Thrombocytopenia
in the ICU.

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Critical Care Medicine

Majority occurring in inpatients are of secondary concern:

- Sepsis
- Cirrhosis / hypersplenism
- DIC
- Most drug-induced* *review MAR*
- Alcoholism
- Primary bleeding (dilutional)

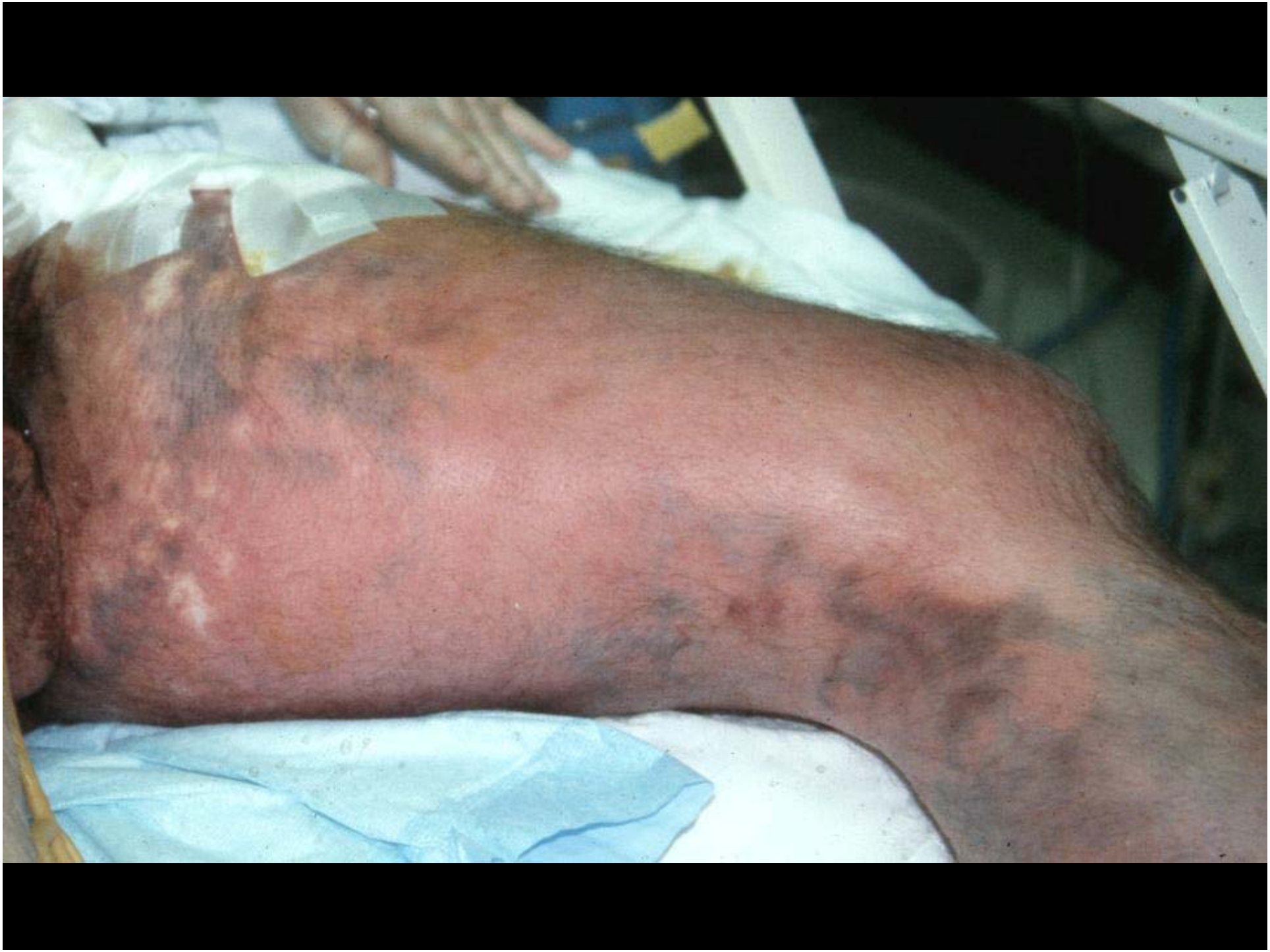
HR for bleeding 3.5 if platelets <20K

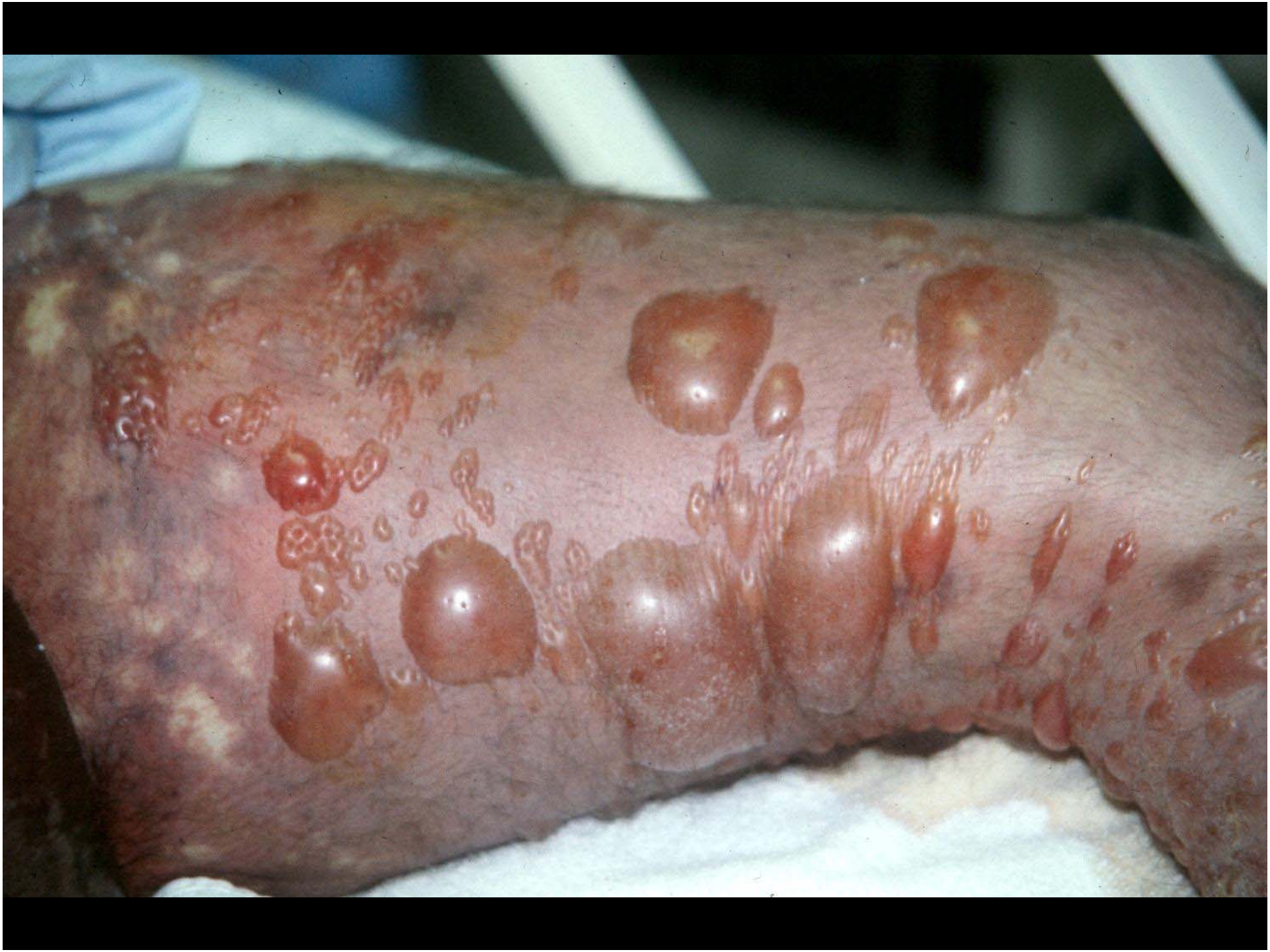
Work-up and treatment rarely warranted

When to worry more (the 4 Hs"):

