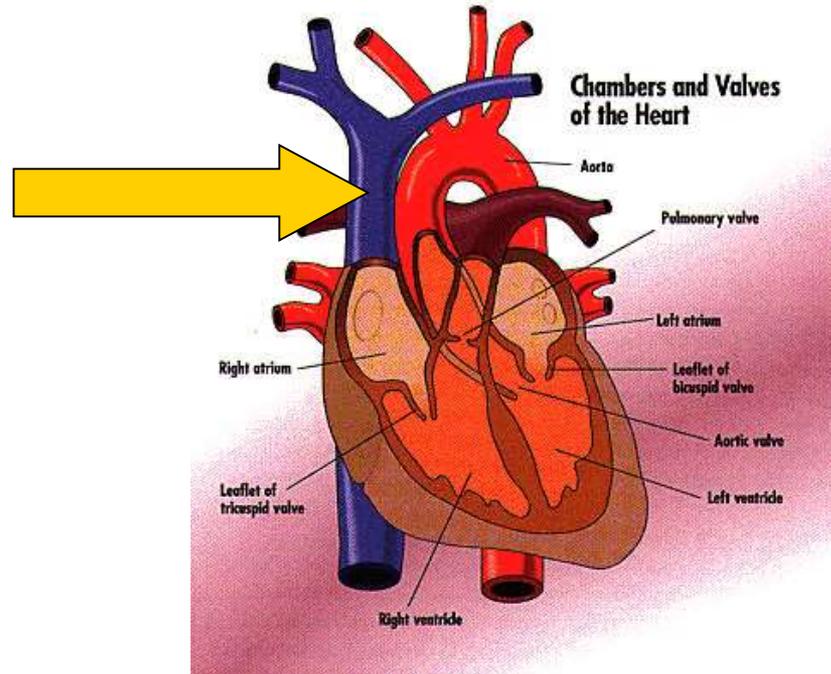
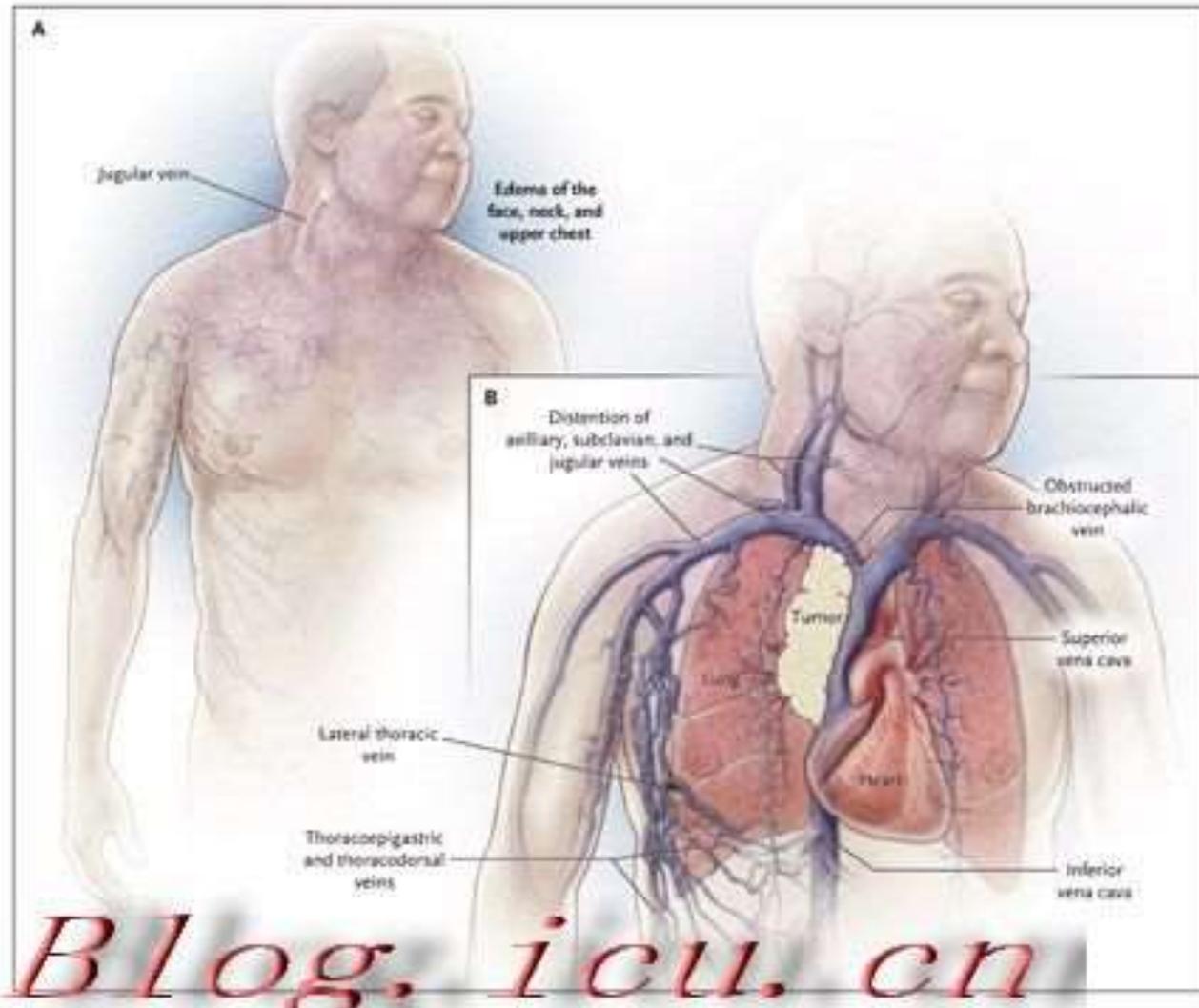


