



Interhospital Conference Case 8

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A 64 year-old Thai female

- **Painful erythematous rashes on lower abdomen and both legs for 3 weeks**



A 64-year-old female

27/6/20

Oliguria and weight gain for 14 kg

4/7/20

Fever with erythematous rash on abdomen and both legs for 3 days

Admit at private hospital (4-22/7/20)
Dx: cellulitis
Mx: IV ATB x 3 weeks
→ Clinical not improved

22/7/20

At Rama: dermatological consultation



Past history

- **Comorbidities:**
 - **Morbid obesity**
 - T2DM, HTN, DLP
 - CKD stage III
 - Asthma
 - OSA
 - NAFLD

Past history

- **Current medications:**
 - Bisoprolol 5 mg/day
 - Montelukast 10 mg/day
 - Furosemide 1,000 mg/day
 - Metformin 1,000 mg/day
 - Salmeterol 50 mcg/Fluticasone 250 mcg
1 puff bid
 - Ipratopium bromide 0.5 mg/Fenoterol 1.25 mg
4 ml NB prn wheezing

Physical examination

- BW 140 kg, Ht 152 cm, **BMI 60.6 kg/m²**
- V/S: **T 38°C**, P 82/min, RR 16/min, **BP 155/66 mmHg**
- **GA:** Thai female, good consciousness
- **HEENT:** **mild pale conjunctivae**, anicteric sclerae
- **LN:** non-palpable
- **CVS:** normal S1,S2, no murmurs
- **Lungs:** clear
- **Abdomen:** soft, non-tender, no hepatosplenomegaly

Dermatological examination



Multiple ill-defined, blanchable, erythematous, edematous, tender, warm plaques on lower abdomen, both thighs and legs, sparing the folds of abdomen



Multiple ill-defined, blanchable, erythematous, edematous, tender, warm plaques on lower abdomen, both thighs and legs, sparing the folds of abdomen

Problem list

1. Multiple, erythematous, edematous plaques on lower abdomen and lower extremities for 3 weeks
2. Comorbidities: Morbid obesity, T2DM, HTN, DLP, CKD stage III, Asthma, OSA, NAFLD

Investigations






- CBC: **Hb 9.4 g/dL, Hct 29.5%**, Plt 229,000/mm³
WBC 10,310 cells/mm³ (N 75%, L 16%, M 7%, E 2%)
- BUN 19 mg/dL, **Cr 1.52 mg/dL (baseline 0.72 mg/dL)**
- LFT: AST 42 U/L, ALT 18 U/L, ALP 82 U/L, GGT 48 U/L
TP 59.6 g/L, **Alb 27.6 g/L**,
TB 0.7 mg/dL, DB 0.4 mg/dL
- **ESR 56 mm/hr**






Differential diagnosis: clinical

Cellulitis

**Cellulitis-like
lesions**

- Acute inflammatory edema
- Eosinophilic cellulitis
- Subcutaneous panniculitis-like T-cell lymphoma (SPTCL)
- Lupus panniculitis

Diseases	Cellulitis	Acute inflammatory edema	Eosinophilic cellulitis	Subcutaneous Panniculitis-like T-Cell Lymphoma	Our case
Morphology	Cellulitis-like lesions			Subcutaneous nodules and plaques	
					
Distribution	<ul style="list-style-type: none"> - Unilateral - Extremities 	<ul style="list-style-type: none"> - Bilateral - Thighs, lower abdomen - Spare appositional skin 	<ul style="list-style-type: none"> - Unilateral - Extremities 	<ul style="list-style-type: none"> - Trunk, extremities 	<ul style="list-style-type: none"> - Bilateral - Thighs, lower abdomen - Spare appositional skin
Associated conditions	<ul style="list-style-type: none"> - Fever (12-71%) 	<ul style="list-style-type: none"> - Fever (13%) - High BMI - Fluid overload 	<ul style="list-style-type: none"> - Fever (<25%) - Arthralgia - Markedly pruritus 	<ul style="list-style-type: none"> - Fever (50%) - Hepato-splenomegaly 	<ul style="list-style-type: none"> - Fever - High BMI - Fluid overload
Lab	<ul style="list-style-type: none"> - Leukocytosis - Bacteremia (5%) 	<ul style="list-style-type: none"> - Leukocytosis - Low albumin 	<ul style="list-style-type: none"> - Eosinophilia 	<ul style="list-style-type: none"> - ↓Cells (SPTCL) - Transaminitis 	<ul style="list-style-type: none"> - Leukocytosis - Low albumin

