Case Series

Case Series: Lung Cancer with Superior Vena Caval Syndrome

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How to cite this article: Shivanand Kakanaki, Hetal Ahir, Anjana Trivedi. Case series: lung cancer with superior vena caval syndrome. International Journal of Contemporary Medicine Surgery and Radiology. 2022;7(3):C14-C16.

A B S T R A C T

Introduction: Since superior vena cava syndrome (SVCS) is a critical condition, immediate diagnostic approach and therapy are imperative to avoid potentially life-threatening complications. Here, we report case series of lung cancer with superior vena cava syndrome. Prompt diagnosis was made by Computer Enhanced Computed Tomography (CECT) thorax supported by pathological investigation, followed by appropriate anticancer treatment and improvement in the symptoms.

Case Series: We have presented with 7 cases which were transferred to our emergency room for facial and upper trunk swelling and dyspnea with chest discomfort that had begun 1 month earlier. With significant history of smoking in the past. On physical examination, neck vein engorgement was observed, with distended veins and edema on the upper trunk and both arms. These cases were followed up with contrast enhanced CT scan then most of them having upper lobe lung cancer and advised for histopathological diagnosis.

Conclusion: By suspecting superior vena cava syndrome in the presence of triggering imaging findings, a radiologist can alert the clinician for evaluation intrathoracic malignances which is most common cause for superior vena cava syndrome . Thus safe-gaurding the patient from morbidity and mortality caused by superior vena cava syndrome.

Keywords: Superior vena cava syndrome, Computer Enhanced Computed Tomography (CECT), lung cancer

INTRODUCTION

The superior vena cava syndrome (SVCS) is a critical condition, which encompasses symptoms and signs caused by obstruction of the superior vena cava (SVC) . The blockage of blood flow in the SVC results in edema of head and upper body, which leads to functional compromise of the larynx or pharynx and cerebral edema, manifested as headache, confusion, and Furthermore, decreased venous return may cause hemodynamic compromise. Immediate diagnostic approach and emergency therapy are imperative to avoid potentially life-threatening complications.

Most common cause of SVCS is intrathoracic malignancy such as lung cancer, lymphoma and metastatic cancer. Since treatment varies according to the histology of the underlying disease, accurate histologic diagnosis is crucial in patients with SVCS. Hence, diagnosis is usually made on the basis of clinical suspicion coupled with confirmatory imaging (plain radiography, computed tomography (CT).

Treatment options include percutaneous stent placement, corticosteroids, radiotherapy, and chemotherapy as well as thrombolytics, anticoagulation, and elevating the head of the patient's bed . However, randomized clinical trials on which to base "best therapy" recommendations are lacking.

MATERIALS AND METHOD

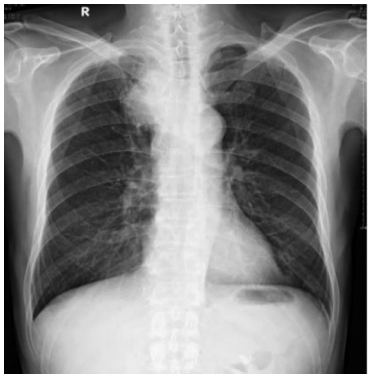
16 slice CT scan machiene.

CASE SERIES

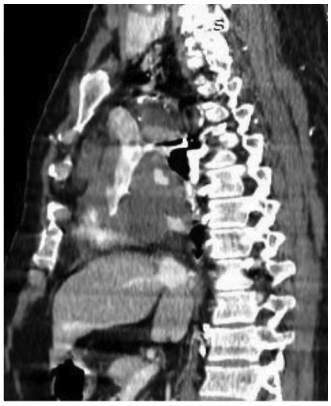
We have presented with 7 cases which were transferred to our emergency room for facial and upper trunk swelling and dyspnea with chest discomfort that had begun 1 month earlier. With significant history of smoking in the past. On physical examination, neck vein engorgement was observed, with distended veins and edema on the upper trunk and both arms.

Case 1

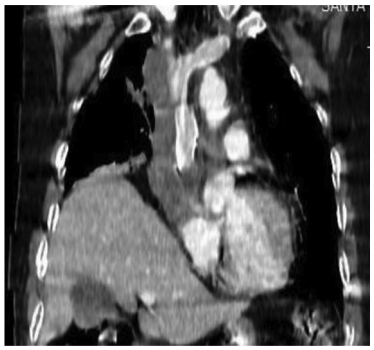
48 year old male who is transferred to our emergency room for facial and upper trunk swelling and dyspnea with chest discomfort that had begun 1 month earlier. With significant history of smoking in the past. On physical examination, neck vein engorgement was observed, with distended veins and edema on the upper trunk and both arms. Chest radiograph showed consolidation in the right par tracheal area that suggestive of central malignancy (Fig 1). We performed chest computed tomography (CT) with contrast enhancement to rule out SVC syndrome. The CT revealed a soft-tissue mass in the right par tracheal area that has invaded into the SVC and extended to the right atrium.



