

What do I treat? Is it pyoderma or allergy?

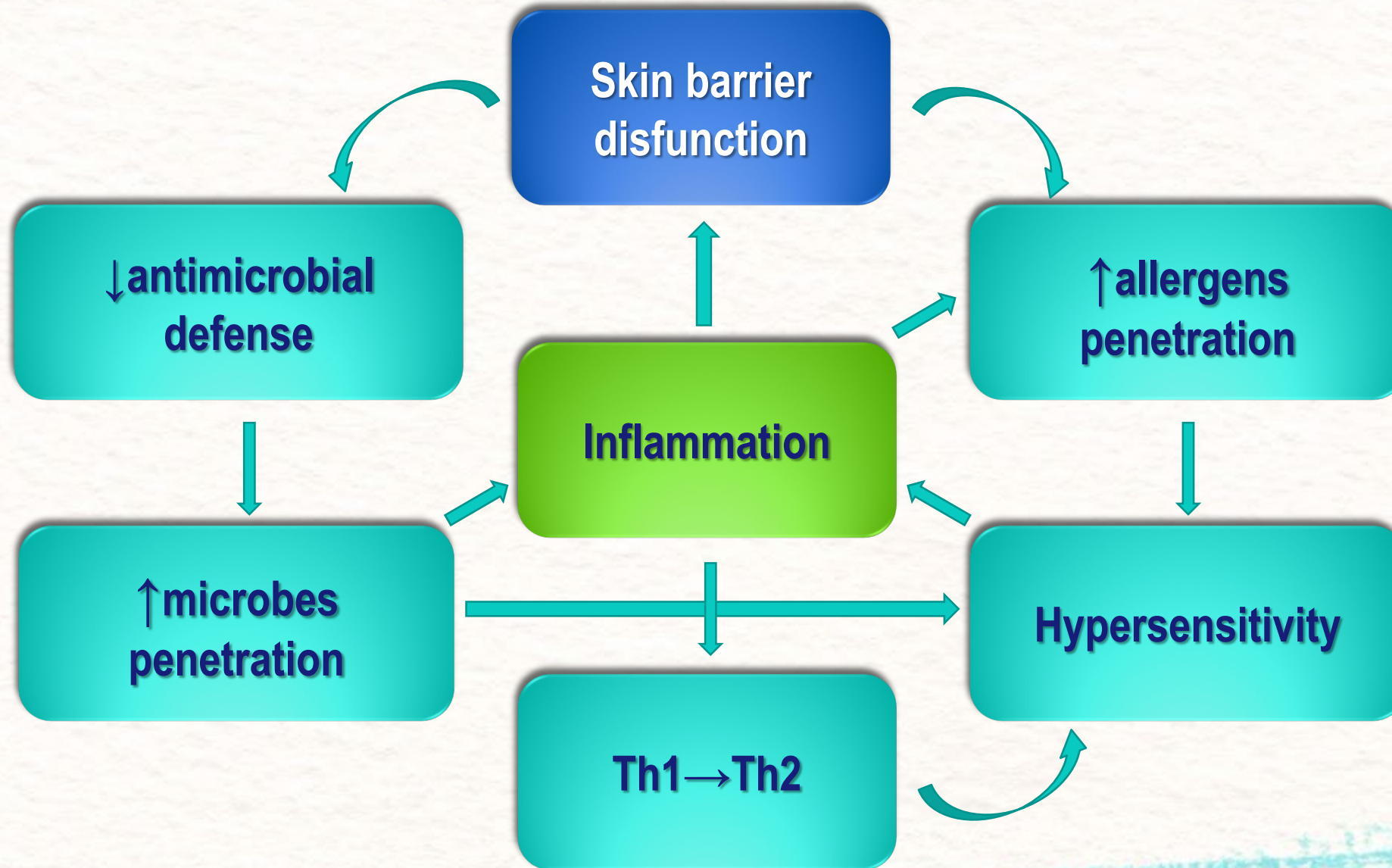
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What we are going to talk about:

- What is the relationship between allergy and pyoderma? What is primary and what is secondary problem?
- Which skin lesions tell us about allergy? How do they form?
- Which skin lesions tell us about pyoderma? How do they form?
- Clinical situations: trying to classify them.

Atopic dermatitis etiology



Патология иммунной системы или кожного барьера?

