



## TORASİK ACİLLERDE ONKOLOJİK YAKLAŞIM

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### Superior Vena Cava Sendromu

#### Giriş

Superior vena cava sendromu (SVCS), superior vena cava (SVC) kan akışının, obstrüksiyonunun klinik ifadesidir. Bu ince duvarlı damar, süperior mediastendeki süreçler tarafından sıkıştırıldığında, invaze veya tromboze olduğunda karakteristik semptomlar ve belirtiler hızla veya kademeli olarak gelişebilir. Yüz ödemci, göğüs duvarı ve boyun venlerinin genişlemesi, hafif ile orta derecede solunum sıkıntısı ve daha az yaygın olarak konjonktival ödem, baş ağrısı, görme bozuklukları gibi merkezi sinir sistemi şikayetleri gibi karakteristik özelliklere sahip bir sendromdur (1,2).

SVC obstrüksiyonu ilk olarak, William Hunter tarafından sifilitik aort anevrizması olan bir hastada 1757'de tanımlanmıştır (3). Bundan sonra yaklaşık iki yüzyıl boyunca, sifilitik aortit ve tüberküloza bağlı kronik mediastinit gibi malign olmayan süreçler, SVC obstrüksiyonunun başlıca etiyolojisini oluşturmaktaydı. Ancak post-antibiyotik çağda ise malignite onde gelen neden olmuştur. Günümüzde de malignite, SVCS'li hastalarda en yaygın altta yatan nedendir (4). Katerer ve kalp pili gibi intravasküler cihazların kullanımının artmasıyla, SVC'nin trombozunun neden olduğu SVCS'de daha sık gözlenmiştir (5).

#### AnATOMİ VE PATOFİZYOLOJİ

SVC, boyun, üst ekstremiteler ve üst toraks venöz drenajını sağlayan başlıca büyük, düşük basınçlı bir vendir. Sağ superior mediastende bulunur ve sternum,

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## KAYNAKLAR

1. Wilson LD, Dettarbeck FC, Yahalom J. Clinical practice. Superior vena cava syndrome with malignant causes. *N Engl J Med*, 2007;356, 1862–1869.
2. Straka C, Ying J, Kong FM, Willey CD, Kaminski J, Kim DW. Review of evolving etiologies, implications and treatment strategies for the superior vena cava syndrome. *Springerplus*. 2016; 5,229.
3. Hunter W. History of aneurysm of the aorta with some remarks on aneurysms in general. *Med Obs Inq*, 1757; 1, 323.
4. Wilson LD, Dettarbeck FC, Yahalom J. Clinical practice. Superior vena cava syndrome with malignant causes. *N Engl J Med* 2007;356(18),1862–1869.
5. Schindler N, Vogelzang RL. Superior vena cava syndrome. Experience with endovascular stents and surgical therapy. *Surg Clin North Am* 1999;79(3), 683–694.
6. Rimner A, Yahalom J. (2019). Superior vena cava syndrome. DeVita V.T., Lawrence T.S., Rosenberg S.A. (Ed.), Cancer principles and practice of oncology (3354-3364). Philadelphia: Wolters Kluwer
7. Bell DR, Woods RL, Levi JA. Superior vena caval obstruction: a 10-year experience. *Med J Aust* 1986;145(11–12), 566–568.
8. Rice TW, Rodriguez RM, Light RW. The superior vena cava syndrome: clinical characteristics and evolving etiology. *Medicine (Baltimore)* 2006;85(1), 37–42.
9. Sculier JP, Evans WK, Feld R, et al. Superior vena caval obstruction syndrome in small cell lung cancer. *Cancer* 1986;57(4), 847–851.
10. Wurschmidt F, Bünnemann H, Heilmann HP. Small cell lung cancer with and without superior vena cava syndrome: a multivariate analysis of prognostic factors in 408 cases. *Int J Radiat Oncol Biol Phys* 1995;33(1), 77–82.
11. Perez-Soler R, McLaughlin P, Velasquez WS, et al. Clinical features and results of management of superior vena cava syndrome secondary to lymphoma. *J Clin Oncol* 1984;2(4), 260–266.
12. Lazzarino M, Orlandi E, Paulli M, et al. Primary mediastinal B-cell lymphoma with sclerosis: an aggressive tumor with distinctive clinical and pathologic features. *J Clin Oncol* 1993;11(12), 2306–2313.
13. Parish JM, Marschke RF Jr, Dines DE, et al. Etiologic considerations in superior vena cava syndrome. *Mayo Clin Proc* 1981;56(7), 407–413.
14. Schraufnagel DE, Hill R, Leech JA, et al. Superior vena caval obstruction. Is it a medical emergency? *Am J Med* 1981;70(6), 1169–1174.
15. Rice TW, Rodriguez RM, Light RW. The superior vena cava syndrome: clinical characteristics and evolving etiology. *Medicine (Baltimore)* 2006;85(1), 37–42.
16. Bertrand M, Presant CA, Klein L, et al. Iatrogenic superior vena cava syndrome. A new entity. *Cancer* 1984;54(2), 376–378.
17. Bell DR, Woods RL, Levi JA. Superior vena caval obstruction: a 10-year experience. *Med J Aust*. 1986; 145, 566–568.
18. Rice TW, Rodriguez RM, Barnette R, Light RW. Prevalence and characteristics of pleural effusions in superior vena cava syndrome. *Respirology*. 2006; 11, 299–305.
19. Rice TW, Rodriguez RM, Barnette R, et al. Prevalence and characteristics of pleural effusions in superior vena cava syndrome. *Respirology* 2006;11(3), 299–305.
20. Loeffler JS, Leopold KA, Recht A, et al. Emergency prebiopsy radiation for mediastinal masses: impact on subsequent pathologic diagnosis and outcome. *J Clin Oncol* 1986;4(5), 716–721.

