Keep Calm & Carry Onc: Emergencies And How to Treat Them

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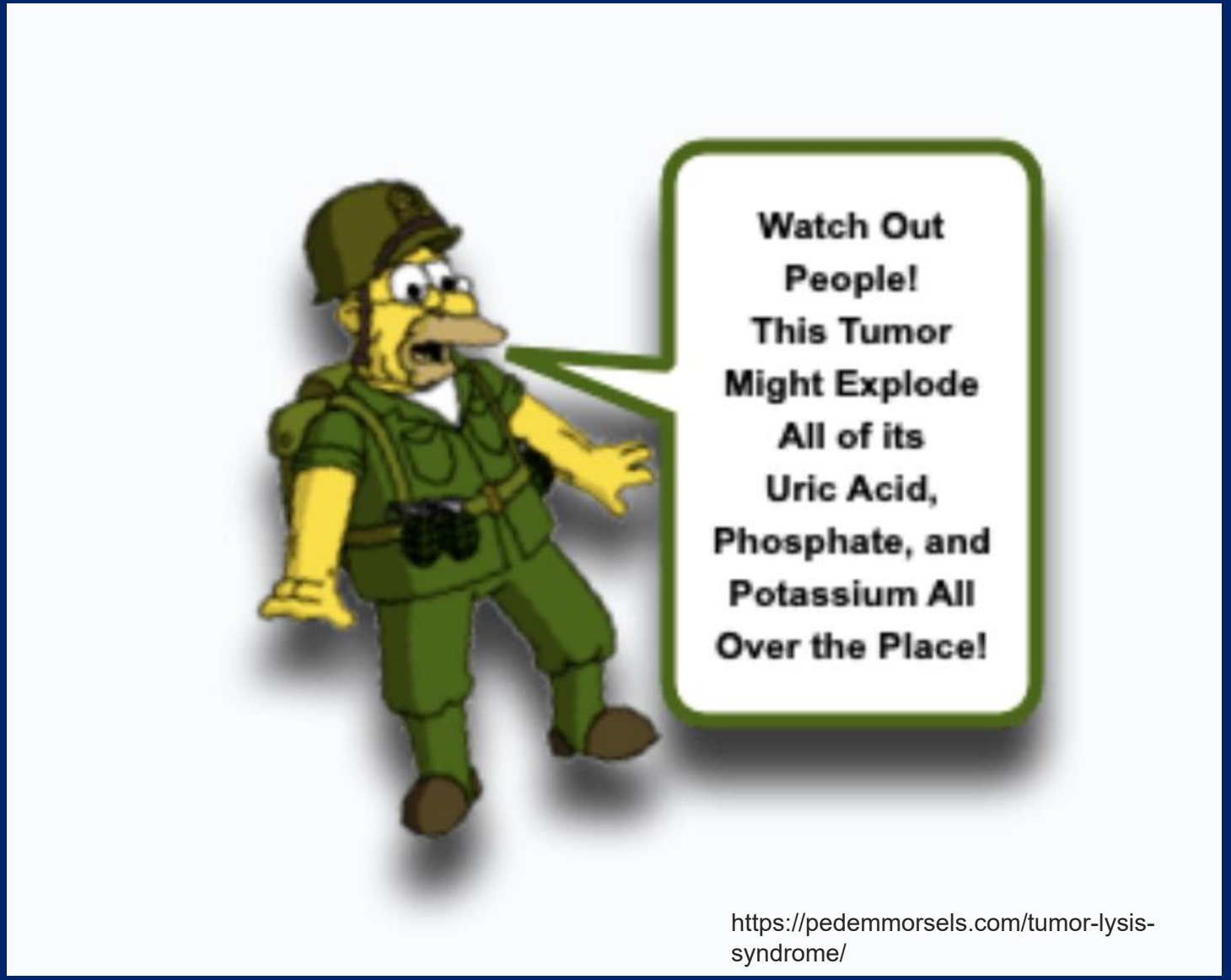
Objectives:

- Identify signs/symptoms of three oncologic emergencies: tumor lysis syndrome, hyperviscosity syndrome, and superior vena cava syndrome

- Understand pathophysiology of oncologic emergencies and acute management strategies