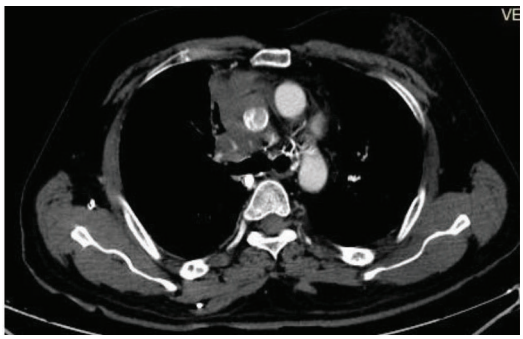
(Fig 1). Chest radiograph shows consolidative mass near the right mediastinal area.



Sagittal CECT chest: showing right upper lobe heterogeneously enhancing mass lesion with svc thrombosis.

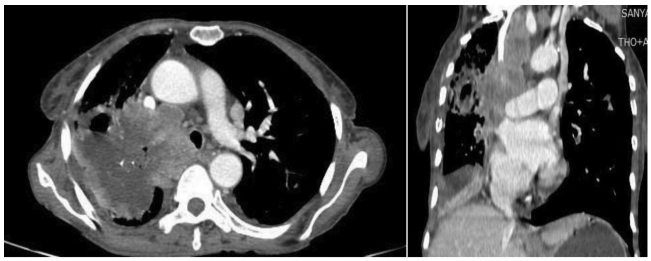


Coronal CECT chest: showing right upper lobe heterogeneously enhancing mass lesion with svc thrombosis.



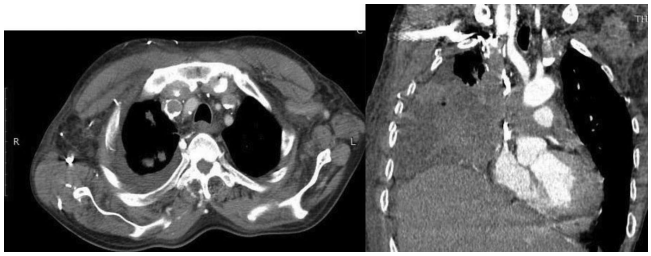
Axial CECT chest: showing right upper lobe heterogeneously enhancing mass lesion with svc thrombosis.

Case 2: 65 yr female presented with h/o cough and breathlessness. With no significant history of smoking in the past.



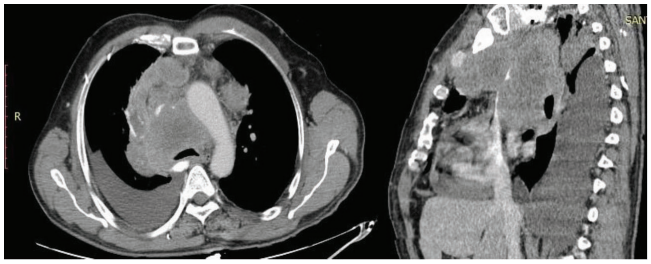
CECT thorax: heterogenouly enhancing mass lesion noted arising from right upper lobe with SVC thrombosis.

Case 3: 56 year old male with h/o acute hemoptoisis with breathless,with significant history of smoking in the past



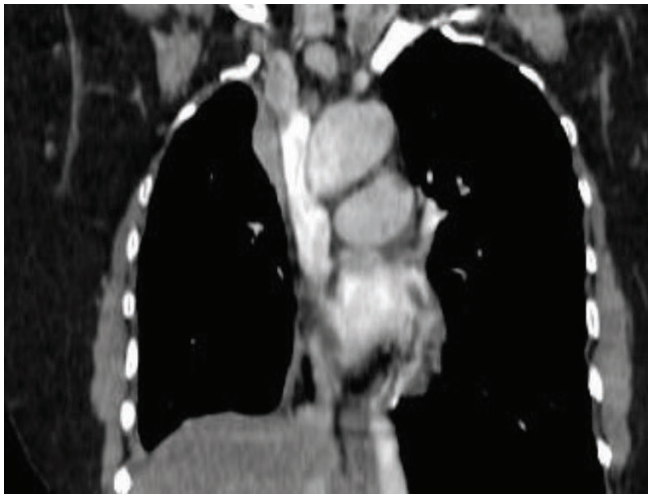
CECT thorax: heterogeneously enhancing mass lesion noted arising from right upper lobe with SVC thrombosis.

Case 4: 70 year old male with h/o cough and edematous face. With significant history of smoking in the past.



