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 - right ear stuffiness, itching, decreased hearing
- ~1 week ago
 - facial swelling, neck swelling, intermittent headaches and dizziness (worse when leaning forward)
 - New mild dyspnea on exertion

- Denied facial or neck pain, vision changes, arm swelling, fevers, chills, weight loss, night sweats, chest pain, dysphagia

PMH:

- none

SH:

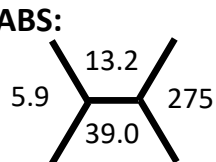
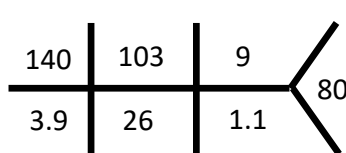
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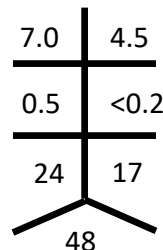
- Maternal: DM; Paternal: HTN

OUTPATIENT MEDS:

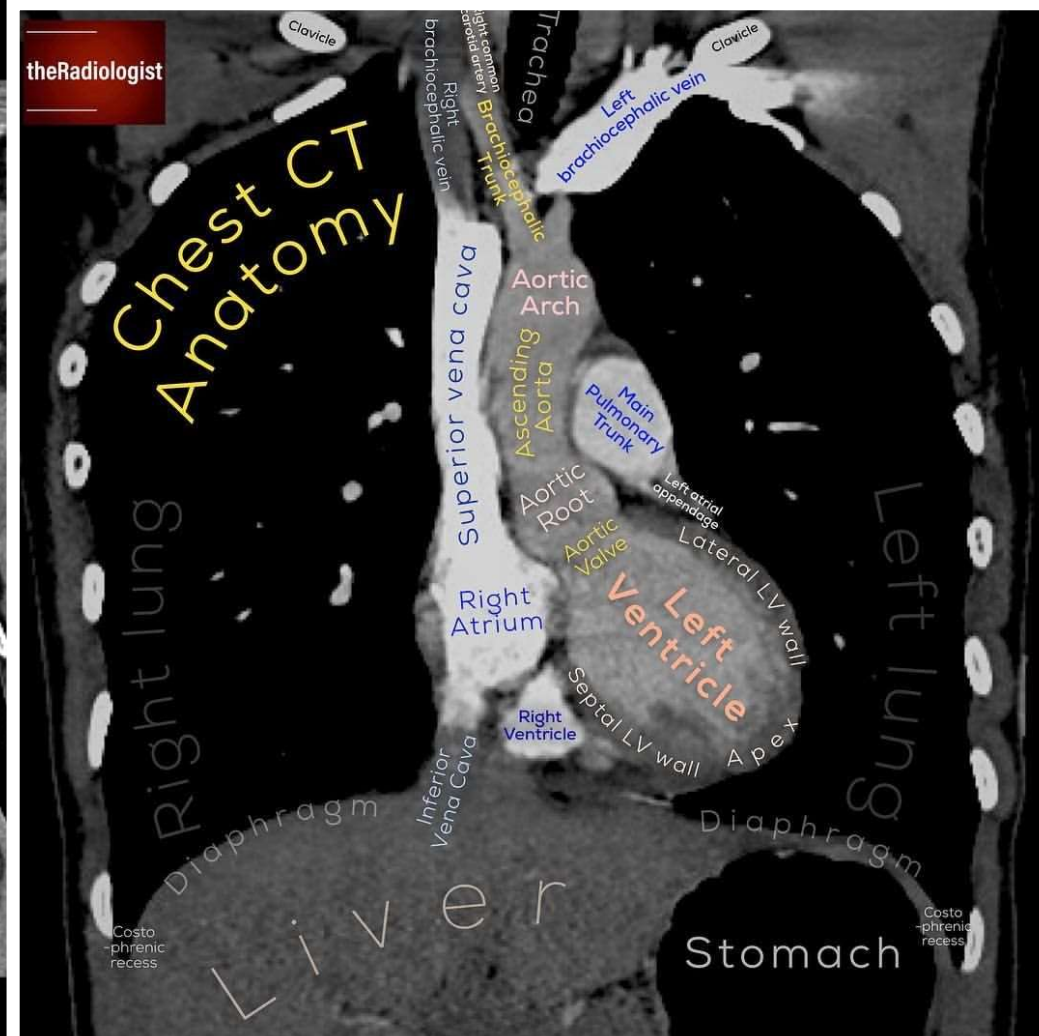
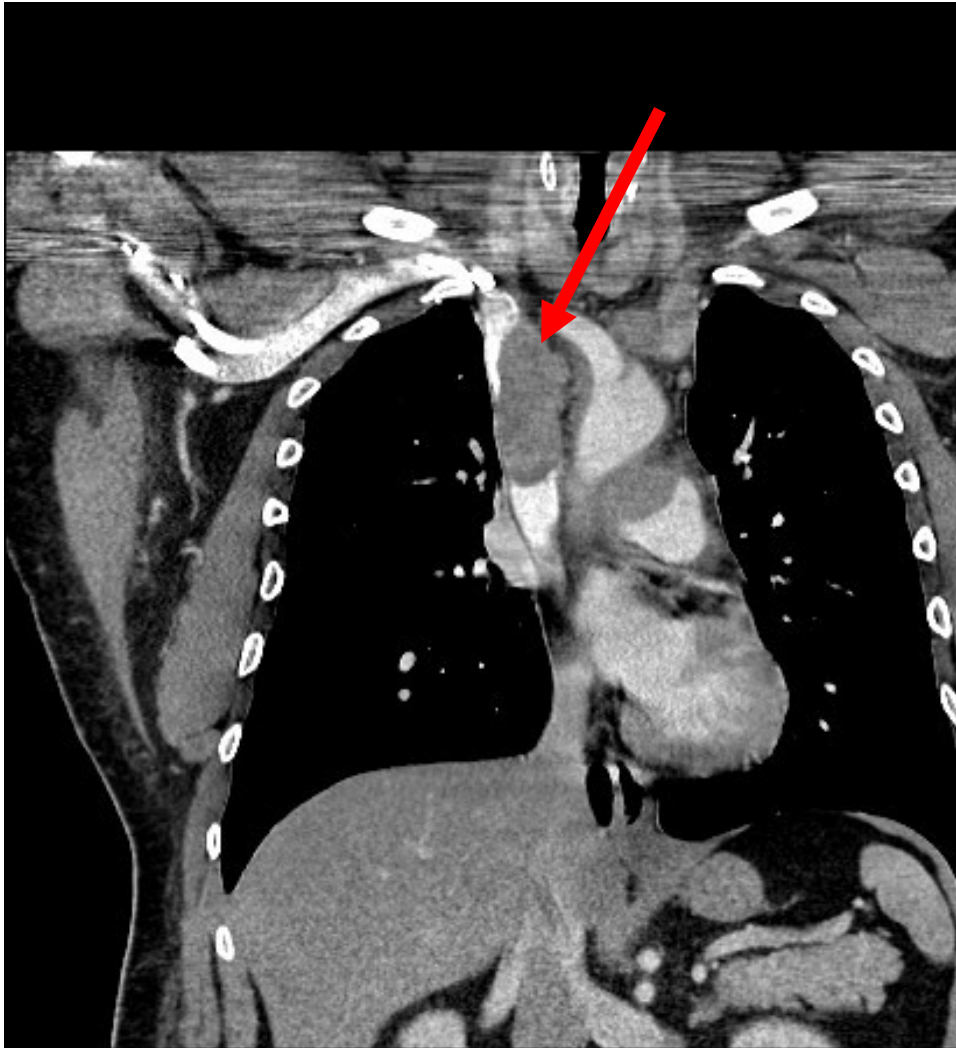
- none