- HIT* → PE, limb loss
- HELLP → SHC, CNS bleed, abrupt
- TTP/HUS* → PRES, CNS bleed
  AMI, SD, cardiogenic shock
- HLH

- Spontaneous bleeding
- Have to do an LP





"4 T's"

	2 points	1 point
Thrombocytopenia	>50% drop nadir > 20K	30–50% drop nadir 10–19K
Timing	5–10 days < 1d + prior hep < 30ds	? 5–10 d >10 d <1d + prior hep 30–100d)
Thrombosis	New Clot anaphylaxis, skin necrosis	Suspected progressive or recurrent clot
alTernative dx	none	possible

“4 T’s”

Score	HIT risk	Action:
1–3 points	< 1%	Don’t test
4–5 points	10%	Test (SRA?)
6–9 points	50%	Test (HIT ELISA?)

Pretest Probability of HIT by 4T score*	ELISA test result (OD)	Reasonable clinical action:
Low (0–3 points) *<1% chance patient has HIT*	>2.00	Order SRA**
	1.50 – 1.99	
	0.60 – 1.49	HIT ruled out***
	< 0.6	
Intermediate (4–5 points) *~10% chance patient has HIT*	>2.00	Treat HIT
	1.50 – 1.99	Order SRA**
	0.60 – 1.49	
	< 0.6	HIT ruled out***
High (6–8 points) *~50% chance patient has HIT*	>2.00	Treat HIT
	1.50 – 1.99	
	0.60 – 1.49	Order SRA**
	< 0.60	

Treatment

- DC *all* heparin No LMWH
- Decide if further antithrombic rx needed pending lab tests
- Argatroban *I would consult pharmD*
- Bivalrudin
- Fondaparinux