CECT thorax: heterogenouly enhancing mass lesion noted arising from right upper lobe with SVC thrombosis.]

Case 5: 48 year old female with h/o facial swelling headache. With no significant history of smoking in the past.

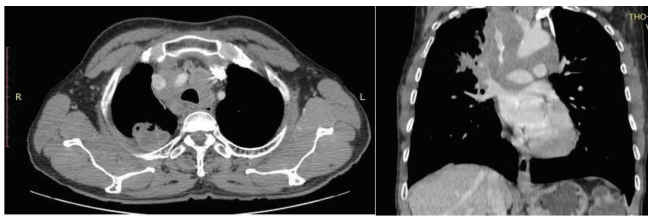


CECT thorax: nodularheterogeneously enhancing lesion noted arising from right upper lobe with SVC thrombosis.

Case 6: 45 yr old male oresented with h/o chages of SVC

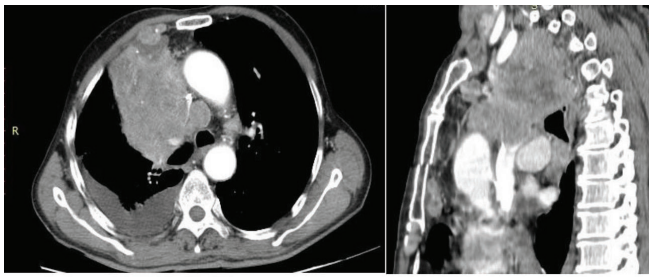
ISSN (Online): 2565-4810; (Print): 2565-4802 | ICV 2019: 98.48 |

thrombosis like facial puffiness and upper limb swelling



CECT thorax: heterogeneously enhancinglesion noted arising from right upper lobe with SVC thrombosis. Another similar plural based lesion noted in right upper lobe.

Case 7: 56 year old male with history of breathlessness.



CECT thorax: heterogeneously enhancinglesion noted arising from right upper lobe with SVC thrombosis. Another similar plural based lesion noted in right upper lobe.

DISCUSSION

SVC syndrome was first described by William Hunter in 1757 in a patient with a large syphilitic aortic aneurysm compressing the SVC. SVC syndrome is the clinical manifestation of SVC obstruction and occurs through external compression, thrombosis or invasion of the vein. SVC syndrome is now almost exclusively (more than 90%) secondary to malignancy

Our patients presented with the classic findings of dyspnea (which is the most commonly reported symptom in literature), facial swelling, head fullness, neck distension (exacerbated by bending forward or lying down) and cough (secondary to functional compromise of the upper airways).

To understand the clinical manifestations of the syndrome, an appreciation of the regional anatomy is necessary. Because the venous drainage from the upper extremities, upper thorax and head is obstructed, SVC syndrome presents with symptoms related to engorgement of these areas. Both the degree of SVC compromise and the extent of collateral veins determine the varied clinical presentation, which can be as mild as slight facial and upper extremity edema or as dire as intracranial swelling, seizures, hemodynamic instability and tracheal obstruction. The rapidity of onset of symptoms and signs from SVC obstruction is dependent upon the rate at which complete obstruction of the SVC occurs in relation to the recruitment of venous collaterals. Our patient developed symptoms within 10 days, which favors a diagnosis of malignancy because the rapidity of tumor growth does not allow adequate time to develop collateral flow.

In the past, SVC syndrome due to malignant disease was considered a potentially life-threatening medical emergency requiring immediate radiation therapy. However, in the present case, we took a less aggressive approach. Symptomatic obstruction is often a prolonged process developing over a period of weeks before clinical presentation; therefore, deferring therapy until a full diagnostic work-up has been completed does not pose a hazard for most patients, provided the evaluation is efficient and the patient is clinically stable. Furthermore, prebiopsy radiation may obscure the histological diagnosis.

Most cases of SVC syndrome are diagnosed readily on clinical examination alone, but several diagnostic tests and procedures may be useful. When a patient presents with suspected SVC syndrome, the first step is to obtain an imaging study to both confirm the diagnosis and assist in treatment decisions. CT scanning is the most readily available technology in most centers. CT scans and magnetic resonance imaging also provide information regarding possible etiologies and, thus, can direct the approach to a tissue diagnosis. The approach to establishing a tissue diagnosis is defined by both the patient's clinical stability and the findings on clinical examination and radiographic studies. Tissue diagnoses are important because they guide treatment; specifically, they identify patients for whom SVC syndrome should be treated with combination chemotherapy rather than with local measures such as radiation therapy or percutaneous vascular procedures.

Conflict of interest:No potential conflict of interest relevant to this article was reported.

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Source of Support: Nil; **Conflict of Interest:** None

Submitted: 30-07-2022; **Accepted:** 28-08-2022; **Published online**: 30-09-2022