



Endovascular Stenting for **Malignant Superior Vena Cava Syndrome** Secondary to Lung Adenocarcinoma: A Case Report



Usman Zafar, Muhammad Junaid Tahir*, Muhammad Jibran Khattak, Awais Ahmed, Khalid Javed, Din Muhammad
Department of Radiology, Shaukat Khanum Memorial Cancer Hospital & Research Centre, Lahore

Background

Malignant superior vena cava (SVC) syndrome is a potentially life-threatening complication of advanced thoracic malignancy, most commonly lung cancer. Unlike chemotherapy or radiotherapy, which may take time to work, endovascular stenting directly restores venous patency and can give rapid symptom relief.

Case Presentation

A 47-year-old man with metastatic EGFR exon 19-mutant lung adenocarcinoma presented with progressive facial and upper-limb edema, cough, and exertional dyspnea. CT demonstrated a large right upper lobe mass with mediastinal extension, direct SVC invasion, and obstruction. Cavography confirmed severe malignant narrowing of the proximal and middle SVC. A 16 × 60 mm self-expanding Wallstent was deployed via right internal jugular venous access, with satisfactory restoration of venous flow and no immediate complications. Following stenting, facial and upper-limb edema resolved and dyspnea improved markedly. The patient was subsequently managed with palliative radiotherapy and supportive care. Despite initial clinical improvement, he died approximately two weeks later due to rapidly progressive metastatic disease.

Fig 1 – CT chest

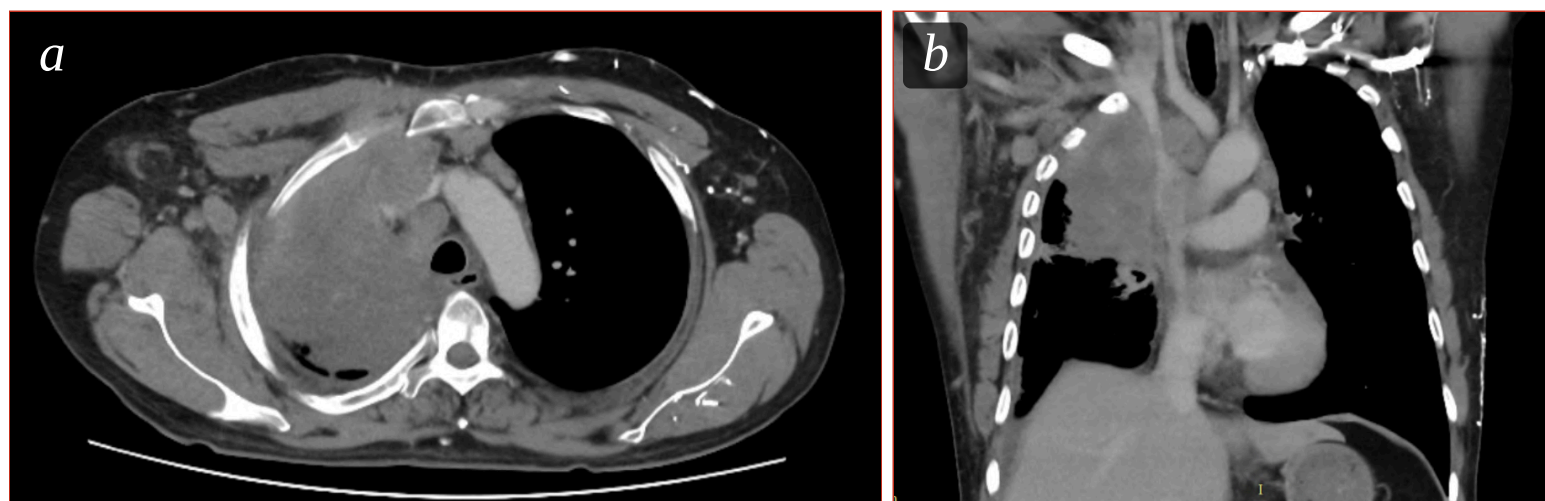


Fig 1: Contrast-enhanced CT chest, axial [a] and coronal [b]: large right upper lobe mass extending into the mediastinum with invasion and obstruction of the SVC. The mass also encases the right pulmonary artery and bronchi.

Fig 2 – Cavography



Fig 2: Cavography: severe narrowing of the proximal and middle SVC [a]; guidewire across the stenosis [b].

Fig 3 – Fluoroscopy

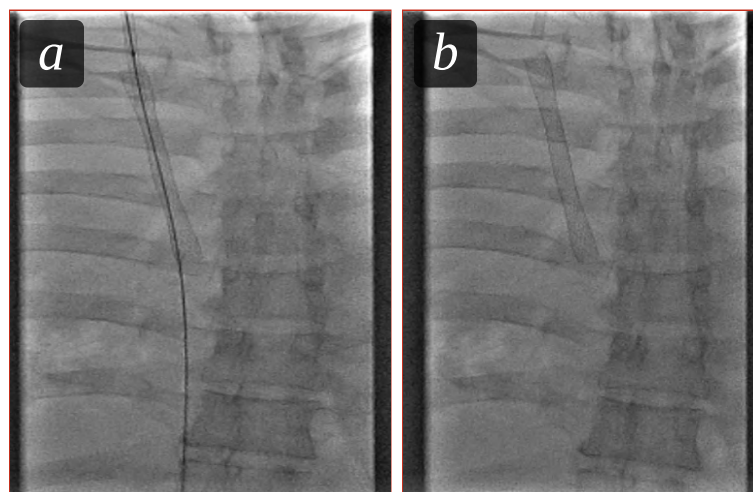


Fig 3: Fluoroscopy: guidewire in position [a]; 16 × 60 mm Wallstent deployed across the obstructed SVC [b].

Discussion

Endovascular stenting provides rapid and effective symptomatic relief in malignant SVC obstruction and is particularly valuable in patients requiring urgent palliation. [1,2] In this case, stenting successfully relieved SVC-related symptoms and improved the patient's clinical status despite extensive progressive malignancy.

Conclusion

Endovascular stenting offers rapid and effective palliation of malignant SVC syndrome and can improve quality of life even in advanced metastatic disease. However, the overall prognosis remains poor in the setting of rapidly progressive underlying malignancy.

References

1. Azizi AH, Shafi I, Zhao M, et al. Endovascular therapy for superior vena cava syndrome: a systematic review and meta-analysis. *EClinicalMedicine*. 2021;37:100970. doi:10.1016/j.eclinm.2021.100970.
2. Aung EYS, Khan M, Williams N, Raja U, Hamady M. Endovascular stenting in superior vena cava syndrome: a systematic review and meta-analysis. *Cardiovasc Intervent Radiol*. 2022;45(9):1236-1254. doi:10.1007/s00270-022-03178-z.

Contact: Muhammad Junaid Tahir, Dept. of Radiology, SKMCH, junaid262626@gmail.com