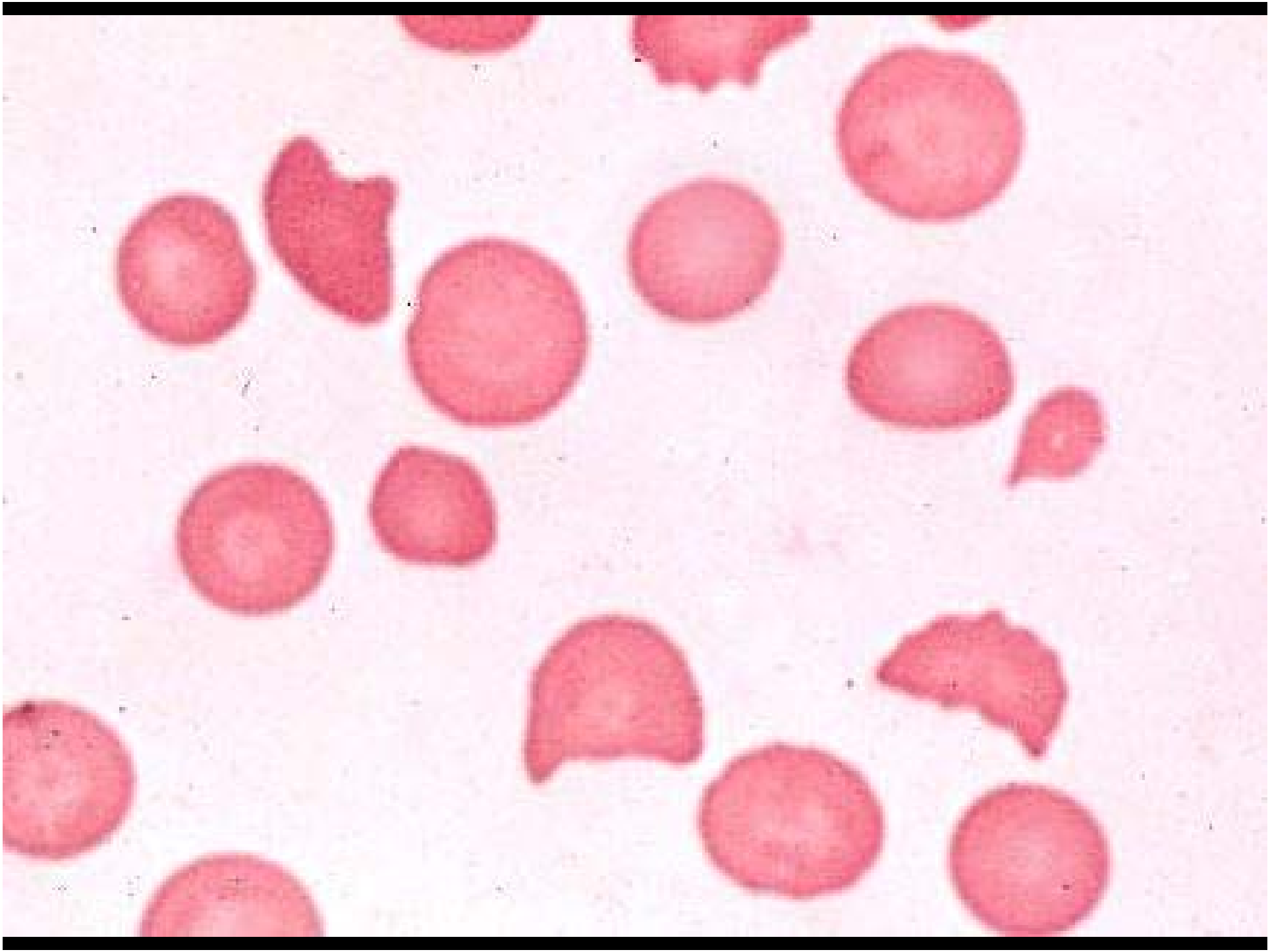

PELIGRO NO
BAJAR AL CRATER

TTP/HUS

- Tough diagnosis: anemia, thrombocytopenia, mild renal insufficiency are common.