- ↓ IFN γ ,
- ↓ IL-10,
- ↑ TSLP → ↑ Th2,
- ↑ IL-4,
- IL-5,
- IL-13,
- IL-31,
- ↑ IgE...
- ↑ transepidermal water loss
- Defect of lipid lamellae in epidermis
- ↓ ceramides (1, 2/10, 3, 5/8, 9)
 - Possibly inflammation-induced
- ↓ filaggrin expression / function
 - Possibly inflammation-induced
- ↓ CLDNs expression in tight junctions
- Changes in corneodesmosine profile expression after challenge with allergen.

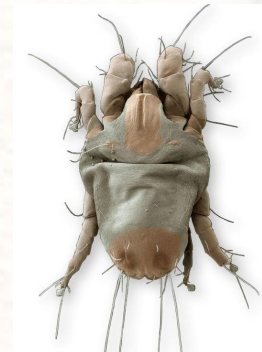
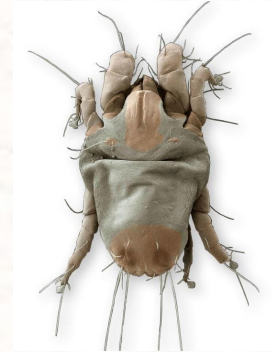
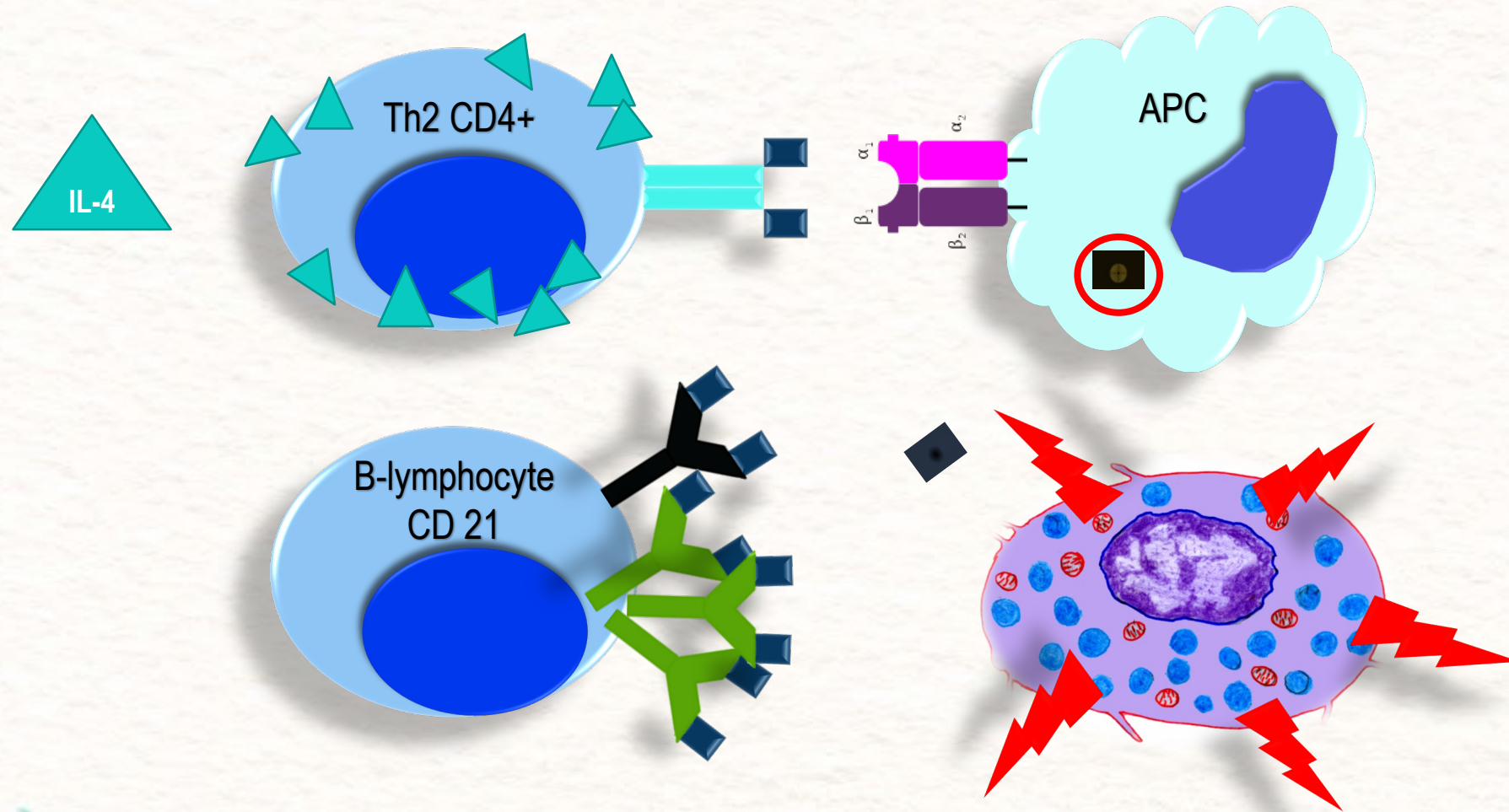
Distinguishing pyoderma
from allergy