# Superior vena cava obstruction

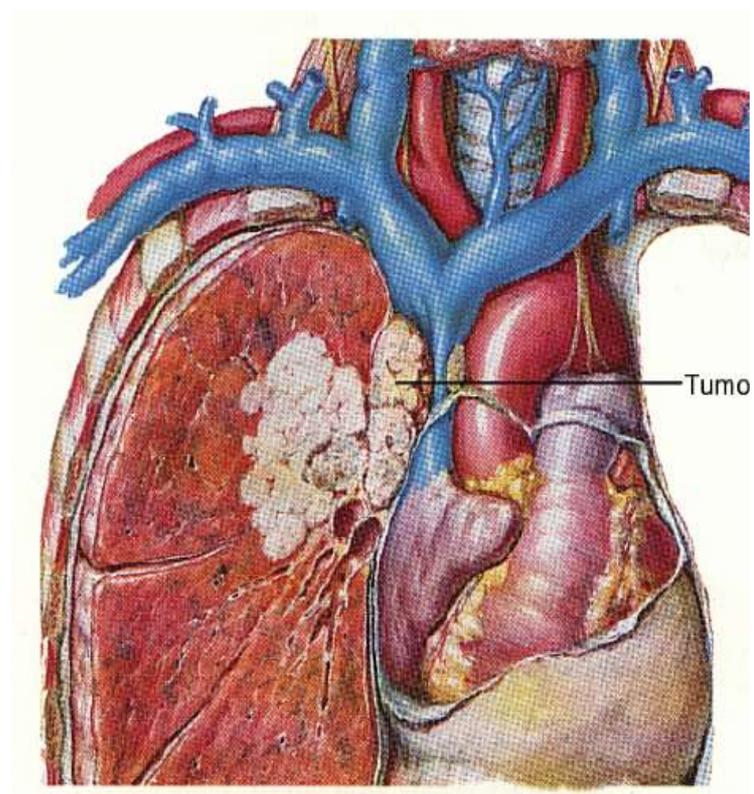


# Superior Venacaval Syndrome



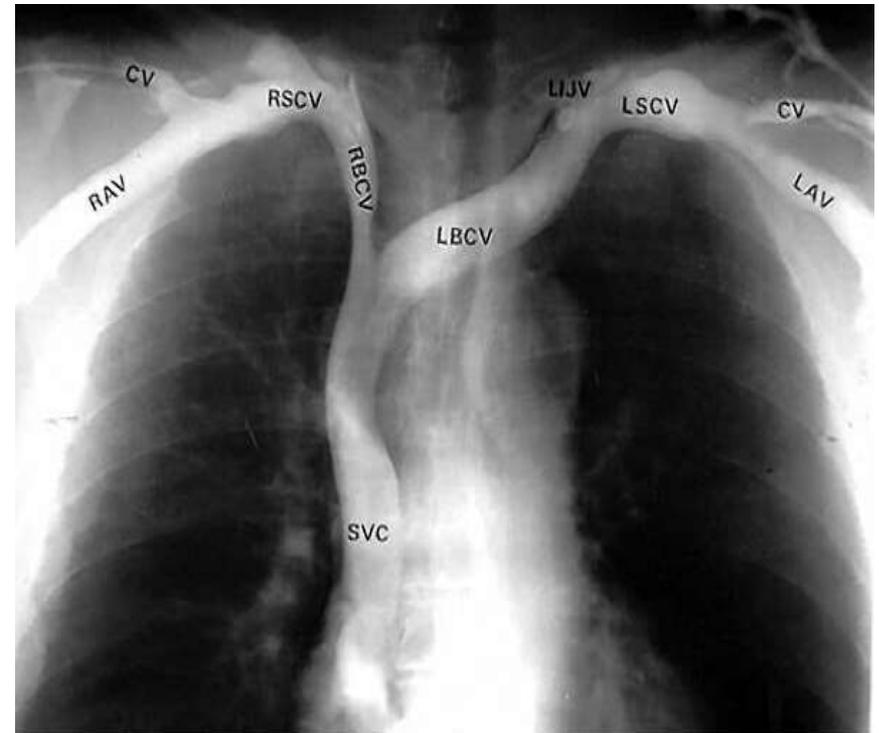
# Superior Venacaval Syndrome

- Extrinsic tumour or Node
- Direct Invasion
- Intraluminal Thrombus
  - Complication of Central Line

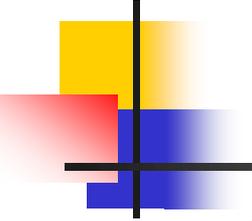


# Definition

- Obstruction of blood flow through the SVC results in signs and symptoms of SVC syndrome



SVC superior vena cava RBCV right brachiocephalic vein  
LBCV left brachiocephalic vein RSCV right subclavian vein  
LSCV left subclavian vein RAV right axillary vein  
LAV left axillary vein CV cephalic vein LIJV left internal jugular vein

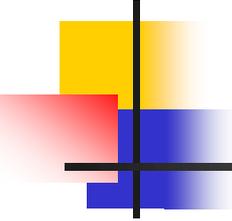


# Superior Vena Cava Obstruction

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## CAUSES:

- Lung Cancer\* 80%
- Lymphoma 10%
- Other Malignancy 5%
- Benign causes 5%  
(e.g. aneurysm, goitre, fibrosis, infection etc.)
- Occurs in 10% SCLC cases and 1.7% of NSCLC cases



# Superior Vena Cava Syndrome Presentation

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## ■ **Symptoms:**

- Dyspnea 63%
- Facial and neck swelling 50%
- Fullness in head(Headache) 50%
- Cough 24%
- Arm swelling 18%
- Chest pain 15%
- Dysphagia 9%

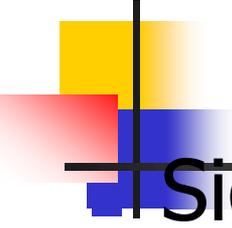
# Superior Vena Cava Obstruction



# Patients

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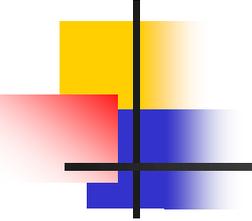


# Superior Vena Cava Syndrome Presentation

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## ■ Signs:

