27.
51. Pourel N, Santelmo N, Naafa N, et al. Concurrent cisplatin/etoposide plus 3D-conformal radiotherapy followed by surgery for stage IIB (superior sulcus T3N0)/III non-small cell lung cancer yields a high rate of pathological complete response. Eur J Cardiothorac Surg. 2008;33:829.
52. Kraut MJ, Moon J, Thomas CR, et al. (2009) Docetaxel is not feasible as consolidation therapy after cisplatin/etoposide/concurrent radiotherapy followed by surgical resection for pancoast tumors: preliminary results of SWOG 0220. IASLC, 13th World Conference of Lung Cancer, July 31-August 4, 2009, San Francisco, CA, USA, (poster presentation).
53. Tamura M, Hoda MA, Klepetko W. Current treatment paradigms of superior sulcus tumours. Eur J Cardio-thorac Surg. 2009;36:747-753.
54. Pitz CC, de la Riviere AB, van Swieten HA, et al. Surgical treatment of Pancoast tumors. Eur J Cardio-thorac Surg. 2004;26:202-8.
55. Darteville P, Macchiarini P. Surgical management of superior sulcus tumours. Oncologist 1999;4:398-407.
56. Wright CD, Moncure AC, Shepard JO, et al. Superior sulcus lung tumors. Results of combined treatment (irradiation and radical resection). J Thorac Cardiovasc Surg. 1987;94:69-74.
57. emedicine.medscape.com (2017). D'Silva KJ, Karim NA. Pancoast syndrome.(14.11.2017 tarihinde <https://emedicine.medscape.com/article/284011-overview> adresinden ulaşılmıştır).
58. Komaki R, Roh J, Cox JD, et al. Superior sulcus tumors: results of irradiation of 36 patients. Cancer. 1981;48:1563.
59. Hagan MP, Choi NC, Mathisen DJ, et al. Superior sulcus lung tumors: impact of local control on survival. J Thorac Cardiovasc Surg. 1999;117:1086.
60. Komaki R, Mountain CF, Holbert JM, et al. Superior sulcus tumors: treatment selection and results for 85 patients without metastasis (Mo) at presentation. Int J Radiat Oncol Biol Phys. 1990;19:31.

61. Attar S, Krasna MJ, Sonett JR, et al. Superior sulcus (Pancoast) tumor: experience with 105 patients. Ann Thorac Surg. 1998;66:193.
62. Narayan S, Thomas CR Jr. Multimodality therapy for Pancoast tumor. Nat Clin Pract Oncol. 2006; 3:484.
63. Çitak N, Metin M. Superior sulkus tümörlerinde (pancoast) güncel yaklaşım. Güncel Göğüs Hastalıkları Serisi. 2013;1(3):70-84.
64. Detterbeck FC. Changes in the treatment of Pancoast tumors. Ann Thorac Surg. 2003;75:1990-7.
65. Sartori F, Rea F, Calabò F, et al. Carcinoma of the superior pulmonary sulcus. Results of irradiation and radical resection. J Thorac Cardiovasc Surg. 1992;104:679-83.
66. Attar S, Krasna MJ, Sonett JR, et al. Superior sulcus (Pancoast) tumor: experience with 105 patients. Ann Thorac Surg. 1998;66:193-8.
67. Alifano M, D'Aiuto M, Magdeleinat P, et al. Surgical treatment of superior sulcus tumors: results and prognostic factors. Chest. 2003;124:996-1003.
68. Goldberg M, Gupta D, Sasson AR, et al. The surgical management of superior sulcus tumors: a retrospective review with long-term follow-up. Ann Thorac Surg. 2005;79:1174-9.
69. Rusch VW, Parekh KR, Leon L, et al. Factors determining outcome after surgical resection of T3 and T4 lung cancers of the superior sulcus. J Thorac Cardiovasc Surg. 2000;119:1147-53.
70. Wright CD, Menard MT, Wain JC, et al. Induction chemoradiation compared with induction radiation for lung cancer involving the superior sulcus. Ann Thorac Surg. 2002;73:1541-4.
71. Yıldızeli B, Darteville P, Fadel E, et al. Results of primary surgery with T4 non small cell lung cancer during a 25-year period in a single center: Te benefit is worth the risk. Ann Thorac Surg. 2008;86:1065-1075.
72. Gore EM, Bae K, Wong SJ, et al. Phase III comparison of prophylactic cranial irradiation versus observation in patients with locally advanced non-small-cell lung cancer: primary analysis of radiation therapy oncology group study RTOG 0214. J Clin Oncol. 2011;29:272-8.