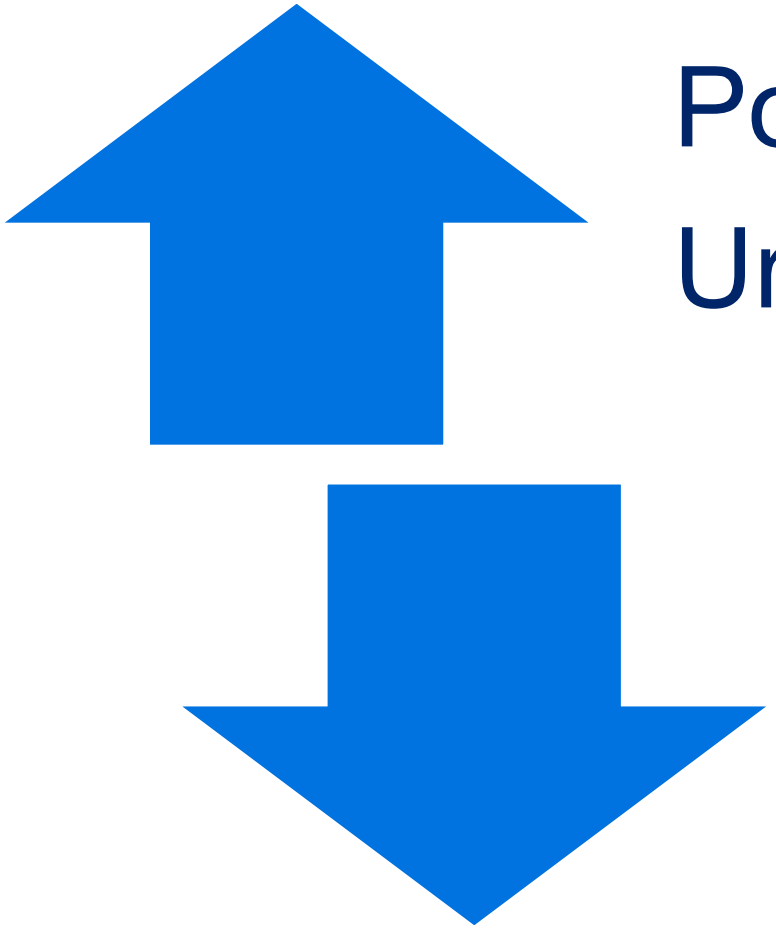
Tumor Lysis Syndrome

- Spontaneous or provoked lysis of neoplastic cells
  - Can be due to cancer-directed therapy or disease burden
- Electrolyte derangements that can lead to end organ damage
- Most often seen in Burkitt's lymphoma, acute lymphoblastic leukemia, rapidly dividing lymphomas
- Can be characterized as laboratory or clinical TLS



https://pedemmorsels.com/tumor-lysis-syndrome/

Tumor Lysis Syndrome – Laboratory Findings



Potassium, Phosphorus

Uric Acid

Calcium

Clinical Tumor Lysis Syndrome by Cairo-Bishop grading

Variable	Grade 0	Grade I	Grade II	Grade III	Grade IV	Grade V
Creatinine	None	1.5 x ULN	>1.5-3.0 x ULN	>3.0-6.0 x ULN	>6.0 x ULN	Death
Cardiac arrythmia	None	Inter-vention not indicated	Nonurgent medical intervention indicated	Symptomatic and incompletely controlled medically or controlled with device	Life-threatening	Death
Seizures	None	----	One brief, generalized seizure well controlled by AEDs or infrequent focal motor seizures not interfering with ADL	Seizure with altered consciousness; poorly controlled seizure disorder; with breakthrough generalized seizures	Seizure of any kind which are prolonged, repetitive or difficult to control	Death

Adapted from Cairo et al

Tumor Lysis Syndrome - Prevention

- Low risk disease = Monitoring + Hydration +/- Allopurinol
- Intermediate risk disease = Monitoring + Hydration + Allopurinol
- High risk disease = Monitoring + Hydration + Rasburicase

Tumor Lysis Syndrome - Monitoring

- Strict I/O
- Serial assays of electrolytes and uric acid vary based on disease risk for lysis
- In patients with laboratory TLS, recommend cardiac monitoring and lab tests q6-8h
- Clinical TLS: ICU admission and lab tests q4-6h

Tumor Lysis Syndrome - Management

- Hyperkalemia: oral potassium lowering agents; dextrose/insulin; beta-agonists; calcium gluconate
- Symptomatic hypocalcium: treated with lowest doses required to relieve symptoms
- Hyperphosphatemia: aggressive hydration and phosphate binder therapy
- Renal replacement therapy

Hyperviscosity Syndrome

Result of deranged RBC shape or increase in serum proteins, RBC, WBC or platelets