What is allergy?

- Reaction of hypersensitivity



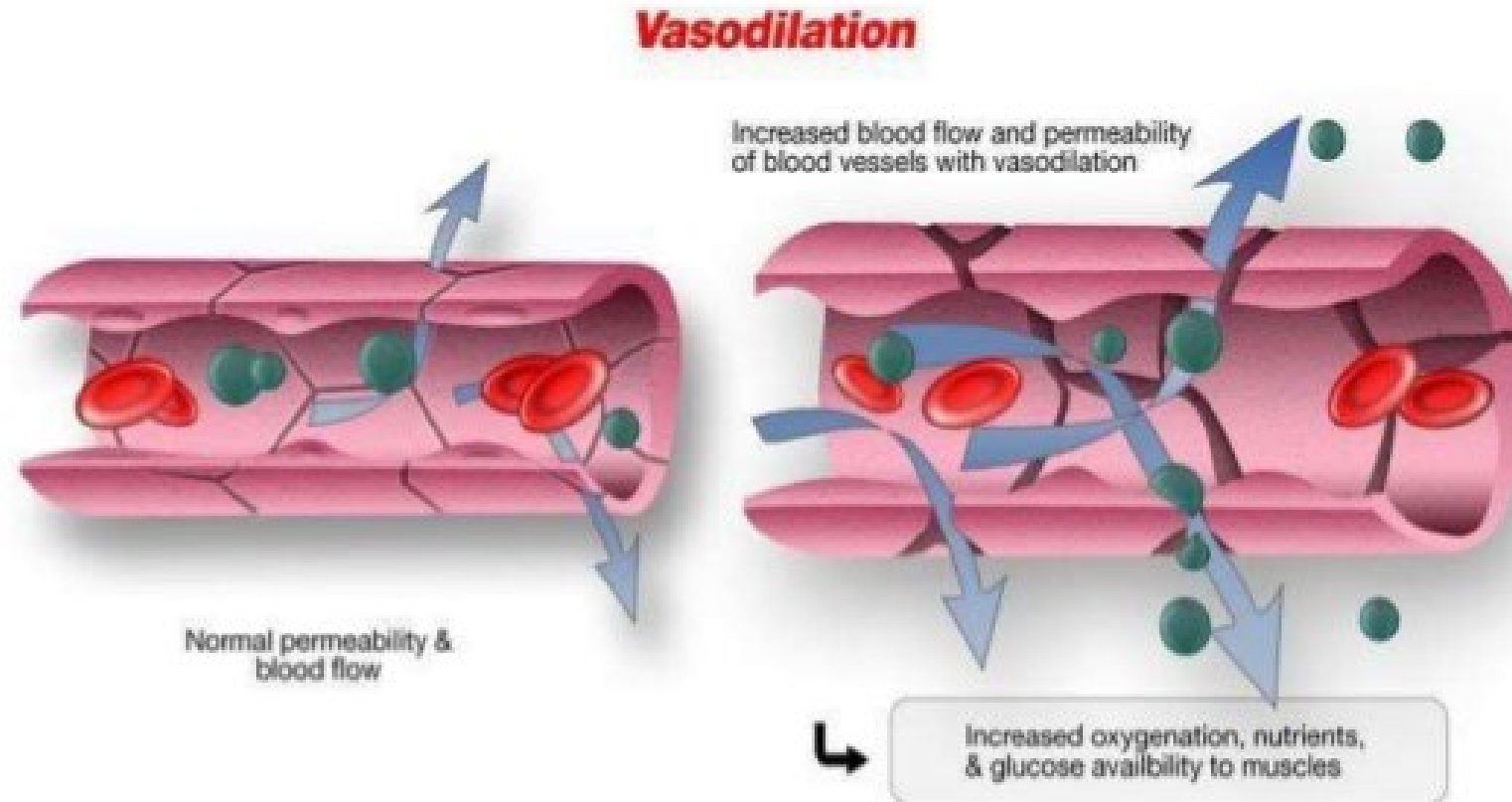
Type 1 hypersensitivity reaction



Proinflammatory cytokines – what are they needed for?

