



# SINTOMA'24

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# When to Escalate Patient Care to the ICU

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77 year old male with newly diagnosed AML. No acute complaints-BMBX reveals 87% blasts

### -Pre- treatment Labs:

Na	147	WBC	<b>28.6</b>
K	3.6	Hbg	7.8
Creat	0.95	Plt	23
Ca	7.9	ANC	1.55
Total Bili	0.4	Blast %	<b>20</b>
AST	28		
ALT	10		
LDH	753		
Phos	5.1		
Uric Acid	7.9		

### Considerations:

- Tumor Burden
- Renal Function
- Comorbidities
- PPX

TLS occurs when a large number of cancer cells are destroyed within a short period of time, releasing their contents into the blood. As a result, we see increases in potassium, phosphorous and uric acid, while calcium levels drop.

6 hours post treatment

Na	143
K	<b>8.6</b>
Creat	<b>1.44</b>
Ca	<b>7.7</b>
Total Bili	0.2
AST	96
ALT	13
LDH	<b>&gt;2,500</b>
Phos	<b>11.9</b>
Uric Acid	<b>14.2</b>

8 hours post treatment

Na	143
K	<b>8.0</b>
Creat	<b>2.04</b>
Ca	<b>7.4</b>
Total Bili	0.2
AST	133
ALT	13
LDH	<b>&gt;2,500</b>
Phos	<b>15.0</b>
Uric Acid	<b>15.1</b>

- 56 year old female presents with low grade fever, fatigue, initial labs reveal anemia and leukocytosis (hgb 7.5; WBC 23)
- Further workup includes bone marrow biopsy and NGS (Blasts: 65%-no targetable mutations on NGS)
- Originally received 7+3 induction and relapsed within 2 months-current BMBX (80% blasts and newly acquired FLT3-ITD mutation)
- She begins treatment with gilteritinib; a targeted agent for her FLT3-ITD mutation
- C1D15 she develops **unexplained fever, weight gain, shortness of breath**
- PE findings: **+pulmonary crackles; +peripheral edema**
- Significant Lab findings: **WBC 110**

- 76 year old with R/R AML presents for her first treatment of a BiTE

## Pre-treatment:

No acute complaints

PE: unremarkable/neuro-status normal

Patient receives 650mg Tylenol PO

25 mg Benadryl IV x1 as premeds

## Post-treatment (6 hours):

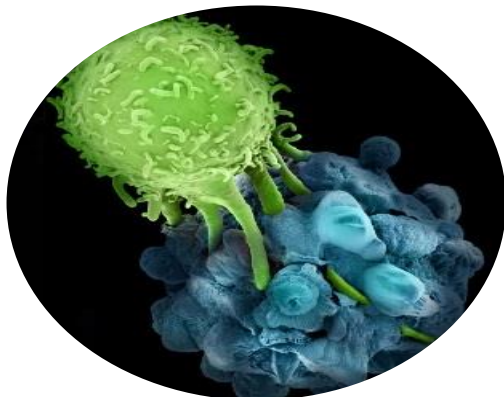
Patient c/o nausea, chills, headache

PE: tachycardic (110bpm), BP 90/60,

Resp rate 22, temp: 37.7C, diaphoretic, pale

Significant labs: **CRP: 150 mg/L** (norm <5 mg/L)

**IL-6: 500 pg/ml** (norm <10pg/ml); WBC 18



**Table2 ASTCT CRS Consensus Grading**

<b>CRS Parameter</b>	<b>Grade 1</b>	<b>Grade 2</b>	<b>Grade 3</b>	<b>Grade 4</b>
<b>Fever*</b>	Temperature $\geq 38^{\circ}\text{C}$	Temperature $\geq 38^{\circ}\text{C}$	Temperature $\geq 38^{\circ}\text{C}$	Temperature $\geq 38^{\circ}\text{C}$
		With		
<b>Hypotension</b>	None	Not requiring vasopressors	Requiring a vasopressor with or without vasopressin	Requiring multiple vasopressors (excluding vasopressin)
		And/or <sup>†</sup>		
<b>Hypoxia</b>	None	Requiring low-flow nasal cannula <sup>‡</sup> or blow-by	Requiring high-flow nasal cannula <sup>‡</sup> , facemask, nonrebreather mask, or Venturi mask	Requiring positive pressure (eg, CPAP, BiPAP, intubation and mechanical ventilation)

Organ toxicities associated with CRS may be graded according to CTCAE v5.0 but they do not influence CRS grading.

\* Fever is defined as temperature  $\geq 38^{\circ}\text{C}$  not attributable to any other cause. In patients who have CRS then receive antipyretic or anticytokine therapy such as tocilizumab or steroids, fever is no longer required to grade subsequent CRS severity. In this case, CRS grading is driven by hypotension and/or hypoxia.

† CRS grade is determined by the more severe event: hypotension or hypoxia not attributable to any other cause. For example, a patient with temperature of  $39.5^{\circ}\text{C}$ , hypotension requiring 1 vasopressor, and hypoxia requiring low-flow nasal cannula is classified as grade 3 CRS.

‡ Low-flow nasal cannula is defined as oxygen delivered at  $\leq 6\text{L/minute}$ . Low flow also includes blow-by oxygen delivery, sometimes used in pediatrics. High-flow nasal cannula is defined as oxygen delivered at  $>6\text{L/minute}$ .

## CRS grading and management approaches

ICANS grade 1

- awakens spontaneously
- fatigue
- ICE: 7-9 points

- supportive care
- IV hydration
- neurology consultation
- EEG/MRI
- consider antiepileptic drug

ICANS grade 2

- awakens to voice
- delirius/somnolent
- ICE: 3-6 points

- supportive care as grade 1
- consider ICU transfer
- consider antiepileptic drug, if not started
- low dose corticosteroids (i.e. dexamethasone 10mg)

ICANS grade 3

- awakens to tactile stimulus
- ICE: 0-2 points
- local edema on imaging
- seizure, that resolves with intervention

- Supportive care as grade 2 • ICU transfer
- continous corticosteroids (i.e. dexamethasone 10mg every 6 hours) and antiepileptic drugs
- repeat MRI

ICANS grade 4

- comatose
- ICE: 0
- cerebral edema
- life-threatening (>5min) seizure
- motor weakness

- supportive care as grade 3
- high dose corticosteroids specific neurointensive treatment (status epilepticus, brain edema)
- consider further individual treatment





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