Case Series

Cocaine-associated Plasma Cell Orificial Mucositis (CAPCOM): An Emerging Entity

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Disclosures

We do not have any relevant financial relationships to disclose.

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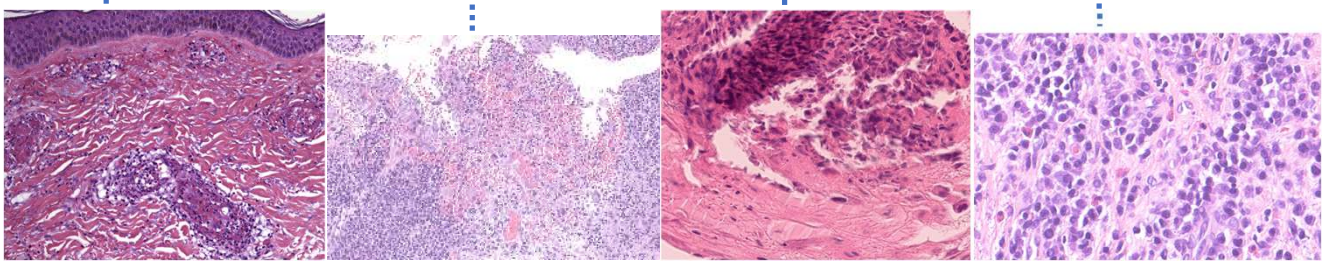
Cocaine/ levamisole exposure produces spectrum of lesions

Levamisole-associated vasculitis/ vasculopathy

Cocaine-associated neutrophilic dermatoses

Cocaine-induced midline destructive lesions (CIMDL)

Cocaine-associated plasma cell orificial mucositis **(CAPCOM)**



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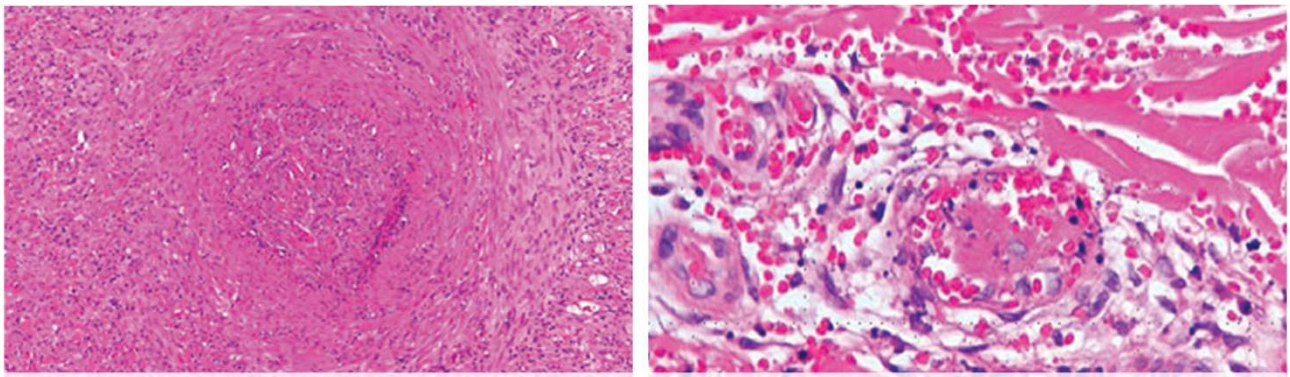
Levamisole-associated vasculitis/ vasculopathy

Serology:

- pANCA (most often), multiple Abs including anti-MPO
- Positive ANA and APLs in most