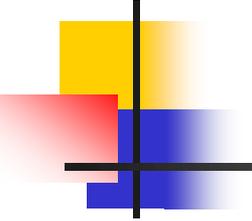
- Venous distention of neck 66%
- Venous distention of chest wall 54%
- Facial edema 46%
- Cyanosis 20%
- Edema of the arms 14%
- Plethora of the face 10%
- Vocal cord paralysis 3%
- Horner's syndrome 3%



# History

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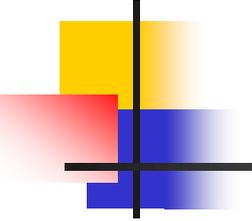
- How long?
- Speed of onset?
- How advanced? If patient is becoming **drowsy** this is an emergency.
- Any symptoms of cancer esp. lung cancer or lymphoma.
- Any other local symptoms e.g. pain, stridor.



# Superior Vena Cava Obstruction

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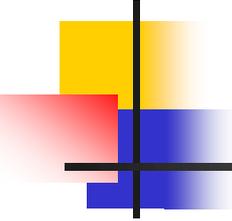
- Examination:
  - Extent of problem.
  - Any evidence of malignancy elsewhere
    - Lymphadenopathy.
    - Hepatomegaly.
    - collapse/consolidation of lung.



# Superior Vena Cava Obstruction

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- Initial Investigations:
  - CXR – is there a mass?
  - Venogram – is there a clot?
- If extrinsic compression from mass try and obtain tissue (SCLC, lymphoma treated with chemo)
  - FNA node.
  - Mediastinoscopy.

