



Oncologic Emergencies

Six things that kill within hours · Recognize the pattern, then act before imaging

MAY BE FIRST SIGN
of an unknown cancer

THE TRIAGE LIST *each has its own page — this is the recognition sheet*

Emergency	The presentation that should trigger it	First move
Febrile neutropenia	Fever in anyone treated in the last 6 weeks	Cultures and antibiotics within 60 minutes. Do not wait for the count.
Spinal cord compression	New back pain in a cancer patient, before weakness	Dexamethasone if neurology present, same-day whole-spine MRI.
Tumor lysis syndrome	Bulky, chemosensitive disease 12–72 h after treatment — or spontaneously	Aggressive fluids, rasburicase if high risk, treat hyperkalemia. Rasburicase is contraindicated in G6PD deficiency (severe hemolysis); send the uric acid on ice.
Hypercalcemia	Confusion, constipation, polyuria, dehydration	Isotonic saline first, then denosumab or an IV bisphosphonate.
SVC obstruction	Facial and arm swelling, distended neck and chest veins	See below — rarely a true airway emergency, so get tissue first.
Hyperviscosity / leukostasis	Visual change, confusion, breathlessness with a very high count or paraprotein	Plasmapheresis or leukapheresis — and avoid transfusion first.

SUPERIOR VENA CAVA OBSTRUCTION *the classic emergency that usually is not one*

RECOGNIZE IT

Facial and upper limb swelling, distended neck and chest wall veins, plethora, and symptoms worse on bending forward or lying flat. Usually lung cancer or lymphoma, and increasingly indwelling catheter thrombosis. Confirm with CT with contrast.

GET TISSUE FIRST

Most SVC obstruction develops over weeks and is not immediately life-threatening. Unless there is stridor, airway compromise, or depressed consciousness from cerebral edema, obtain a histological diagnosis before treating — empirical radiotherapy can make the tissue undiagnosable and the cancer untreatable. Endovascular stenting gives rapid relief when symptoms are severe. Steroids help in lymphoma. Anticoagulate catheter-associated thrombosis.

HYPERVISCOSITY & LEUKOSTASIS *two different problems, one principle: do not transfuse first*

Syndrome	Detail
Hyperviscosity	From a paraprotein, classically Waldenström macroglobulinemia (IgM) and less often myeloma. Triad of visual disturbance, mucosal bleeding and neurological symptoms. Fundoscopy shows dilated "sausage-link" retinal veins. Treat with urgent plasmapheresis, then treat the underlying disease.
Leukostasis	Blast count typically > 50–100 ×10 ⁹ /L in acute leukemia, usually AML. Respiratory distress and neurological signs dominate. Treat with leukapheresis and urgent cytoreduction, plus TLS prophylaxis.
The shared trap	Do not transfuse red cells before apheresis or cytoreduction. Raising the hematocrit increases viscosity further and can precipitate fatal deterioration. Correct anemia after, or during apheresis.
Also watch	Beware spuriously normal or misleading laboratory values in hyperleukocytosis — pseudohyperkalemia and falsely low oxygen saturation on blood gas from ongoing cellular metabolism in the sample.

MALIGNANT PERICARDIAL EFFUSION *the one that presents as breathlessness*

SUSPECT AND CONFIRM

Progressive breathlessness, tachycardia, raised JVP, hypotension and pulsus paradoxus in a patient with known malignancy — commonly lung, breast, lymphoma or mesothelioma. ECG shows low voltages or electrical alternans. Echocardiography confirms the effusion and diastolic collapse.

MANAGE IT

Tamponade needs urgent pericardiocentesis — give fluids to support preload while preparing, and avoid intubation and positive pressure if at all possible, which can precipitate arrest. Send fluid for cytology. For recurrence, consider a pericardial window or drain, and treat the underlying malignancy.

CELLULAR THERAPY EMERGENCIES *increasingly common, and unfamiliar to most general teams*

Syndrome	Recognition and management
Cytokine release syndrome after CAR-T or bispecific antibodies	Fever is the defining and earliest feature, then hypotension and hypoxia, typically within the first week. Looks exactly like sepsis, so treat both: cultures and antibiotics plus tocilizumab 8 mg/kg (max 800 mg) for grade 2 or above.
ICANS neurotoxicity	Confusion, expressive dysphasia, tremor, reduced consciousness, seizures, often following CRS. Screen with a standardised ICE assessment. Corticosteroids are first-line (dexamethasone 10 mg q6h); tocilizumab does not treat ICANS and may worsen it.
What to do first	Contact the treating cellular therapy center immediately — these patients carry an alert card, and management is protocolised. Do not manage grade 2 or above without that discussion. Avoid steroids reflexively in CRS alone if tocilizumab is indicated, and never delay antibiotics while deciding.

THREE DRUG FACTS WORTH KNOWING BEFORE THE SPECIALIST ARRIVES

RASBURICASE AND G6PD

Contraindicated in G6PD deficiency, where it causes severe hemolysis and methemoglobinemia: it generates hydrogen peroxide the deficient cell cannot clear. Screen in at-risk ancestry (African, Mediterranean, Middle Eastern, Southeast Asian); otherwise use allopurinol. Send uric acid samples on ice, or the drug keeps degrading urate in the tube and the level reads falsely low.

CRS: TOCILIZUMAB

8 mg/kg IV (max 800 mg) for grade 2 or above cytokine release syndrome, repeatable up to 3 to 4 doses. Fever is the earliest and defining feature, so consider CRS while still culturing and covering for sepsis. Add corticosteroids if no response.

ICANS: STEROIDS, NOT TOCILIZUMAB

Corticosteroids are first-line (dexamethasone 10 mg every 6 h, or methylprednisolone in severe cases). Tocilizumab does not treat ICANS and may worsen it, because blocking peripheral IL-6 receptors can raise CSF IL-6. Give tocilizumab only for concurrent CRS. Keep nil by mouth while dysphasic.

PEARLS & PITFALLS

- Do not transfuse before apheresis in hyperviscosity or leukostasis — raising the hematocrit can be fatal.
- An oncologic emergency may be the first presentation of cancer. No known diagnosis does not exclude any of these.
- Fever in a recently treated patient is neutropenic sepsis until the count says otherwise — treat first.
- Ask about the goals of care alongside the emergency. Some of these interventions are inappropriate in advanced disease, and that conversation belongs at the front, not after.

References: ESMO and NCCN guidance on oncological emergencies · ASCO/IDSA febrile neutropenia guideline · NICE NG234 on metastatic spinal cord compression ·

Endocrine Society guideline on hypercalcemia of malignancy.

Educational aid; verify against local oncology protocol and patient factors.