Classic triad of neurological deficits, visual changes, mucosal bleeding

Causes: monoclonal and polyclonal serum disorders; whole blood disorders

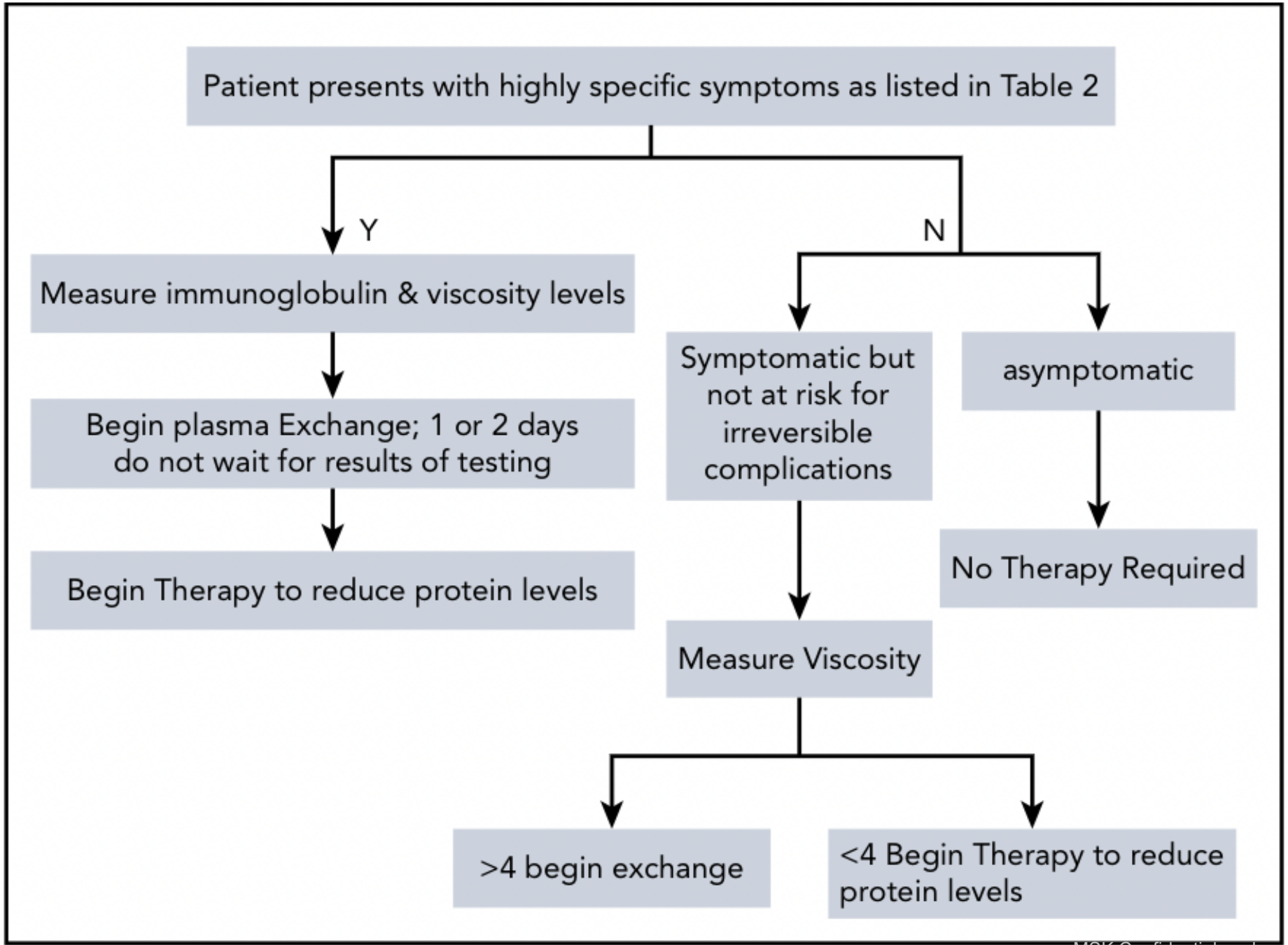
Hyperviscosity Syndrome - Diagnosis

- Viscometer is gold standard
- Chemistry panel
- CBC
- CXR
- CT A/P
- SPEP/UPEP
- Head CT
- Oncology workup if no confirmed diagnosis