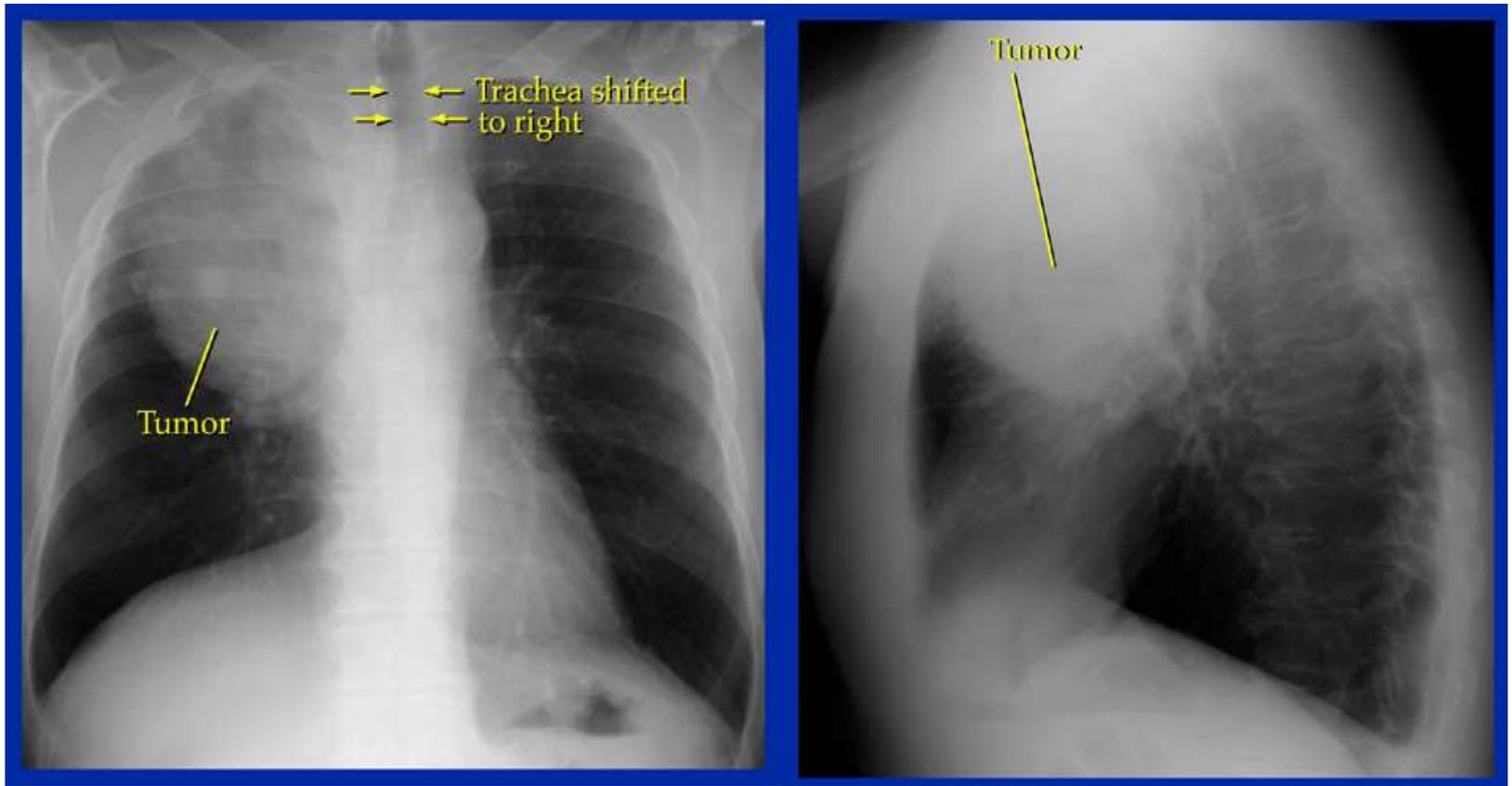


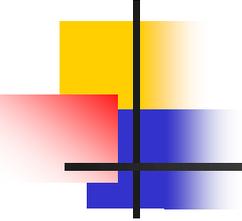
# Radiographic Studies

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- Most patients have an abnormal chest x-ray at presentation
- Most common findings are
  - Mediastinal widening
  - Pleural effusion

# Superior Vena Cava Obstruction

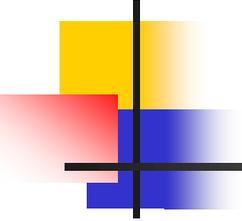




# CT Chest

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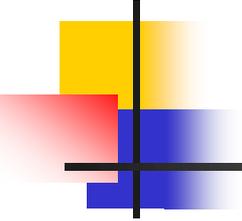
- Preferred choice
- IV contrast
  - defines the level of obstruction
  - Maps out collateral pathways
  - Can identify underlying cause of obstruction



# Venography

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- Bilateral upper arm venography
  - superior to CT to define site of obstruction
  - Does not define cause unless thrombosis is solely responsible