Thrombotic vasculitis – medium size vessel

Thrombotic occlusion – sparse inflammation

Fernández Armenteros JM et al. J Cutan Pathol. 2018;45(4):309-311

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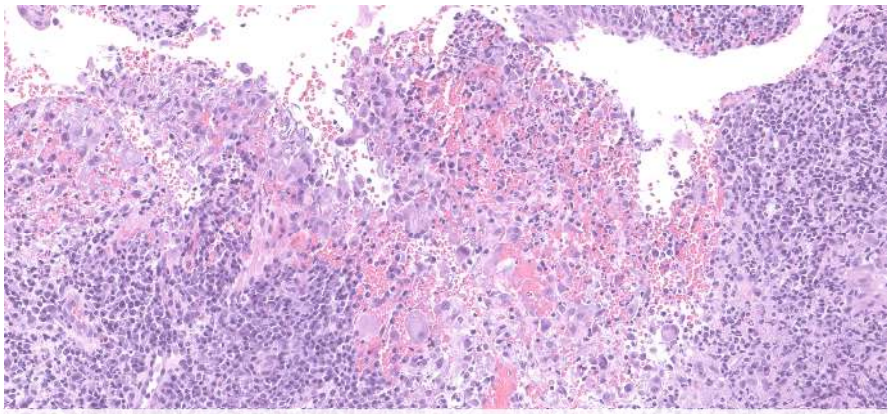
Cocaine-associated neutrophilic dermatoses

Serology:

- pANCA (most often), multiple Abs including anti-MPO
- **Anti-HNE – specific for cocaine use**



Suppurative granulomas with giant cells

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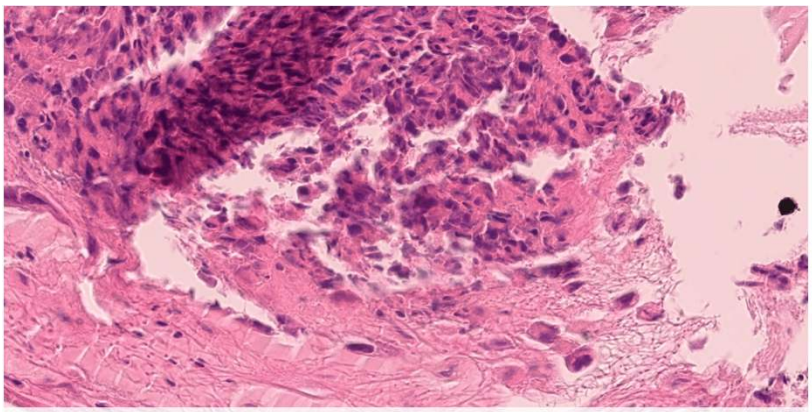
Cocaine-Induced Midline Destructive Lesions (CIMDL)

Serology (atypical patterns):

- pANCA > cANCA
- Anti-PR3 > anti-MPO
- **Anti-HNE** (in 85%)



No evidence of granulomatous inflammation

Seedahmed K *et al. Cureus.* 2025;17(5):e83425

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Cocaine-associated plasma cell orificial mucositis (CAPCOM)

Pathogenesis: hypersensitivity to a novel, unidentified cocaine adulterant

Serology: c-ANCA > p-ANCA and target multiple antigens

- *Anti-HNE – specific for cocaine use*

Pathology: marked epidermal hyperplasia and numerous plasma cells

- Eosinophils including eosinophil spongiosis
- *No vasculitis or granulomas*

Viedma-Martínez M *et al. JAMA Dermatol.* 2024;160(3):320-327

Aims and Approach

- Characterize three cases of CAPCOM
- Compare clinicopathologic features with published cocaine associated disorders
- Provide diagnostic clues for pathologists and clinicians

Approach: retrospective review of 3 patients (2024-25)

CAPCOM that clinically and serologically mimicked GPA

Case 1

- 47-year-old woman with painful vegetative plaques of infranasal lip
- C-ANCA 1:80; PR3 positive/ MPO negative
- Urine toxicology positive for cocaine metabolites
- Histology: epidermal hyperplasia with a mixed dermal inflammatory infiltrate rich in eosinophils; no granulomas, giant cells, or vasculitis

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Epidermal hyperplasia & mixed infiltrate

