

Malignancy - Related Medical Emergencies

Lecture 37

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Outcomes

At the completion of this lecture, you will be able to:

- Appreciate paramedics may become increasingly more likely to encounter cancer-related emergencies :
 - Improved survival rates
 - Increase in outpatient cancer treatments
- Discuss the presentation of cancer-related emergencies
- Be aware that some oncologic emergencies have an emergent treatment
 - May be immediately helpful (possibly prehospital)
 - Temporizing before patient is transferred to specialist

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Types of Cancer-Related Emergencies

Presentation:

- Slowly (months)
- Acutely (prehospital)
- May be devastating
- Paralysis ; death

Complications classified as:

- Compression
 - Local tumor mass
- Chemical / Metabolic
 - Electrolyte abnormalities
- Blood
 - Hematologic / myelosuppression
- Drug side effects
 - Chemotherapy

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Compression / Structural

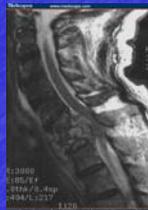
Emergency	Cancer	Presentation
Spinal cord compression	Lung Breast Prostate (lymphoma;myeloma)	<ul style="list-style-type: none"> • Low Back Pain worsens with lying down • Incontinence; retention • Sensory loss ; paraplegia
Pericardial effusion	L. B; lymphoma, leukemia, melanoma	<ul style="list-style-type: none"> • SOB; fatigue • ↑ HR ; JVD, distant HS, narrow pp, pulsus paradoxus
Superior vena cava syndrome	Lung; lymphoma central venous catheters	<ul style="list-style-type: none"> • Cough; SOB; dysphagia; • Discoloration head and neck catheters • Edema: upper extremity

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Treatment of Spinal cord Compression

Spinal cord compression

- Steroids, high dose
- CT / MRI; prep for:
 - Radiation
 - Surgery



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Treatment of Superior Vena Cava Syndrome

Superior vena cava syndrome

- Elevate HOB
- Radiation Tx
- Diuretics
- Steroids
- Stints
- Anticoagulants



Axial helical CT image demonstrating a right mediastinal mass with marked narrowing of the SVC (arrow). This mediastinal mass is contiguous with a large cavitary mass in the right upper lobe.

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Chemical / Metabolic

Emergency	Cancer	Presentation
Hyper-calcemia of malignancy	Lung	• Low Back Pain
	Breast	• ALOC ; hypertension
SIADH [brain]	Prostate	• Constipation
	Renal cell; myeloma	• EKG: short QT
Cancer-Adrenal failure	“Midline” ; brain	• N, V, HA, myalgias
	lung, pancreas, prostate	• Seizure; coma
	Adrenal invasion	• ↓ Na+ ; no edema [also H ₂ O tox]
Steroid withdrawal	Ppts: infection, trauma	• URI; fever
		• Fatigue
		• Shock

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Treatment of Cancer-Related Chemical / Metabolic Syndromes

Hypercalcemia

- IV NS WO
- Lasix
- Steroids
- Phosphates (IV; po)

SIADH

- IV NS ; Tx seizures
- Avoid rapid correction [pontine myelinolysis]

Cancer-related adrenal failure

- Support BP
- IV NS WO
 - Steroids (after bld draw)
- Consider steroids in all cancer patients with hypotension +/- dehydration +/- fever

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Blood / Myelosuppression

Emergency	Cancer	Presentation
Hyper-viscosity syndrome	Multiple myeloma	• Spontaneous bleeding
	Leukemia	• HA; Neurologic defects
Tumor lysis syndrome	Macroglobulinemia	• ALOC ; Focal Visual field defects ("sausage-like" retinal veins)
	Rapidly growing tumors; leukemia	• 1-5 days after CTx or RTx
Immuno-suppression	Any (CTx; RTx)	• Kussmaul resp. EKG: ↑ T waves
	Leukemia	• Fever; bleeding
		• Low WBCs (neutrophils)
		• Low platelets

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Treatment of Cancer-Related Blood and Myelosuppression Disorders

Hyperviscosity syndrome

- IV NS
- Phlebotomy
- Plasmapheresis

Immunosuppression

- Treat Sepsis
- Treat low WBC, RBC, platelets
- Treat shock
 - Antibiotics
 - Transfusions

Tumor lysis syndrome

- IV NS
- Consider bicarb

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Case

61 YOM with a 2 month hx of cough, recurrent bronchitis, loss of appetite, weight loss. He has right shoulder pain and upper back (inner part of the scapula) ache. His wife has noticed that his voice is hoarse.

On his exam, he is hoarse and he has

- a constricted right pupil,
- drooping of the right eyelid
- his right side of his face is dry, slightly ruddy purplish, slightly swollen

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Pancoast Tumor

(non-small cell lung carcinoma)

Hx reveals:

- This patient had a smoking history - but he had quit years ago. He had rapid onset of respiratory and constitutional symptoms. And he has symptoms consistent with an apical lung cancer. This is a Pancoast tumor of the right apical lung, typically found in a patient who is still actively smoking.

Exam reveals:

- Hoarseness (Recurrent laryngeal nerve)
- Horner's syndrome (Sympathetic chain)
 - Miosis
 - Ptosis
 - Anhidrosis
- Early SVC signs (face)



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Risks in Pancoast Patient

Apical lung cancers tend to be locally invasive early, with direct extension into the sympathetic chain, and/ or the adjacent vertebrae.

Carcinomas in this area can produce a Pancoast tumor syndrome :

- Spinal cord compression (lung)
 - Paraplegia
 - 10-25 % of Pancoast patients
- SVC Syndrome (lung)
- Hypercalcemia (lung)
- SIADH (lung)

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Treatment of Malignancy - Related Medical Emergencies

Treat hypoxia / Treat shock

- IV **MS**
 - Shock
 - Hypercalcemia
 - Hyperviscosity / Tumor lytic / Cancer-adrenal failure
- IV **Steroids**
 - Hypercalcemia
 - Superior vena cava syndrome
 - Cord compression
 - Sepsis / Adrenal failure (for any febrile hypotensive cancer pt: steroids + fluids)

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Summary

- Some oncologic emergencies can have rapidly catastrophic developments
- Some will respond to emergent, temporizing treatments
 - May be immediately palliative
 - Stabilizing while transferring the patient to a cancer specialist

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