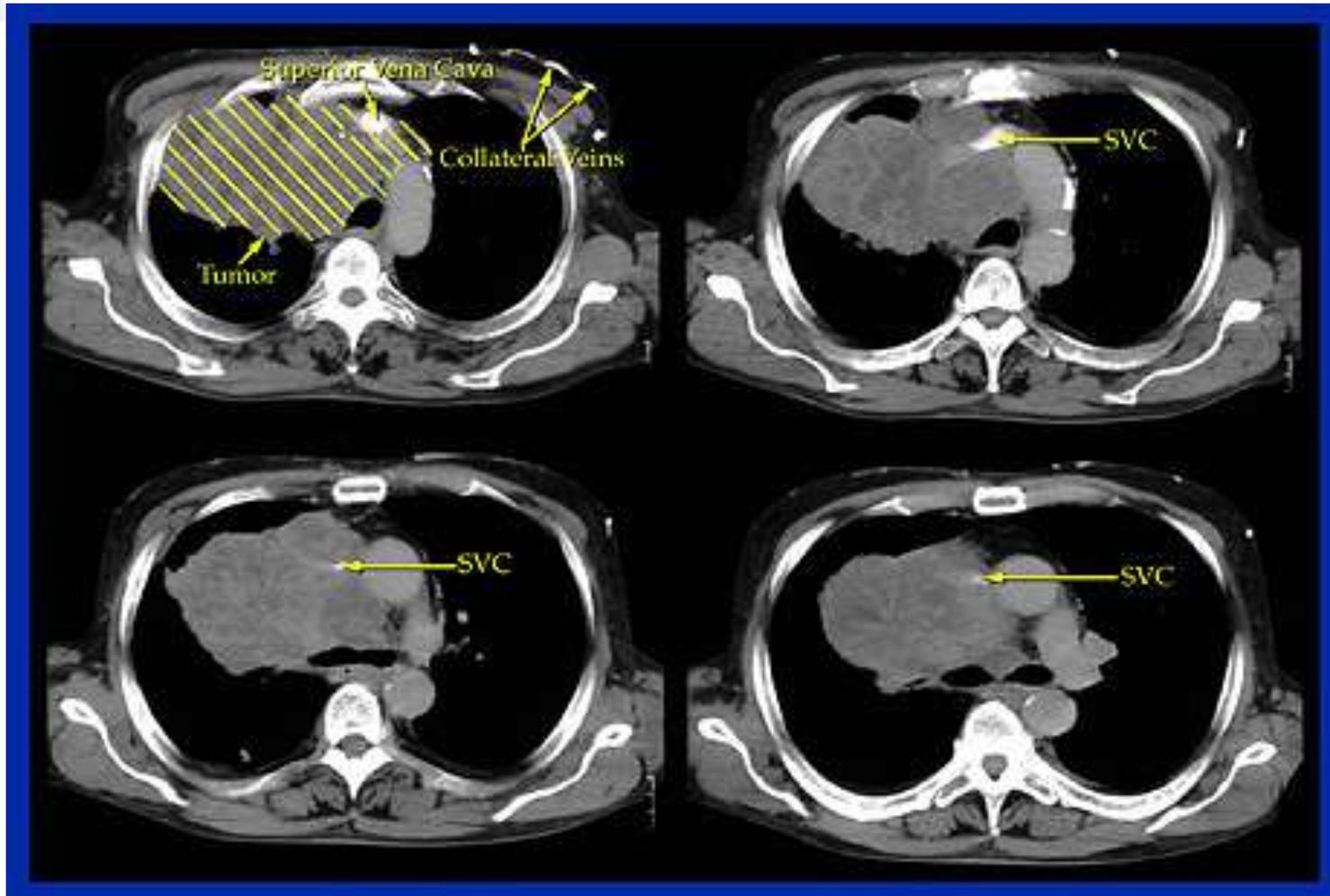


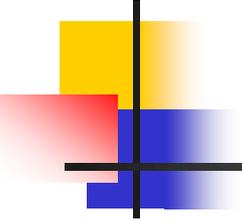
# MRI

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- **Can be useful in patients with IV contrast allergies**

# Superior Vena Cava Obstruction

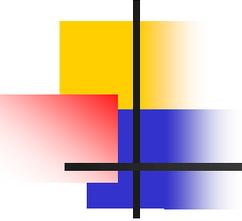




# Histologic Diagnosis

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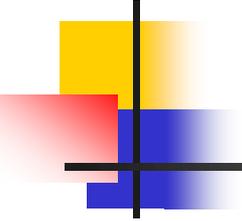
- Essential
- Guides treatment
- Aids in defining prognosis



# Histologic Diagnosis

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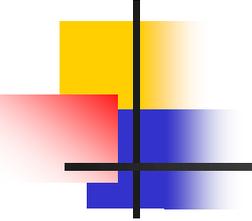
- Sputum cytology, pleural fluid cytology, biopsy of enlarged peripheral nodes
- Bone marrow biopsy for NHL
- Bronchoscopy, mediastinoscopy, or thoracotomy are more invasive but sometimes necessary



# Treatment

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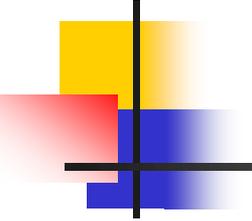
- Aimed at underlying cause
- Evolution of thought has occurred in recent years



# Treatment options: Clot

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- Local thrombolysis with streptokinase.
- Anti-coagulation – heparin (IV or LMWH) for at 5/7 whilst starting warfarin.