21. Sheth S, Ebert MD, Fishman EK. Superior vena cava obstruction evaluation with MDCT. *AJR Am J Roentgenol* 2010;194, W336–W346.
22. Sonavane SK, Milner DM, Singh SP, et al. Comprehensive imaging review of the superior vena cava. *Radiographics* 2015;35(7), 1873–1892.
23. Gupta A, Kim DN, Kalva S, Reznik S, Johnson DH (2020). Superior vena cava syndrome. John E. Niederhuber (Ed.), Abeloff Clinical Oncology (775-785). Philadelphia,Elsevier.
24. Berkovic P, Paelinck L, Lievens Y, et al. Adaptive radiotherapy for locally advanced non-small cell lung cancer, can we predict when and for whom? *Acta Oncol.* 2015; 54,1438–1444.
25. Kvale PA, Selecky PA, Prakash UB. American College of Chest P. Palliative care in lung cancer: ACCP evidence-based clinical practice guidelines (2nd edition). *Chest.* 2007; 132, 368–403.
26. Van Oorschot B, Rades D, Schulze W, Beckmann G, Feyer P. Palliative radiotherapy–new approaches. *Semin Oncol.* 2011; 38, 443–449
27. Lonardi F, Gioga G, Agus G, et al. Double-flash, large-fraction radiation therapy as palliative treatment of malignant superior vena cava syndrome in the elderly. *Support Care Cancer.* 2002; 10:156–160.
28. Johnson DH, Bass D, Einhorn LH, et al. Combination chemotherapy with or without thoracic radiotherapy in limited-stage small-cell lung cancer: a randomized trial of the Southeastern Cancer Study Group. *J Clin Oncol.* 1993; 11, 1223–1229.
29. Chun SG, Hu C, Choy H, et al. Comparison of 3D conformal and Intensity Modulated Radiation Therapy Outcomes for Locally Advanced Non-Small Cell Lung Cancer in NRG Oncology/RTOG0617. *Int J Radiat Oncol Biol Phys.* 2015.
30. Liengswangwong V, Bonner JA, Shaw EG, et al. Limited-stage small-cell lung cancer: patterns of intrathoracic recurrence and the implications for thoracic radiotherapy. *J Clin Oncol.* 1994; 12, 496–502.
31. Murray B, Forster K, Timmerman R. Frame-based immobilization and targeting for stereotactic body radiation therapy. *Med Dosim.* 2007;32, 86–91.
32. Glide-Hurst CK, Chetty IJ. Improving radiotherapy planning, delivery accuracy, and normal tissue sparing using cutting edge technologies. *J Thorac Dis.* 2014; 6, 303–318.
33. Li R, Yu L, Lin S, et al. Involved field radiotherapy (IFRT) versus elective nodal irradiation (ENI) for locally advanced non-small cell lung cancer: a meta-analysis of incidence of elective nodal failure (ENF). *Radiat Oncol.* 2016; 11, 124.
34. Specht L, Yahalom J, Illidge T, et al. Modern radiation therapy for Hodgkin lymphoma: field and dose guidelines from the international lymphoma radiation oncology group (ILROG). *Int J Radiat Oncol Biol Phys.* 2014; 89, 854–862.
35. Edward C Halperin et al (2019). Perez & Brady's Principles and Practice of Radiation Oncology (Seventh edition). Philadelphia , Wolters Kluwer.
36. Armstrong BA, Perez CA, Simpson JR, et al. Role of irradiation in the management of superior vena cava syndrome. *Int J Radiat Oncol Biol Phys.* 1987; 13, 531–539.
37. Wurschmidt F, Bunemann H, Heilmann HP. Small cell lung cancer with and without superior vena cava syndrome: a multivariate analysis of prognostic factors in 408 cases. *Int J Radiat Oncol Biol Phys.* 1995; 33, 77–82.
38. Ahmann FR. A reassessment of the clinical implications of the superior vena caval syndrome. *J Clin Oncol.* 1984; 2, 961–969.
39. Urban T, Lebeau B, Chastang C, et al. Superior vena cava syndrome in small-cell lung

- cancer. *Arch Intern Med.* 1993; **153**, 384–387
- 40. Rossi A, Di Maio M, Chiodini P, et al. Carboplatin- or cisplatin-based chemotherapy in first-line treatment of small-cell lung cancer: the COCIS meta-analysis of individual patient data. *J Clin Oncol.* 2012; **30**, 1692–1698.
  - 41. Rowell NP, Gleeson FV. Steroids, radiotherapy, chemotherapy and stents for superior vena caval obstruction in carcinoma of the bronchus: a systematic review. *Clin Oncol (R Coll Radiol).* 2002; **14**, 338–351.
  - 42. Martins SJ, Pereira JR. Clinical factors and prognosis in non-small cell lung cancer. *Am J Clin Oncol.* 1999; **22**, 453–457.