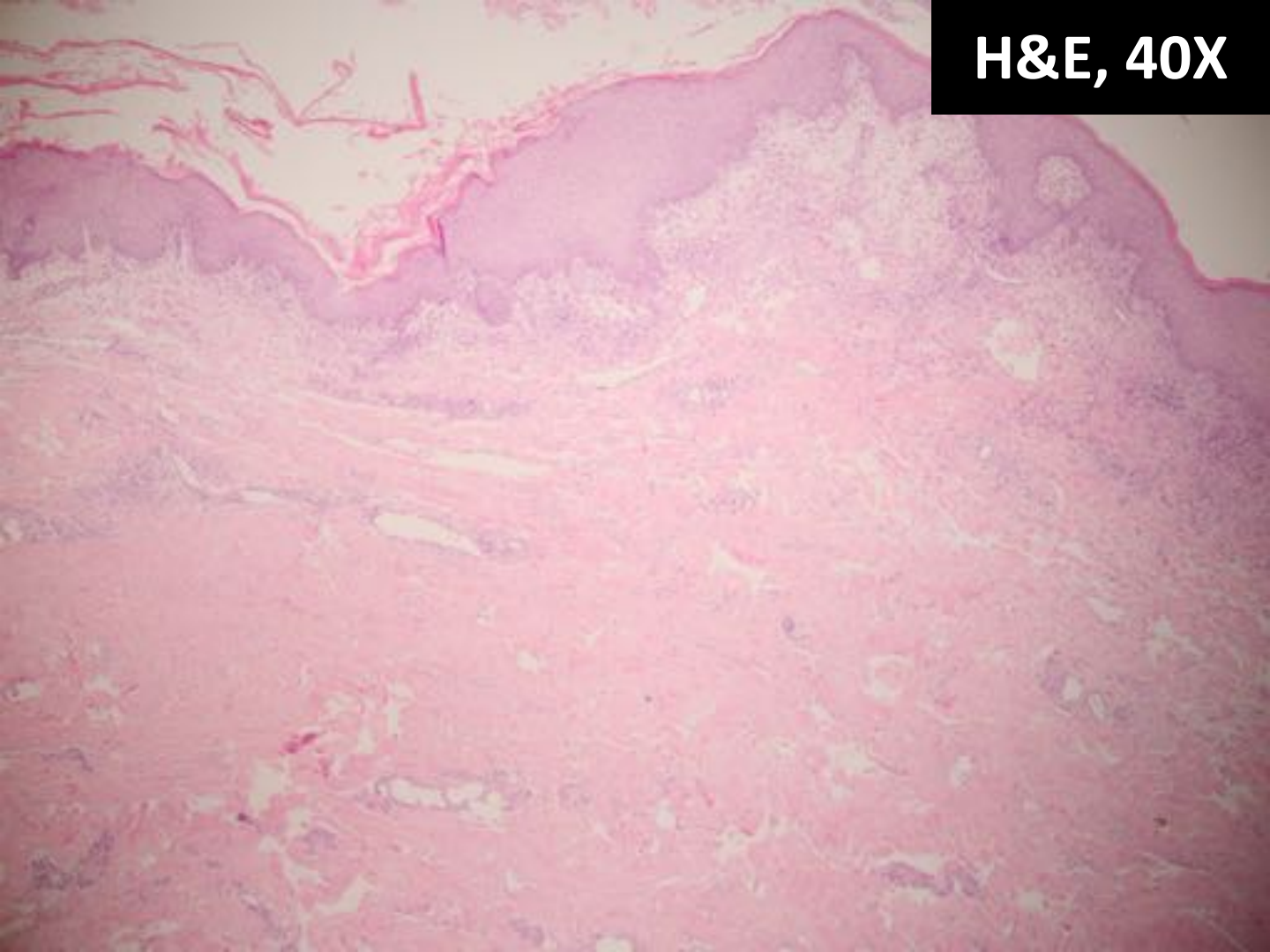
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Investigations