- To recruit leucocytes and macrophages
- But leucocytes are in the vessels.... And they quickly run by...

Inflammation



Juliet Abisha

Primary allergic skin lesions

Erythema (diffuse)

Pruritus

Secondary allergic skin lesions

Excoriations

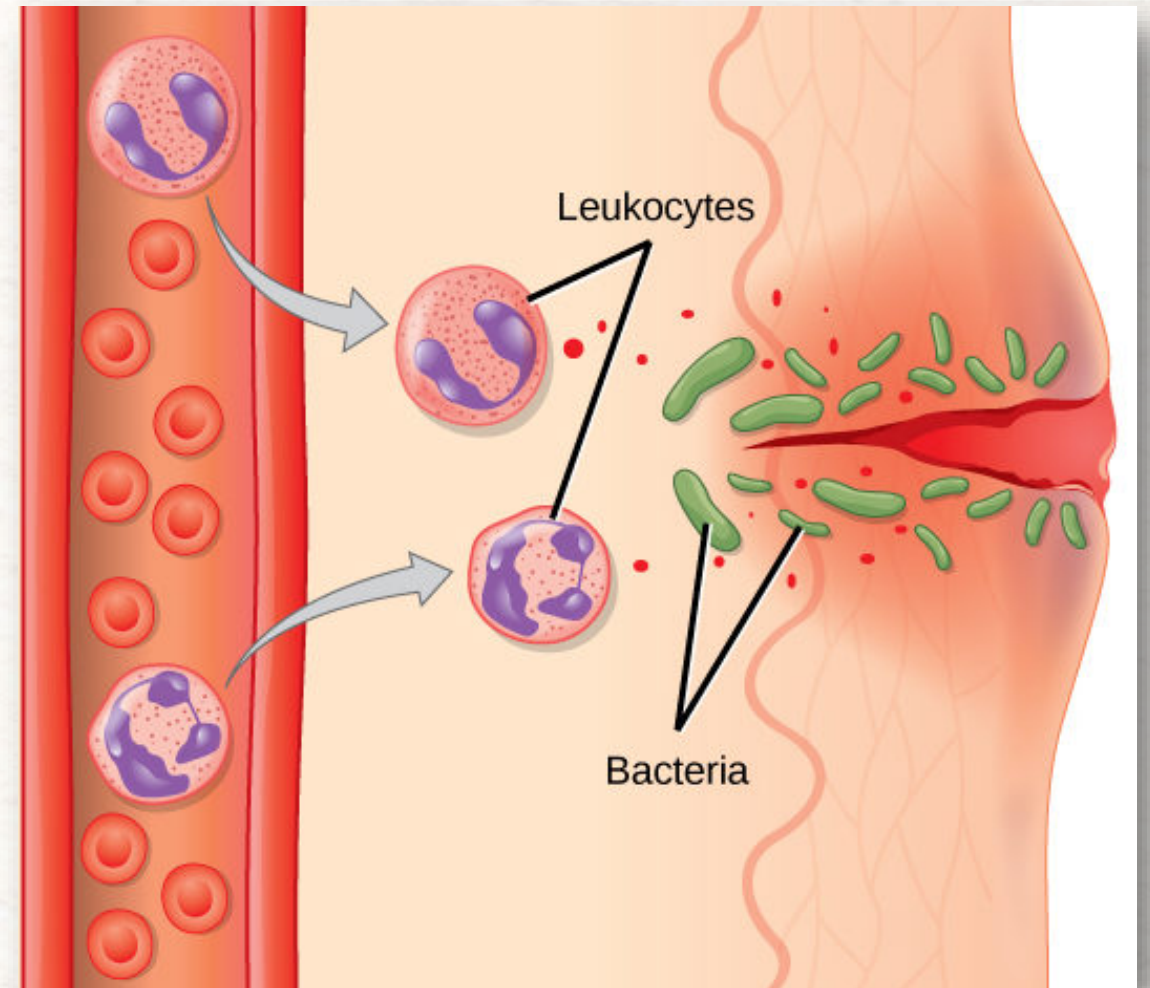
Lichenification

Secondary allergic skin lesions

Self-induced alopecia

What is pyoderma?