Hyperviscosity Syndrome

Management

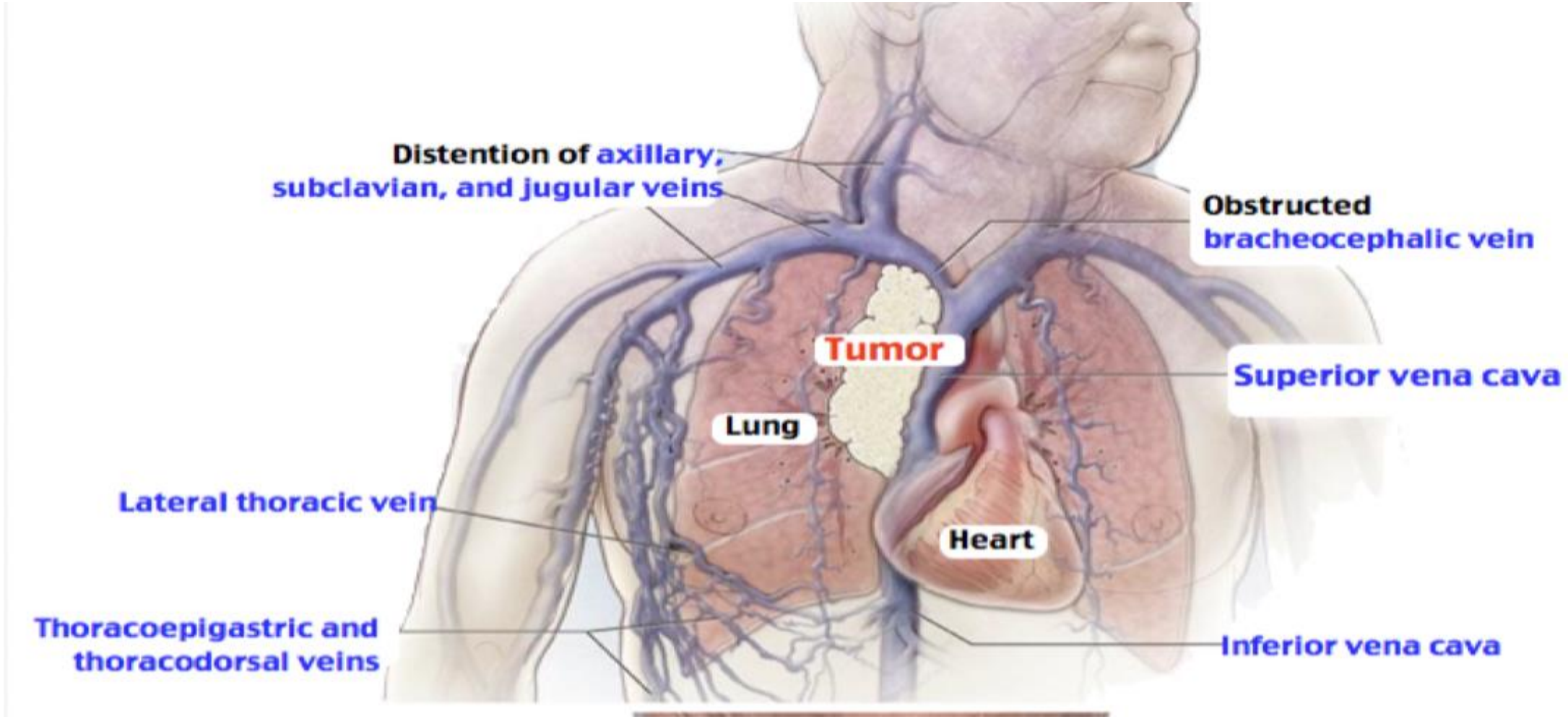
- Hydration with diuresis
- Management of underlying cause/malignancy
- Plasma exchange
- ICU admission



Superior Vena Cava Syndrome

- Most commonly seen with small cell lung cancer, lymphomas, thymomas and some solid tumor cancers with mediastinal metastases
- More common in men and often in age >50
- Symptoms: facial and neck edema, SOB, cough, headache, hoarseness

Superior Vena Cava Syndrome



https://www.mdpi.com/2075-4418/11/11/2058

Superior Vena Cava Syndrome – Diagnosis

- Based on clinical symptoms and imaging
- CT Chest w/ contrast provides best visualization of SVC and blockage
- Severity varies from asymptomatic cases to life threatening

Superior Vena Cava Syndrome - Management

- In patients with airway obstruction, ICU admission
- Emergency stent placement
- Emergent thrombectomy and/or thrombolytic therapy
- Supportive measures
- Cancer-directed therapies

So your patient has an oncologic emergency?

https://www.harleyacademy.com/articles/emergency-protocols-for-aesthetics-practitioners/

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Thank you!