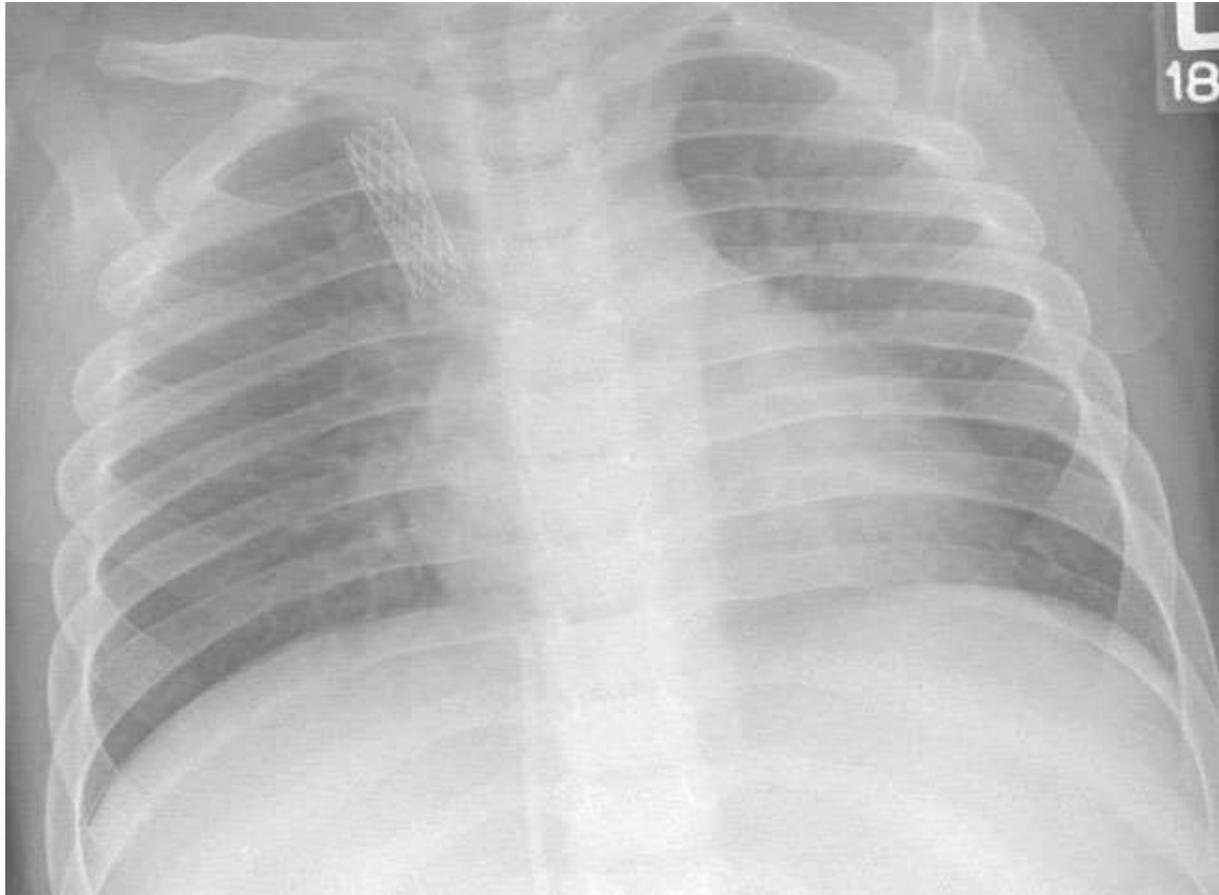


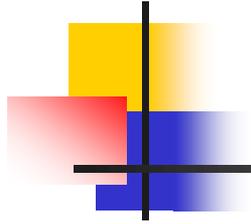
# Treatment Options: Extrinsic compression

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- **Steroids:**
  - frequently prescribed but no evidence to support their use (Cochrane review)
- **Chemotherapy:**
  - used for SCLC, lymphoma and teratoma  
response rate >70%.
- **Radiotherapy:**
  - used for other malignant causes  
response rate ~60%.
- **Stent:**
  - 95% response rate. Rapid relief of symptoms  
but doesn't treat the cause.

# Superior Vena Cava Syndrome- stented





**TERIMA KASIH**