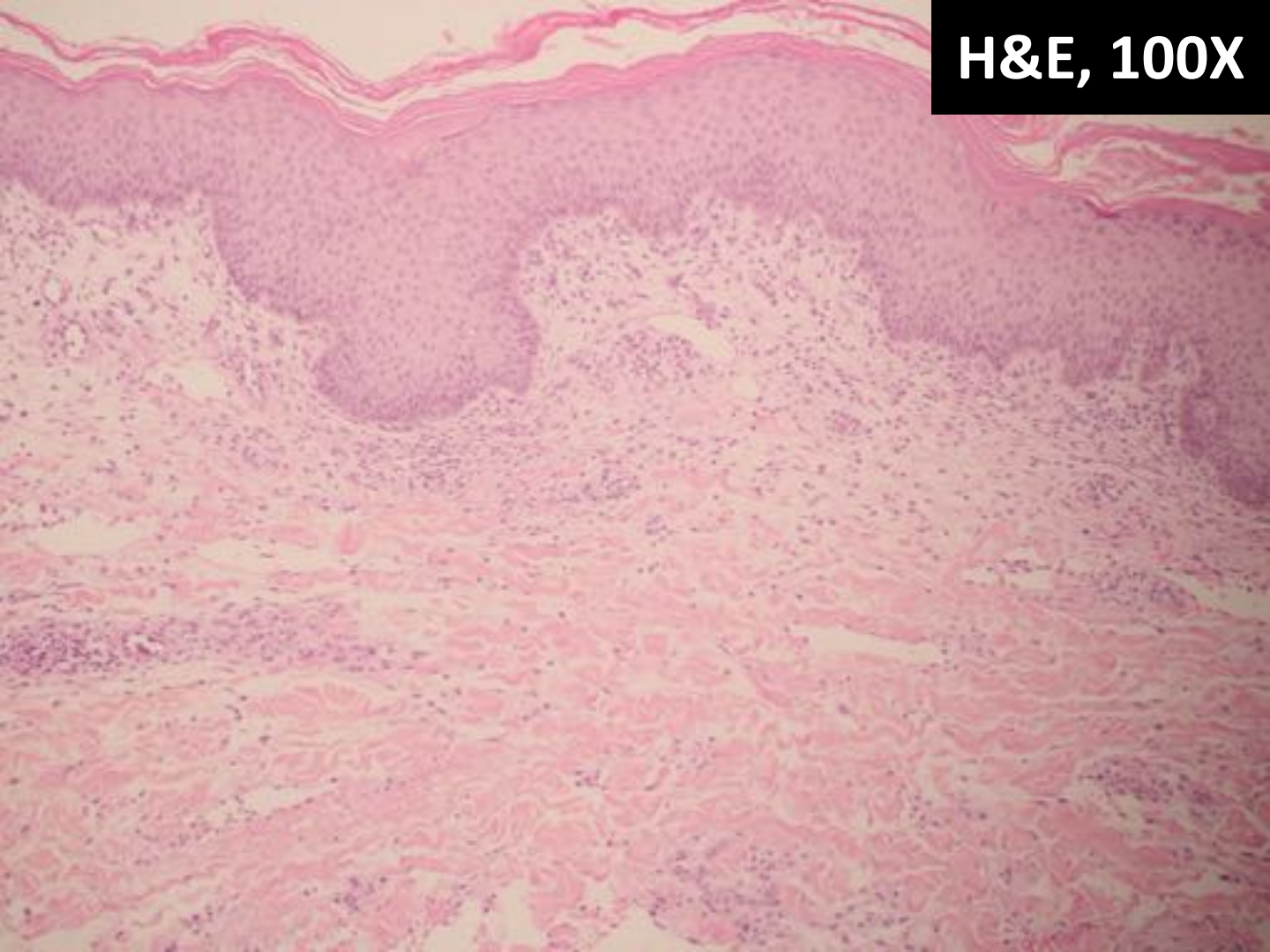
- **Incisional biopsy**

Histopathology

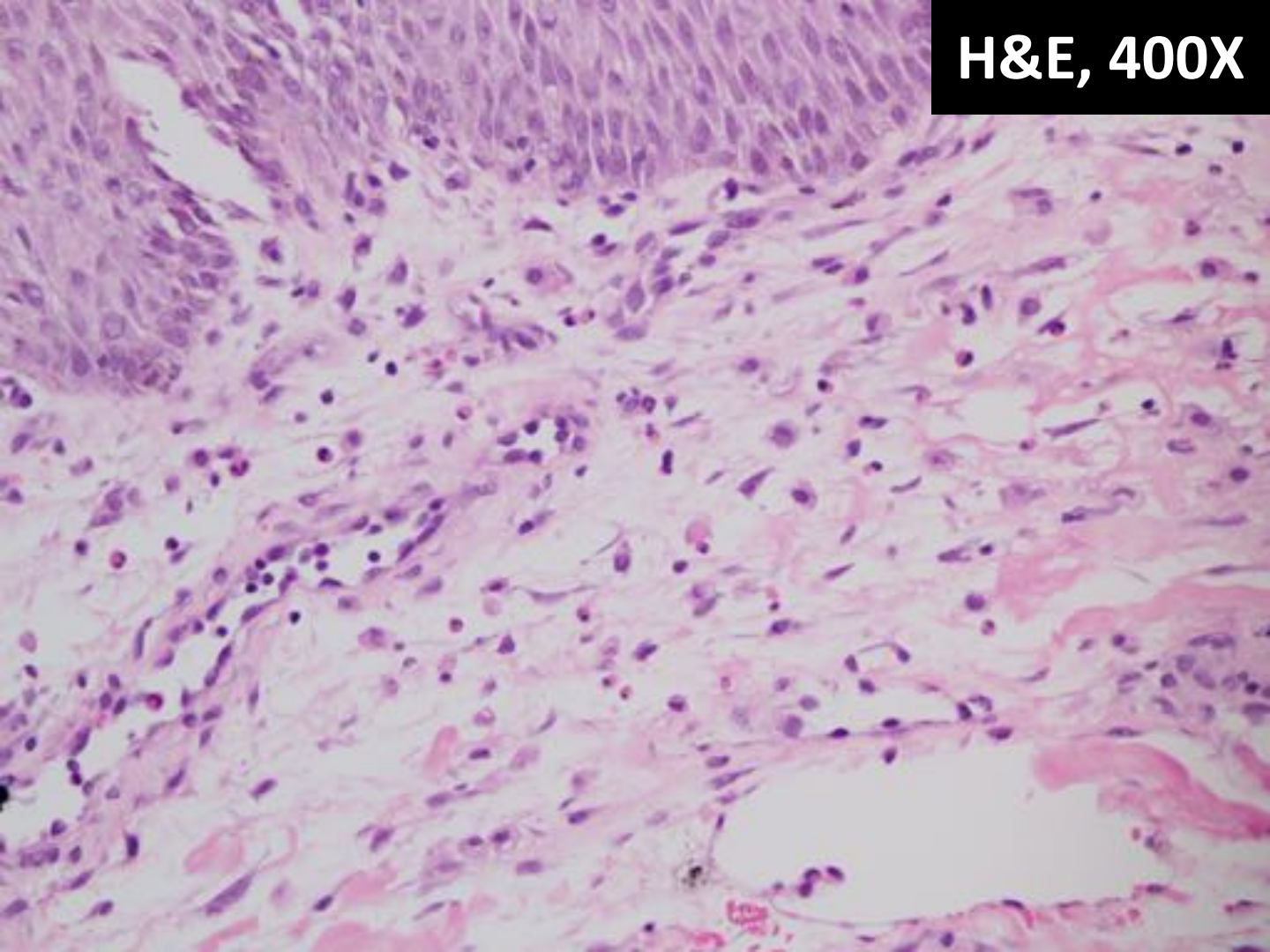
H&E, 40X



H&E, 100X



H&E, 400X



H&E, 400X

**Small vacuoles
in histiocytes**

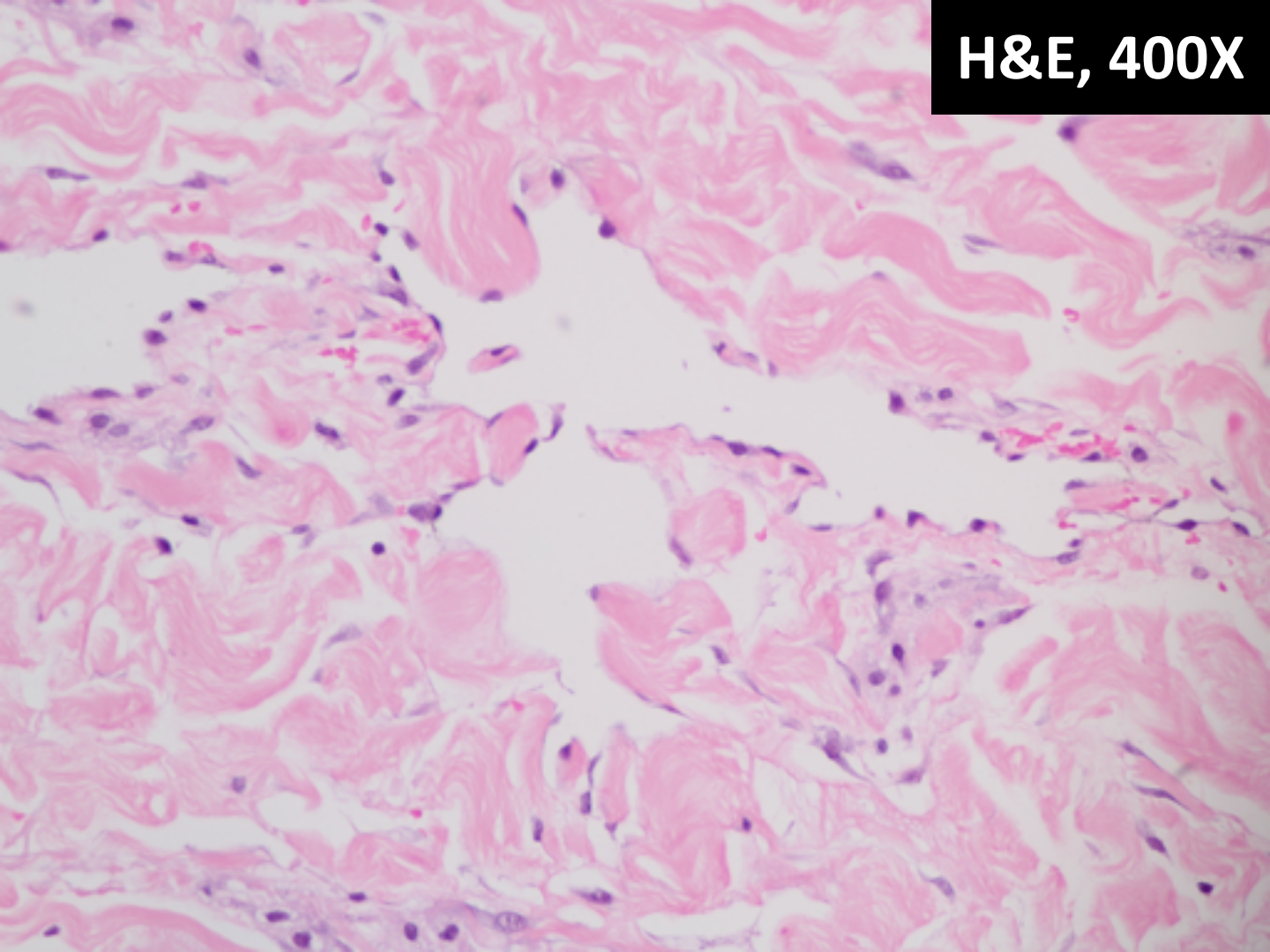


**Large vacuoles
in histiocytes**

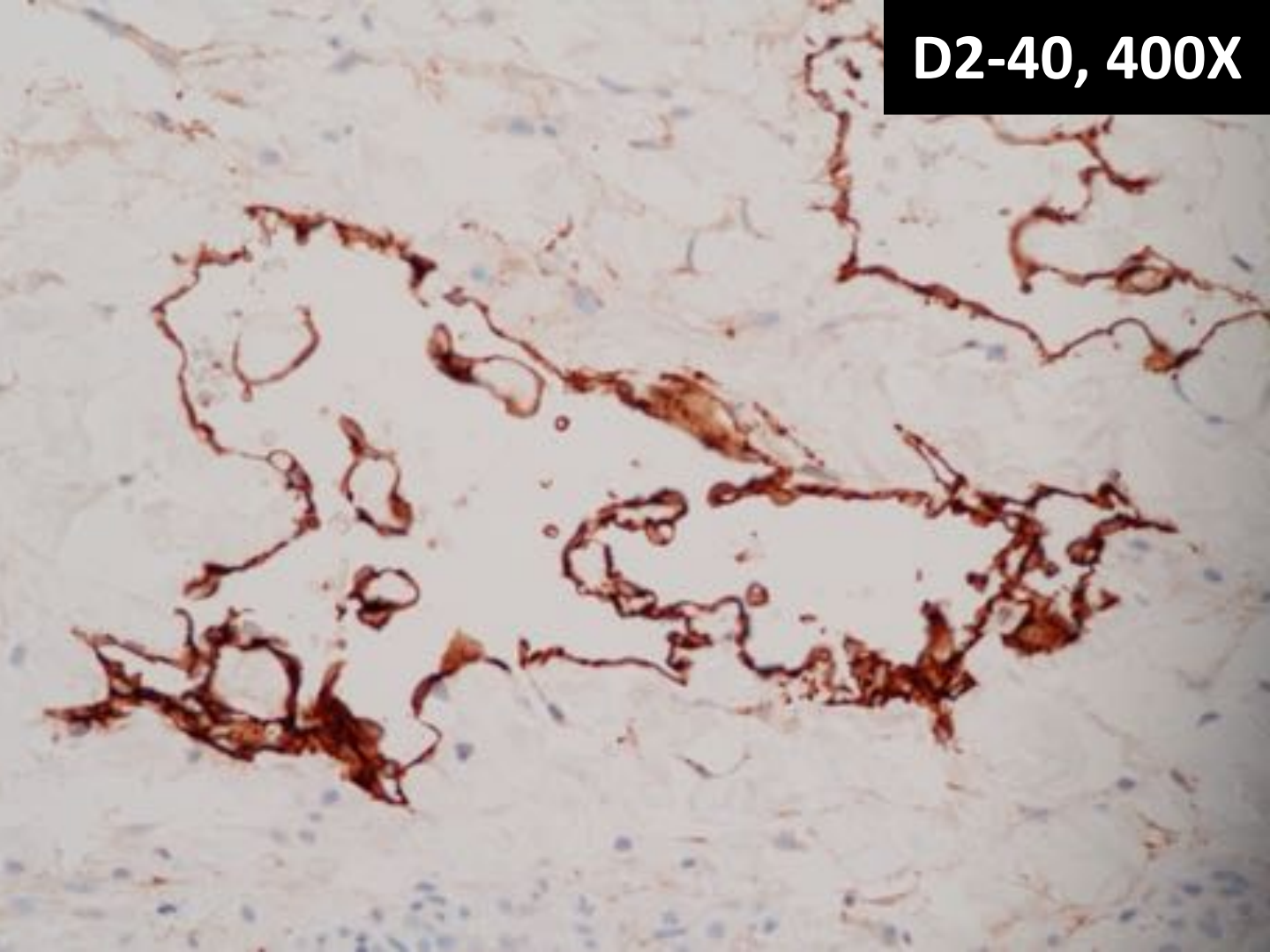


“Edemaphages”

H&E, 400X



D2-40, 400X



Investigations

Hemoculture: no growth

Slide smears:

- G/S, AFB, mAFB, GMS: no organism