- Bacterial purulent skin inflammation
- ALWAYS SECONDARY!!!



Lumen, Biology

Primary pyoderma skin lesions

Papule

Pustule

Primary pyoderma skin lesions

Plaque

Nodule and abscess

Secondary pyoderma skin lesions

Crust

Erosion/ulcer and epidermal collarette

Secondary pyoderma skin lesions

Spontaneous focal/multifocal alopecia

Draining tract

Clinical situations

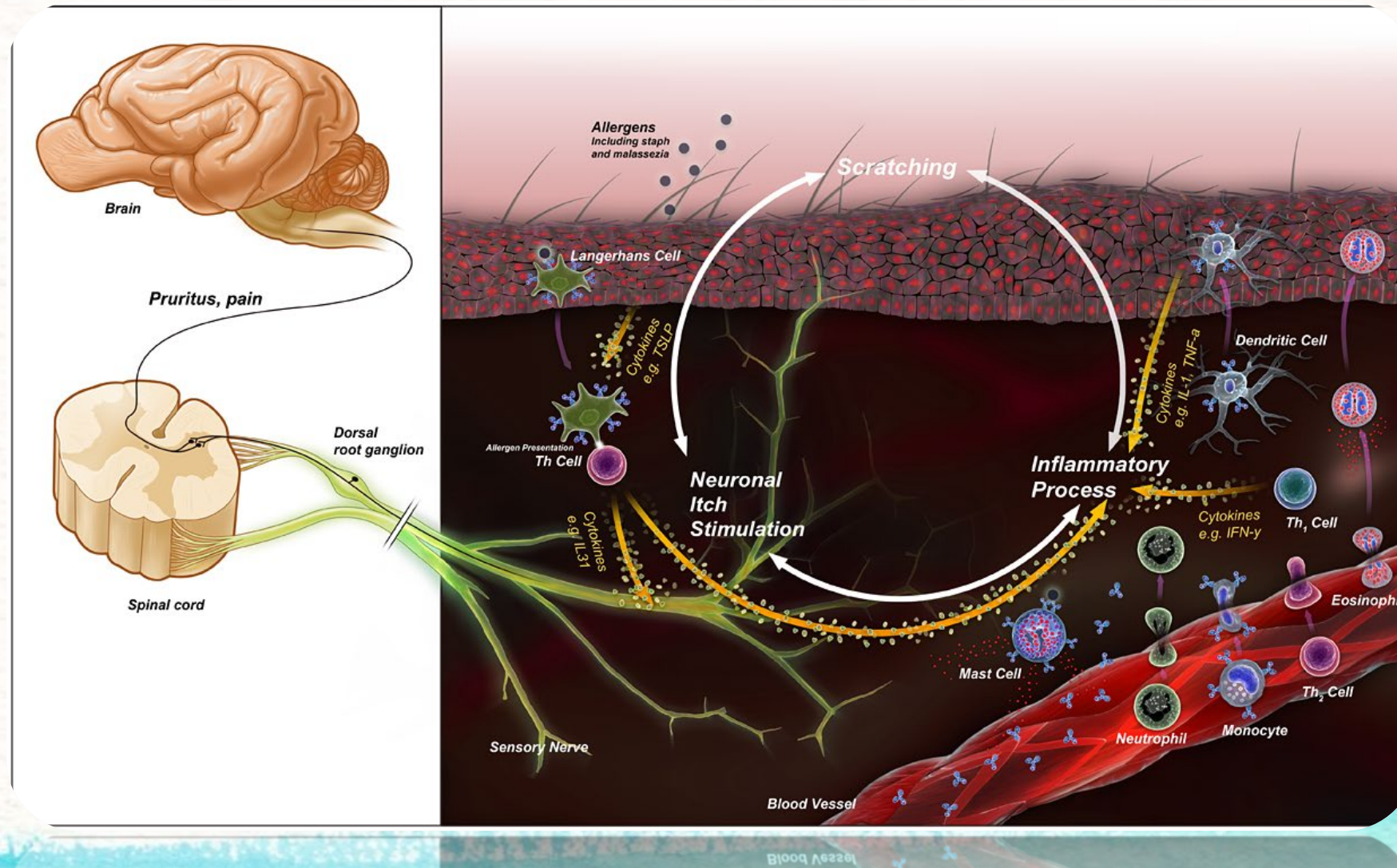
1. Obvious allergy + superficial pyoderma

- Control of inflammation will likely control pyoderma
 - Steroids / apoquel
 - Topical antiseptics
- Sometimes weak response to AB is secondary to severe inflammation
 - Cytology +/- culture!
- We can start a diagnostic work up now
- If pruritus/inflammation are well controlled, pyoderma does not recur.