PHYSICAL EXAM:**Tmax:** 36.5C, **BP:** 119/78, **HR:** 122, **RR:** 16, **SpO2:** 97% on RA**General:** NAD**HEENT:** Diffuse facial and neck swelling, with flushed complexion. PERRL. EOMI. No neck rigidity. Unable to palpate LN**CV:** Tachycardic, reg rhythm, no M/R/G. No UE or LE edema.**Pulm:** Unlabored breathing on room air, CTAB**GI:** Not distended. Soft. Not tender to palpation. +BS**Neuro:** AOx3, no focal neuro deficits**LABS:**NT-pro BNP: <5
TSH: 3.86D-dimer: 1.19
Fibrinogen: 383
LD: 442
INR: 1.1Syphilis: negative
EBV IgG: elevated
EBV IgM: negativeCT Chest W Con

Extensive mediastinal, cervical, and supraclavicular LAD
~4.3cm x 4.5cm infiltrative soft tissue mass above and below the aortic arch to great vessels, w/out vessel compression
Near occlusive filling defect in the SVC that measures ~5.9cm along the vessel and appears to be arising from the wall of the vessel, may represent thrombus

**PROBLEM REPRESENTATION:**

Young man w/ no significant PMH, presenting w/ acute-subacute diffuse facial and neck swelling w/ assoc headaches + dizziness + dyspnea, found to have...