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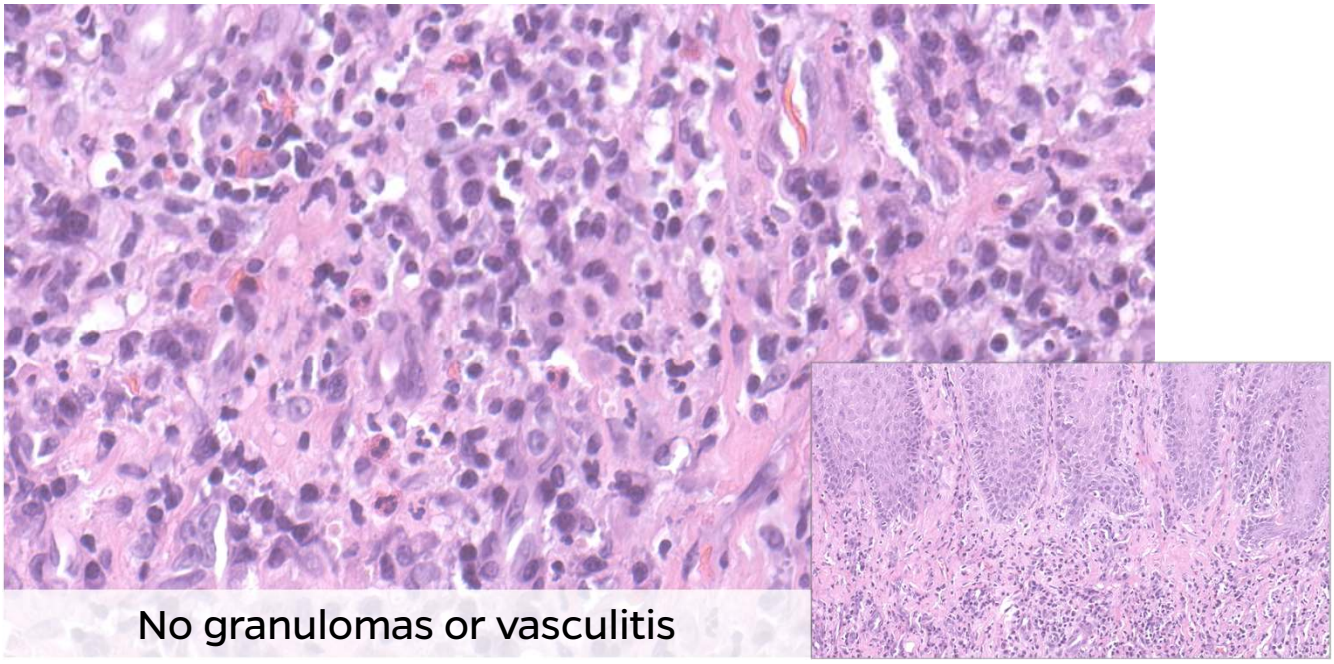
Numerous plasma cells, scattered eosinophils



No granulomas or vasculitis

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Perinasal CAPCOM: IIF-negative, PR3-positive

Case 2

- 60-year-old woman with vegetative plaques of the nares and upper cutaneous lip
- History of nasal cocaine insufflation
- **IIF negative; PR3 positive** / MPO negative
- CT: mild septal change, no destructive necrosis
- Histology: eosinophilic spongiosis with acantholysis. Brisk superficial and deep inflammatory infiltrate with many eosinophils and neutrophils

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Mixed infiltrate spanning dermis

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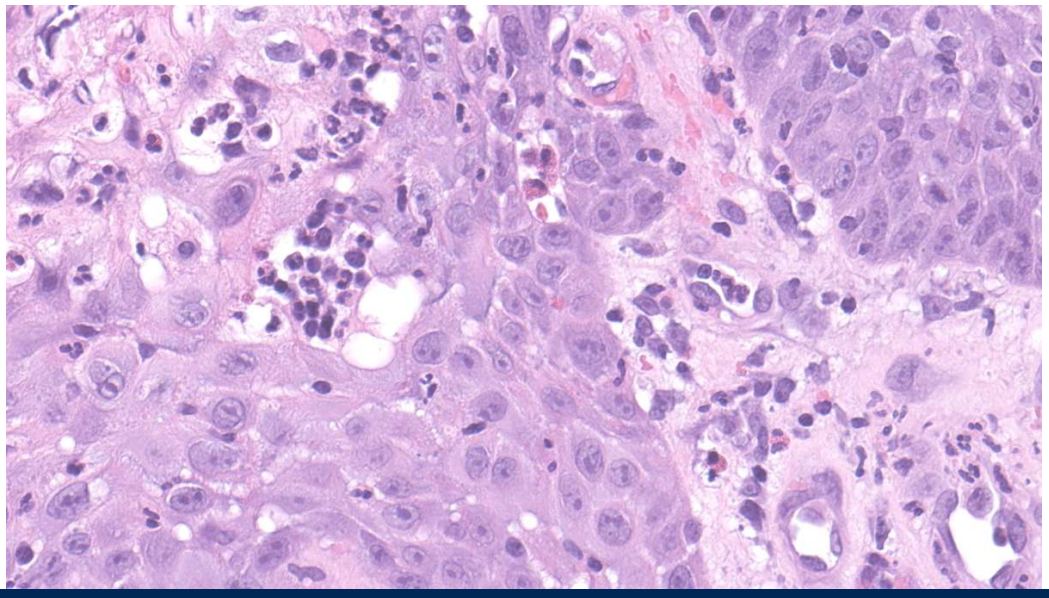
Eosinophilic spongiosis