Tissue:

- PCR for TB, NTM, 16s rRNA, 18s rRNA: target not detected
- C/S for aerobe, TB, fungus: no growth

Acute inflammatory edema

Management: our case

Specific treatment

- Restrict oral fluid < 1.8 L/day
- Diuretics for I/O negative balance

Supportive treatment

- Elastic bandage for leg compression

Clinical follow-up



Acute inflammatory edema

- **Variant of pseudocellulitis**
- Predilection for patients with high body mass index and volume overload

Pathogenesis: unknown



Hydrostatic pressure

- Organ dysfunction (cardiac, renal, liver)

oncotic pressure

- Hypoalbuminemia

Acute onset
volume overload

Pathogenesis: unknown

A diagram illustrating the pathogenesis of a condition. At the top, a black rounded rectangle contains the text 'Pathogenesis: unknown'. Below this, a red cylinder represents a blood vessel. To its left, a pink arrow points up towards a yellow box labeled 'Hydrostatic pressure', which contains a list item: '- Organ dysfunction (cardiac, renal, liver)'. To the right of the cylinder, a green arrow points down towards a yellow box labeled 'oncotic pressure', which contains a list item: '- Hypoalbuminemia'. Below the cylinder is a white rounded rectangle labeled 'Acute onset volume overload'. At the bottom left, a yellow box labeled 'Obesity' has a green arrow pointing down towards a yellow starburst shape labeled 'Lymphatic drainage'.