→ *Sudden cardiac death, CNS catastrophe*

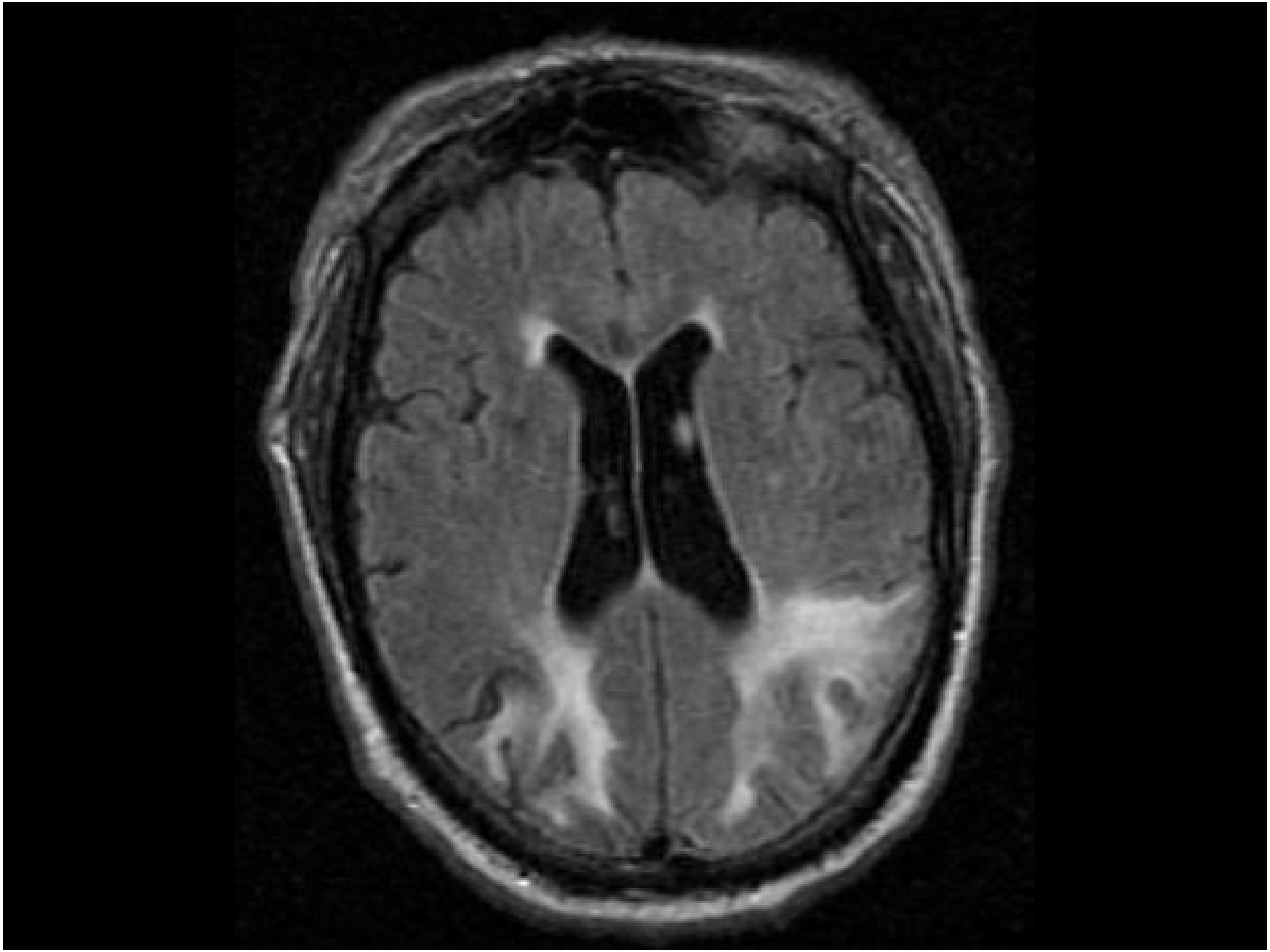
- *Practical Dx:* MAHA +↓ plts



TTP / HUS

- Consider DDx
- Review MAR