2. Obvious allergy + Lichenification + pyoderma doesn't respond to AB!

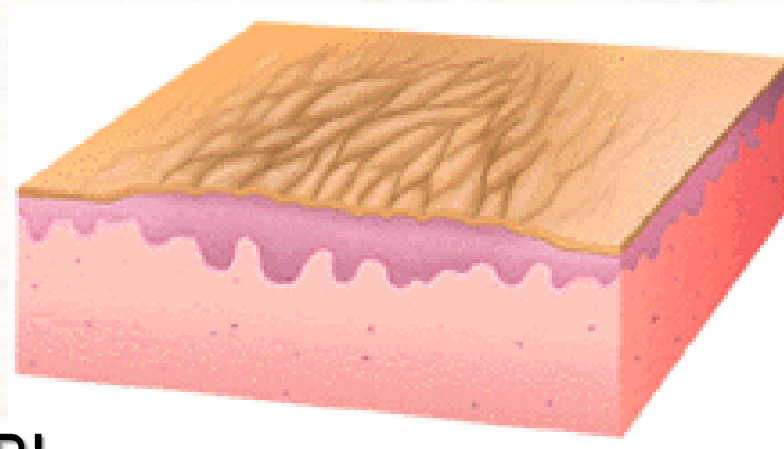
- Lichenification:

“Pruritus witch cycle”



2. Obvious allergy + Lichenification + pyoderma doesn't respond to AB!

- Lichenification:



- Don't use systemic AB!
 - Topical antiseptics (shampoo, sprays)
- Steroids – until skin is back to normal
 - Apoquel – may be needed longer course
- Possibly it is better to postpone the diagnostic work up.

3. Obvious allergy + deep pyoderma

- Systemic AB is required!
 - from 8-12 weeks or longer
- Steroids / apoquel / cyclo – risky –
close control of pyoderma is difficult!
 - Better to start them later than AB
- Diagnostic work is usually postponed.

4. Likely allergy + superficial pyoderma

- Pyoderma does not directly related to the most inflamed areas
- Systemic AB may be needed
 - What if pyoderma hides the allergy signs?
- Diagnostic work up can be started
 - If there are other allergic areas on the body WITHOUT pyoderma
- It is not clear for the future – would the antiallergic treatment prevent pyoderma recurrence.

5. Likely allergy + deep pyoderma

- Systemic AB in needed
 - From 8-12 weeks and longer
- Are there any areas with only allergic clinical signs without pyoderma lesions?
 - If yes – we can start a diagnostic work up
 - If not – the diagnostic work up should be postponed
- Sometimes anti-inflammatory treatment required in the beginning (pododermatitis)
- It is important for prognosis to understand a mechanism of pyoderma development in the patient.

6. Just pyoderma. No allergy clinical signs.

- Treat pyoderma and reexamine the patient again:
 - If there are allergy symptoms - diagnostic work up
 - If there are no allergy symptoms – look for other possible diseases signs
 - If there are no any symptoms – observation, would pyoderma relapse and when?

7. Recurrent pyoderma. No allergy clinical signs.

- Is hypothyroidism possible?
- Has demodicosis been checked?
- Reevaluate a diagnosis
- Could it be subclinical allergic patient?
 - Check frequency and seasonality of pyoderma relapses
 - Diagnostic work up can be performed based on the duration of remission period.

7. Recurrent pyoderma. No allergy clinical signs (2).

- Staphylococcal lysate / vaccine???
- Antiinflammatory therapy?
- Topical antiseptics in remission
- Can we restore the barrier function?
 - Fatty acids
 - Phytosphingosines
 - Moisturizers
- ASIT???

Summary

- It is crucial to distinguish allergy and pyoderma lesions
- Pyoderma is always secondary, but not always to allergy
- Systemic AB is not always needed in pyoderma cases
- In cases of deep pyoderma or chronic skin changes the allergy diagnostic work up may be postponed.
- A combination of antimicrobial and anti-inflammatory treatment can differ between the patients.