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SVC SYNDROME

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- Obstruction of blood flow through the SVC
 - Collateral veins develop
- Mechanisms
 - Thrombosis
 - Invasion
 - Extrinsic pressure

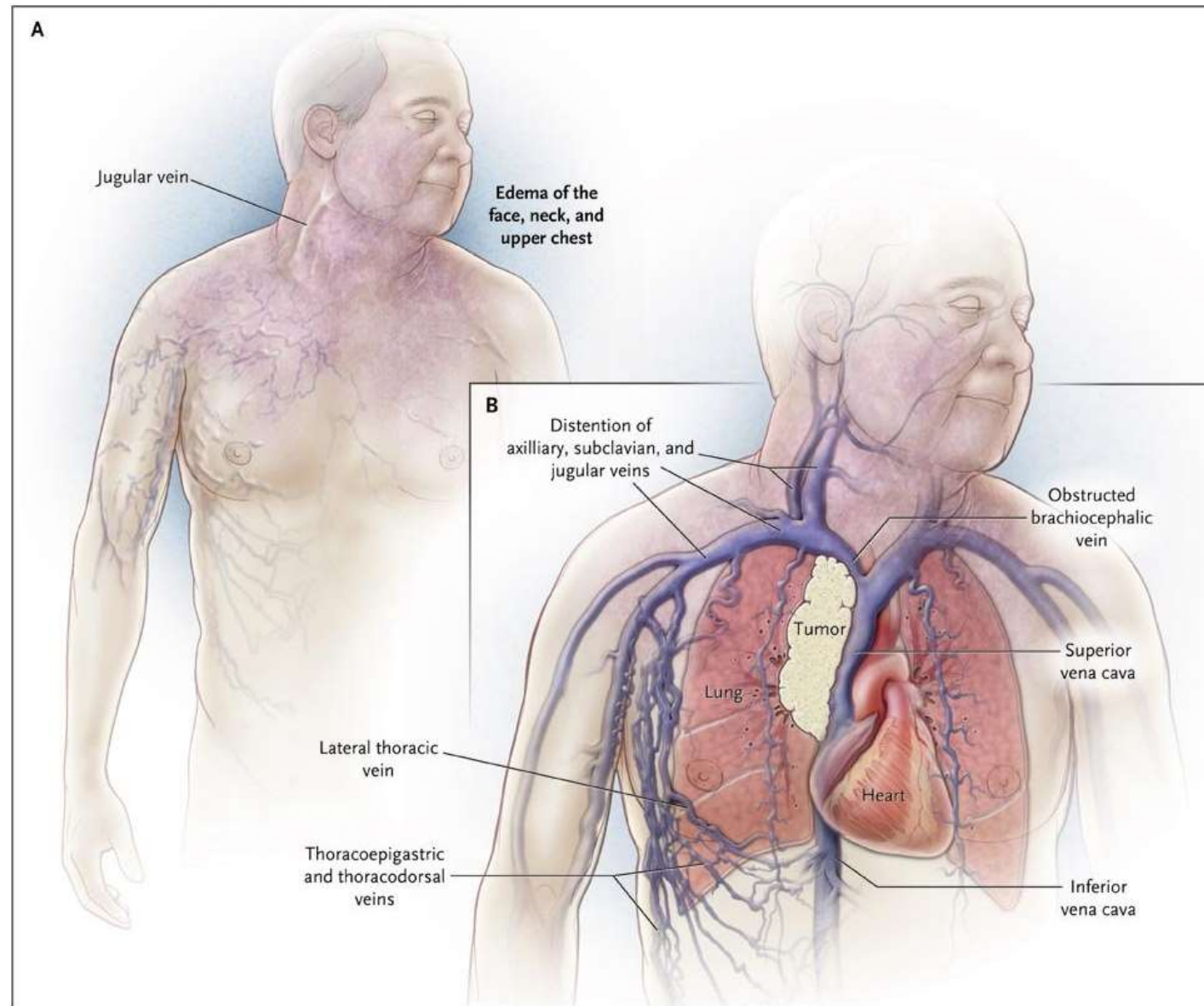


CAUSES

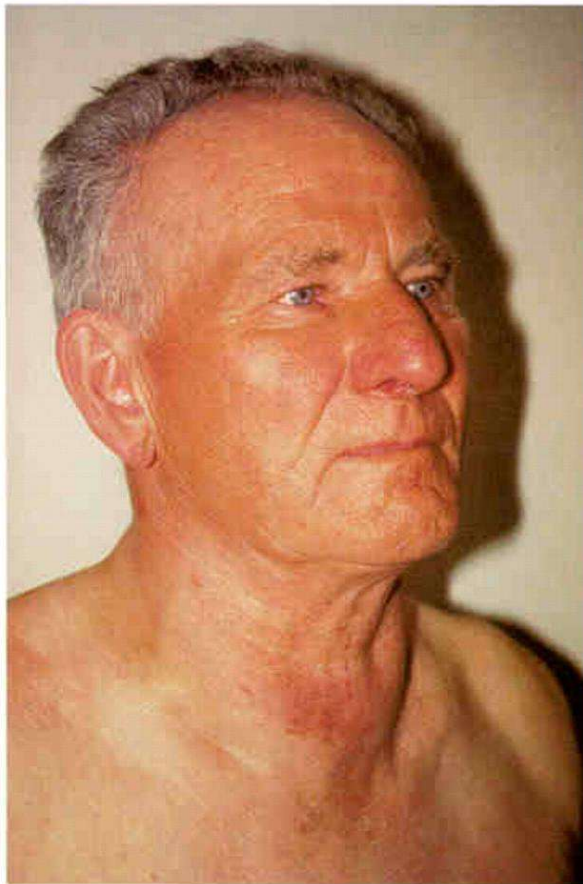
BENIGN (15-40%)	MALIGNANT (60-90%)
Thrombosis (aka catheter-associated)	NSCLC
Goiter	SCLC
Fibrosing Mediastinitis	Lymphoma
Fungal Infection	Germ Cell Tumors
Aortic Aneurysm	Thyroid Cancers
Retrosternal Thyroid	Metastatic Disease

SYMPTOMS

- Subacute
- Cough, hoarseness, dyspnea, stridor, dysphagia
- Hemodynamic compromise
- Cerebral edema



PEMBERTON'S SIGN



MANAGEMENT

Grading the severity of malignant superior vena cava syndrome

Grade	Findings	Estimated incidence (%)
0	Asymptomatic – Radiographic superior vena cava obstruction in the absence of symptoms	10
1	Mild – Edema in head or neck (vascular distention), cyanosis, plethora	25
2	Moderate – Edema in head or neck with functional impairment (mild dysphagia, cough, mild or moderate impairment of head, jaw, or eyelid movements, visual disturbances caused by ocular edema)	50
3	Severe – Mild or moderate cerebral edema (headache, dizziness), mild/moderate laryngeal edema, or diminished cardiac reserve (syncope after bending)	10
4	Life-threatening – Significant cerebral edema (confusion, obtundation), significant laryngeal edema (stridor), or significant hemodynamic compromise (syncope without precipitating factors, hypotension, renal insufficiency)	5