- Check ADAMTS13 and inhibitor

- Don't wait for result $\rightarrow$ *plasma exchange steroids*

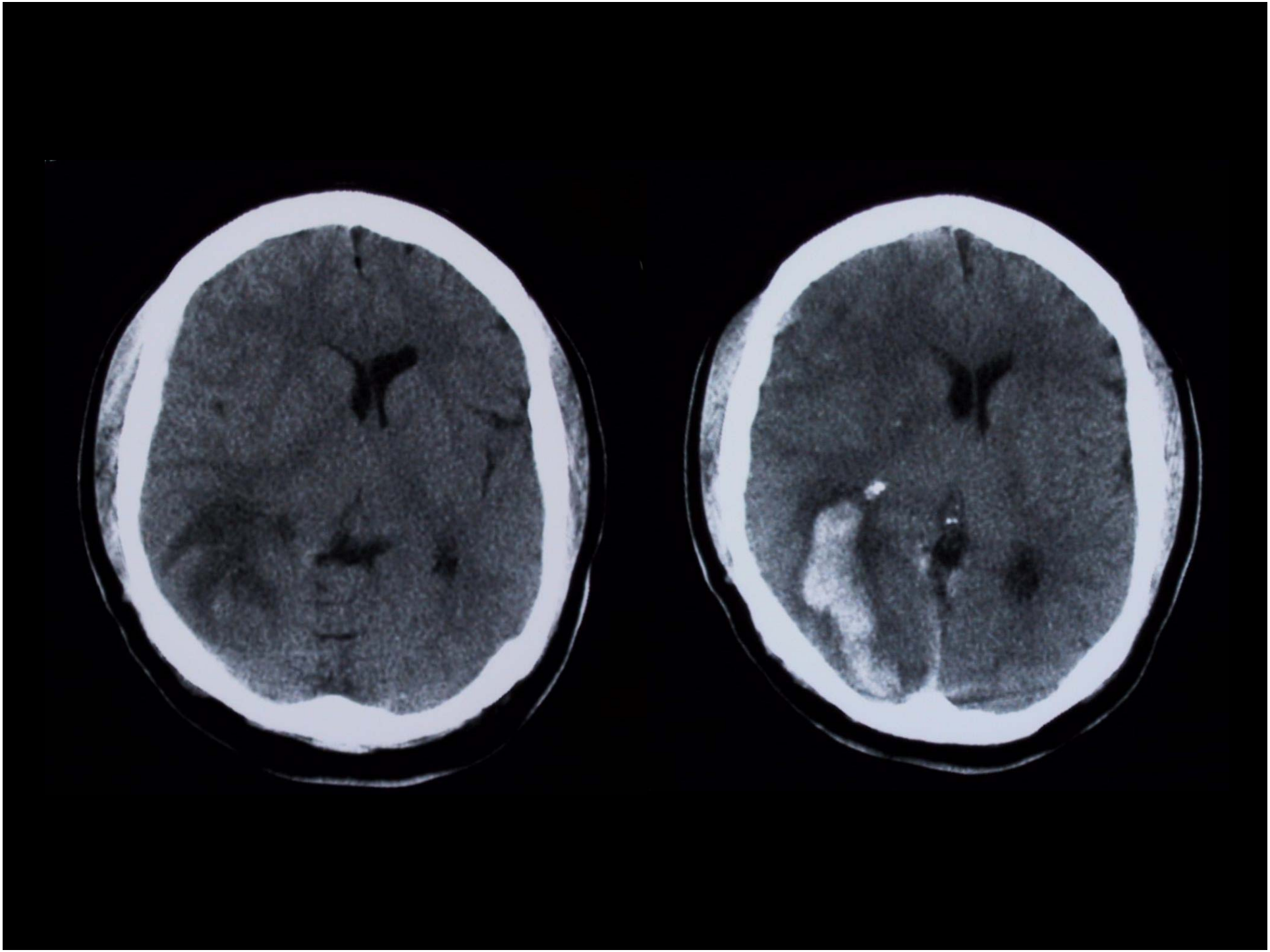


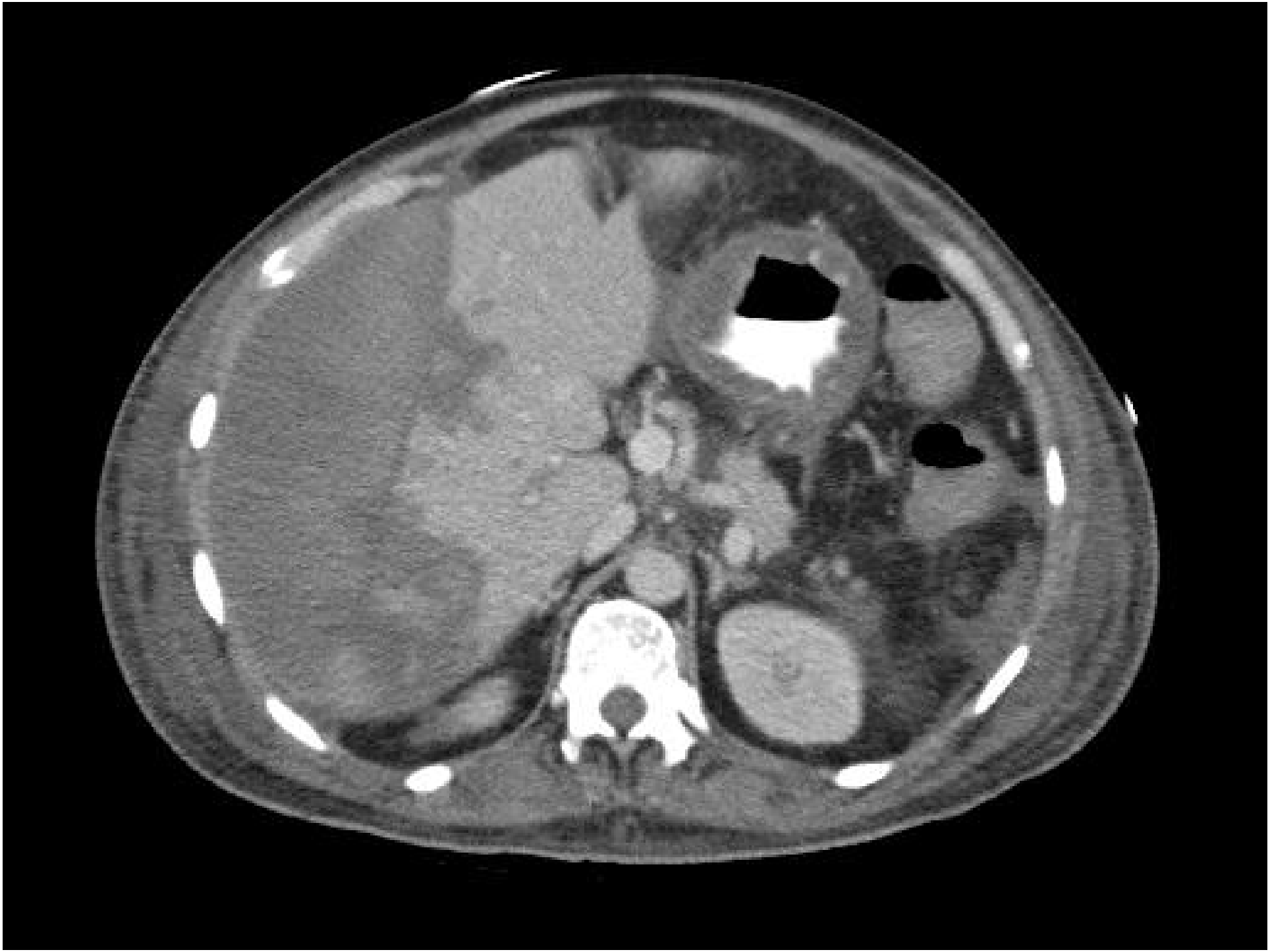
HELLP

- 2nd/3rd trimester
- Epigastric/SS/RUQ pain, N/V
- 85% w/pre-eclampsia

- Dx:
  - *Microangiopathic hemolytic anemia*
  - *AST >70*
  - *<100K platelets.*