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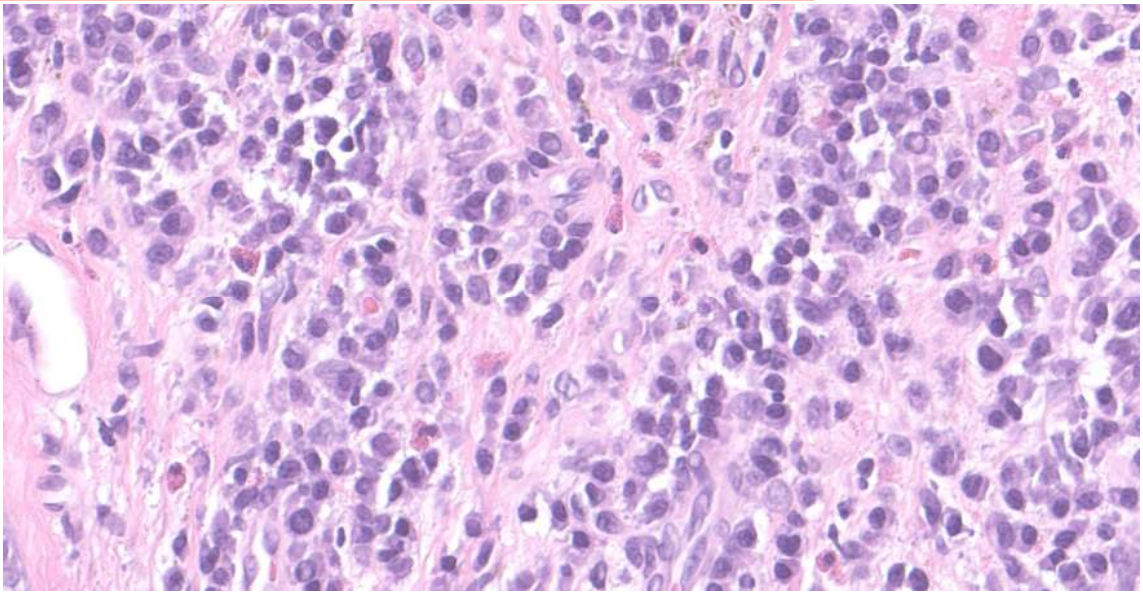
Plasma cells & eosinophils in dermis