5	Fatal – Death	<1

MANAGEMENT

- Treat underlying cause + relieve symptoms of obstruction
- Glucocorticoids, chemotherapy, radiation therapy, surgical resection
- Intravascular stenting, thrombolysis

Back to the case

- Mediastinal mass biopsy: primary mediastinal B cell lymphoma
- Unclear if intravascular thrombus vs malignant infiltration
- Catheter-direct TPA thrombolysis & venoplasty w/ balloon inflation were ineffective
- Received systemic chemotherapy
- Repeat imaging after cycle 1 of chemo showing **significant reduction in size of mediastinal mass**

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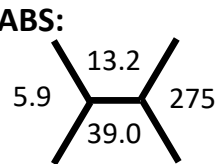
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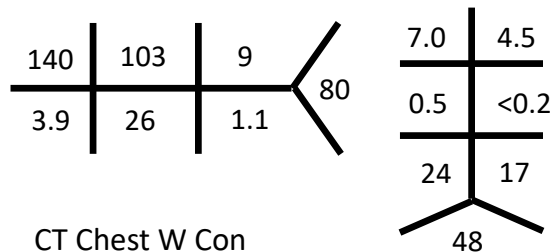
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DIAGNOSIS: **SVC SYNDROME due to malignancy**

LEARNING POINTS:

- Ddx for facial swelling (based on location of swelling)
 - Orbital/periorbital: Cavernous sinus thrombosis, orbital cellulitis, myxedema coma
 - Subcutaneous: Cellulitis
 - Submandibular: Ludwig's angina, salivary gland pathology
 - Intraoral: Angioedema, dental infection
 - Misc: Trauma, SVC syndrome, cancer
- Etiologies for SVC syndrome
 - Malignancy (majority): NSCLC, small cell lung cancer, lymphoma
 - Non-malignant: Thrombus, infection, aortic aneurysm, thyroid
- Treatment
 - Guided by severity of symptoms
 - Treat underlying cancer + relieve symptoms