- → abruption, DIC, pulm edema, ARF



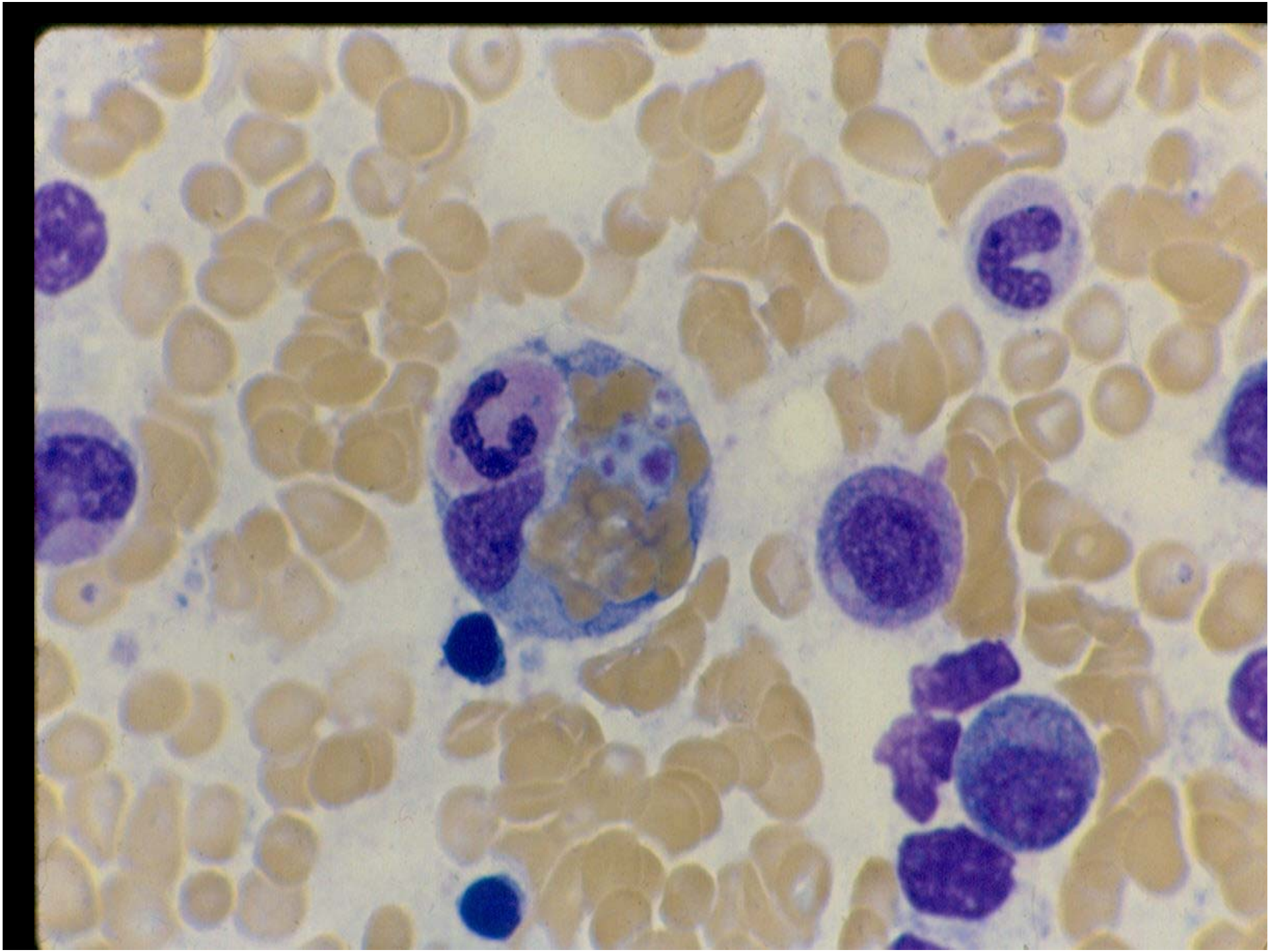


HLH

- Secondary to infection*, autoimmune
- Unremitting septic shock w/ MSOF

- Pancytopenia →Hyperferritinemia →bone marrow

- 29 cases now diagnosed at BUMCP ICU.



Reasonable platelet levels

- Neurosurg, epidural 100K
- Surgery, LP 50K
- CVC 20K

- Spont bleeding usually < 10K

- *1 unit single donor plt ↑ 30K*

Single donor platelets

- Equivalent to platelets present in 6 units of whole blood 6:6:1
- WBC→ fever alloimmunization, GVHD Leukoreduced
- plasma → TRALI, anaphylaxis