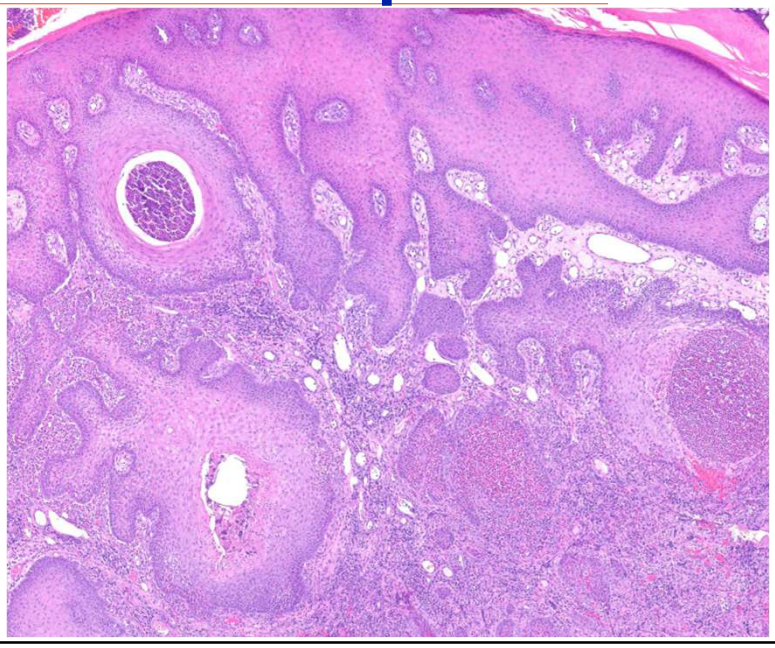


c-ANCA-positive CAPCOM initially managed as GPA

Case 3

- 55-year-old man with vegetative plaques of the upper cutaneous lip and nasolabial folds
- Urine toxicology not obtained initially
- IIF c-ANCA positive; PR3 positive / MPO negative; initially managed as GPA based on serology
- Histology: pseudoepitheliomatous hyperplasia with dermal abscess, numerous eosinophils and neutrophils, no vasculitis or granulomas
- Outcome: Later reclassified to CAPCOM with treatment being abstinence from cocaine

Pseudoepitheliomatous hyperplasia with intraepidermal eosinophilic abscesses



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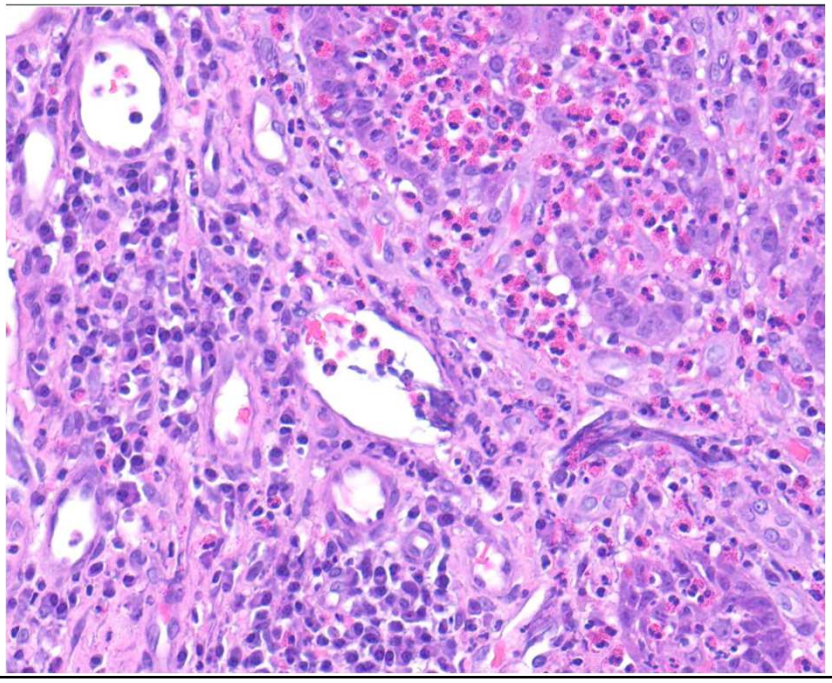
Numerous plasma cells and eosinophils



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Case summaries

Case	Site	ANCA Pattern	Cocaine use	Histology
47 F	Infranasal upper lip	c-ANCA + PR3+ / MPO(-)	+ cocaine metabolites	• Epidermal hyperplasia with mixed dermal inflammatory infiltrate rich in eosinophils • No vasculitis or granulomas
60 F	Nares and upper lip	**IIF (-)** **PR3+** / MPO(-)	+ cocaine anamnesis	• Eosinophilic spongiosis with acantholysis • Superficial & deep inflammatory infiltrate with many eosinophils and neutrophils • No vasculitis or granulomas
55 M	Upper lip and nasolabial folds	c-ANCA + PR3+ / MPO(-)	Not known initially	• Pseudoepitheliomatous hyperplasia with dermal abscess • Numerous eosinophils and neutrophils • No vasculitis or granulomas