Hydrostatic pressure

- Organ dysfunction (cardiac, renal, liver)

oncotic pressure

- Hypoalbuminemia

Acute onset
volume overload

Obesity

Lymphatic drainage

Pathogenesis: unknown

Hydrostatic pressure

- Organ dysfunction (cardiac, renal, liver)

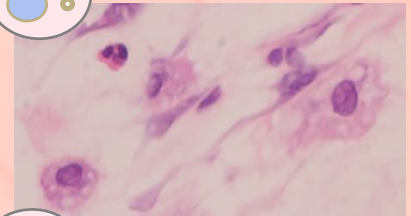


oncotic pressure

- Hypoalbuminemia

Tears of CNT
→ inflammation

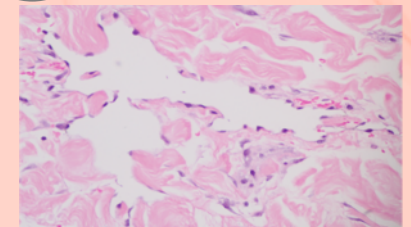
Acute onset
volume overload



“Edemaphages”

Obesity

Lymphatic drainage



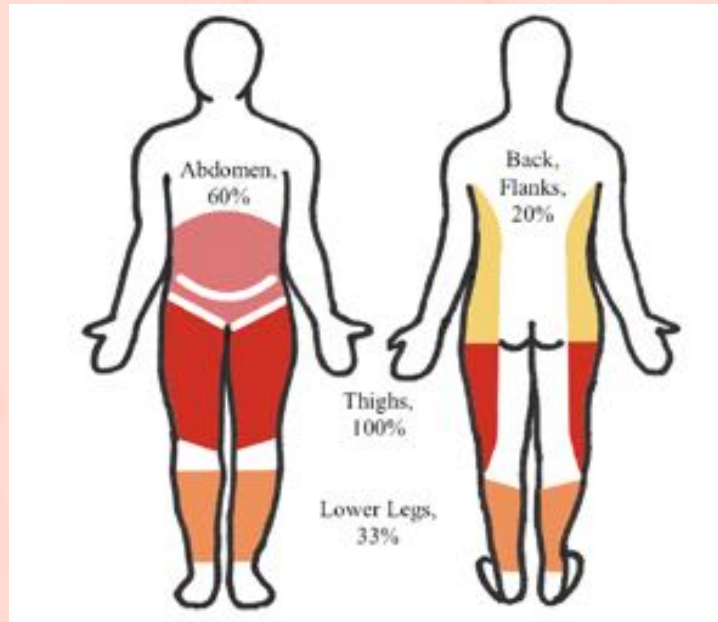
Acute inflammatory edema



- Bilateral blanchable erythematous and edematous plaques
- **Location:** thighs, lower abdomen, flanks
- **Spared** areas of pressure on the skin

Acute inflammatory edema

Affected areas



Acute inflammatory edema

Associated findings:

- Hypoalbuminemia (100%)
- Leukocytosis (73%)
- Fluid overload (73%)
- Acute renal, liver or cardiac dysfunction (60%/20%/20%)
- Hypo/hyperthermia (13%/13%)

Treatment

- **Decrease fluid burden on the tissue**
 - Improve patient's fluid status: diuretics, dialysis
 - Compression
 - Frequent repositioning
 - Increased mobility
- **Antibiotics should be discontinued if solely indicated for cellulitis**

Case summary

- A 64 year-old female
- **CC:** Erythematous and painful rashes on lower abdomen, and both legs for 3 weeks
- **Dx:** Acute inflammatory edema
- **Treatment:** improve fluid status, compressive therapy,
- **No antibiotics prescribed**



Take home messages

Bilateral cellulitis-like lesions

Sparing appositional skin

High BMI and fluid overload

Acute inflammatory edema