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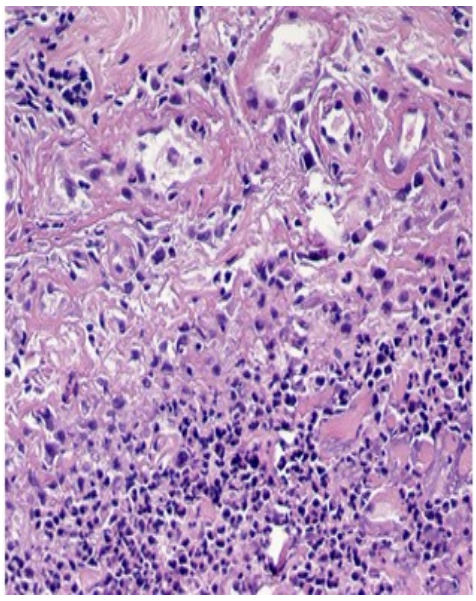
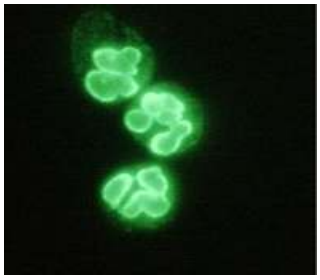
Spectrum of findings can be mistaken for ANCA-associated vasculitis







Jiménez-Gallo D *et al. Clin Exp Dermatol.* 2013;38(8):878-882

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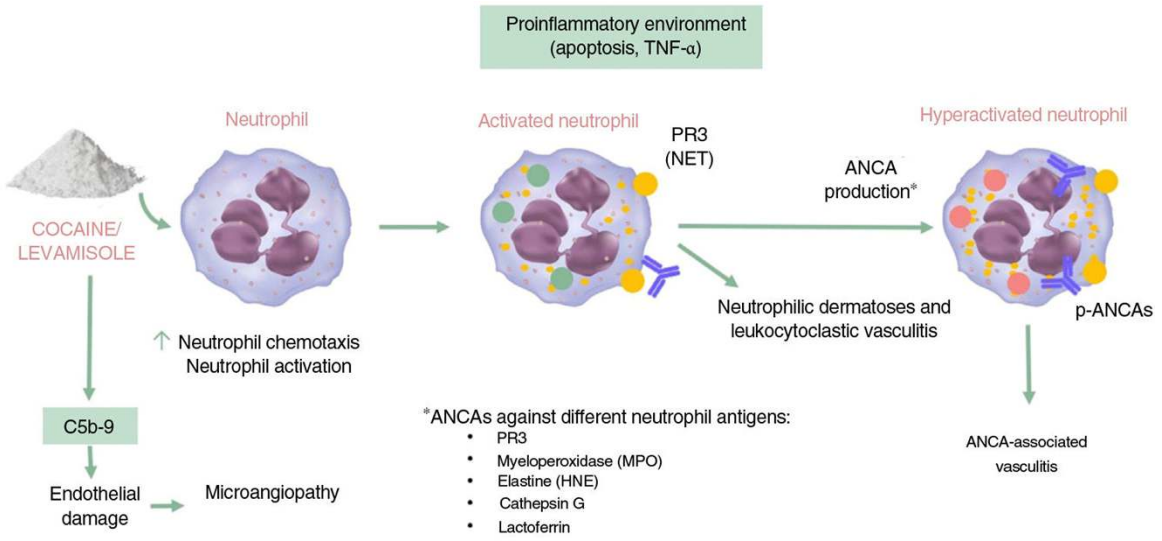
Pathogenesis explains simulation of ANCA vasculitis

Discussion



Sánchez-Puigdollers C *et al. Actas Dermosifiliogr.* 2023;114(8):739-751

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Distinction of cocaine-associated disorders from ANCA-associated vasculitis

Discussion

- **Clues for the pathologist**
  - Cocaine-associated disorders lack combination of vasculitis AND granulomas
  - CAPCOM: neither vasculitis nor granulomas
  - ANCA-associated vasculitis lacks thrombotic occlusion
    - *Both AAV and levamisole-associated vasculitis affect small and medium vessels*
- **Clues for the clinician**
  - Serology: inverse or atypical ANCA patterns, multiple targets especially HNE
  - **Drug testing: should be performed in all patients before treatment for AAV**

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Summary

- CAPCOM is a reproducible CPC.
- While histopathology is nonspecific, pathologists can be the first to suggest the diagnosis, even without preceding drug testing or clinical suspicion.
- CAPCOM is readily distinguishable from ANCA-associated vasculitis, given the absence of vasculitis or granulomas.

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