

# Gross Lesions

- Surface crusts
- Hyperkeratosis
  - Secondary infection/trauma → Erosions/Ulcers
- ALL Canine cases have FOOTPAD lesions
- Periocular, Perianal, Perivular, Preputial, Scrotal

# Pathogenesis?

- Abnormal protein metabolism?
  - Low circulating amino acids
  - Skin has high protein requirement
- Abnormal Zinc and fatty acid metabolism?
- Abnormal glucagon metabolism?

# Hepatocutaneous Syndrome

- **Hyperkeratosis, crusting, ulcers on footpads, +/- mc junction**
- Hypoalbuminemia
- **Inc liver enzymes/ inc bile acids**
- +/- Diabetes mellitus; h/o anticonvulsant therapy
- Typical ultrasonographic findings
- Characteristic liver histopathology
- **Diagnostic skin histopathology**



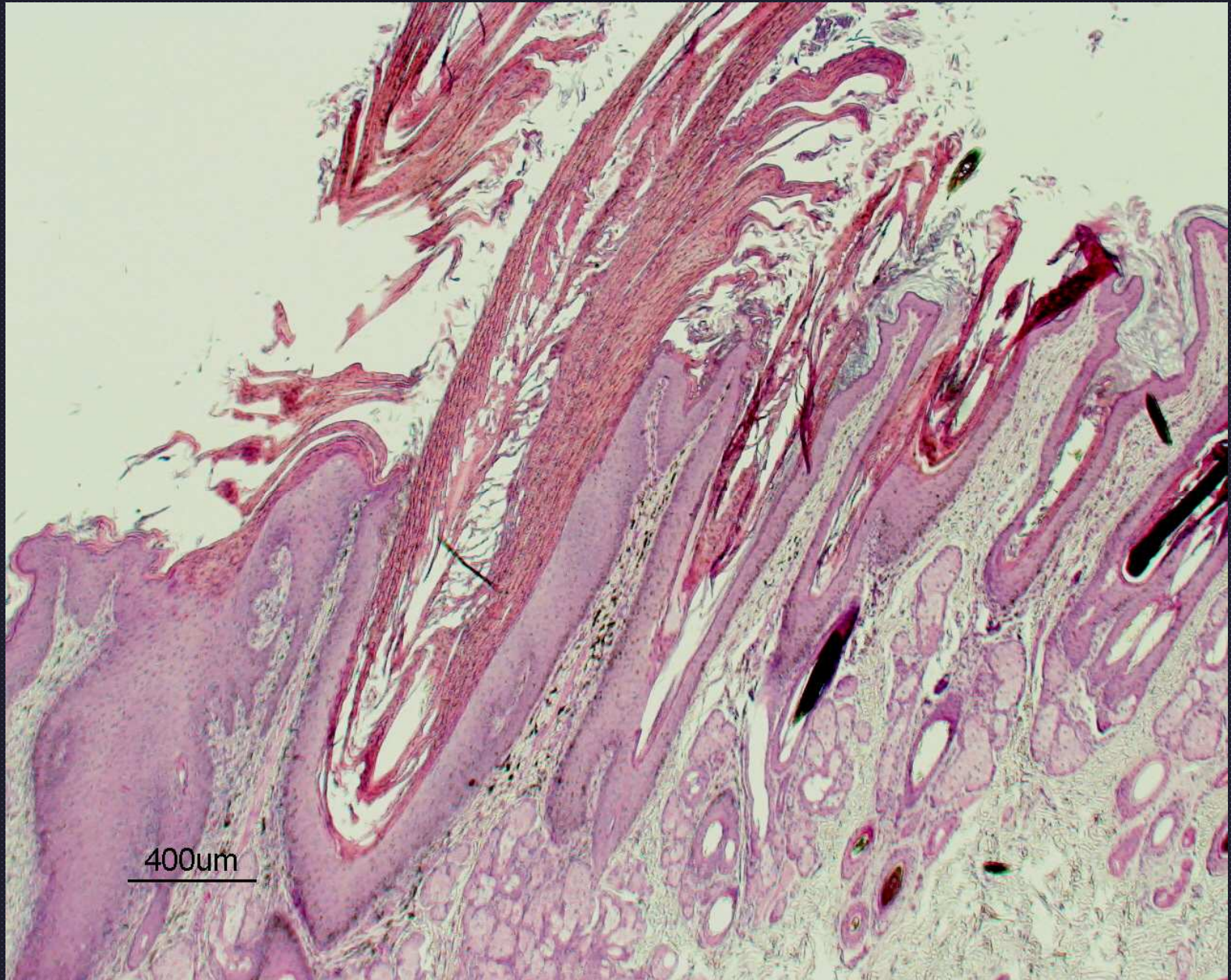
"Swiss cheese" liver

# Zinc

- All Tissues contain Zinc
- Important Co-Factor in many enzymatic pathways
- In the skin, Zn is concentrated in the epidermis
- Also concentrated in hair

# Zinc Absorption

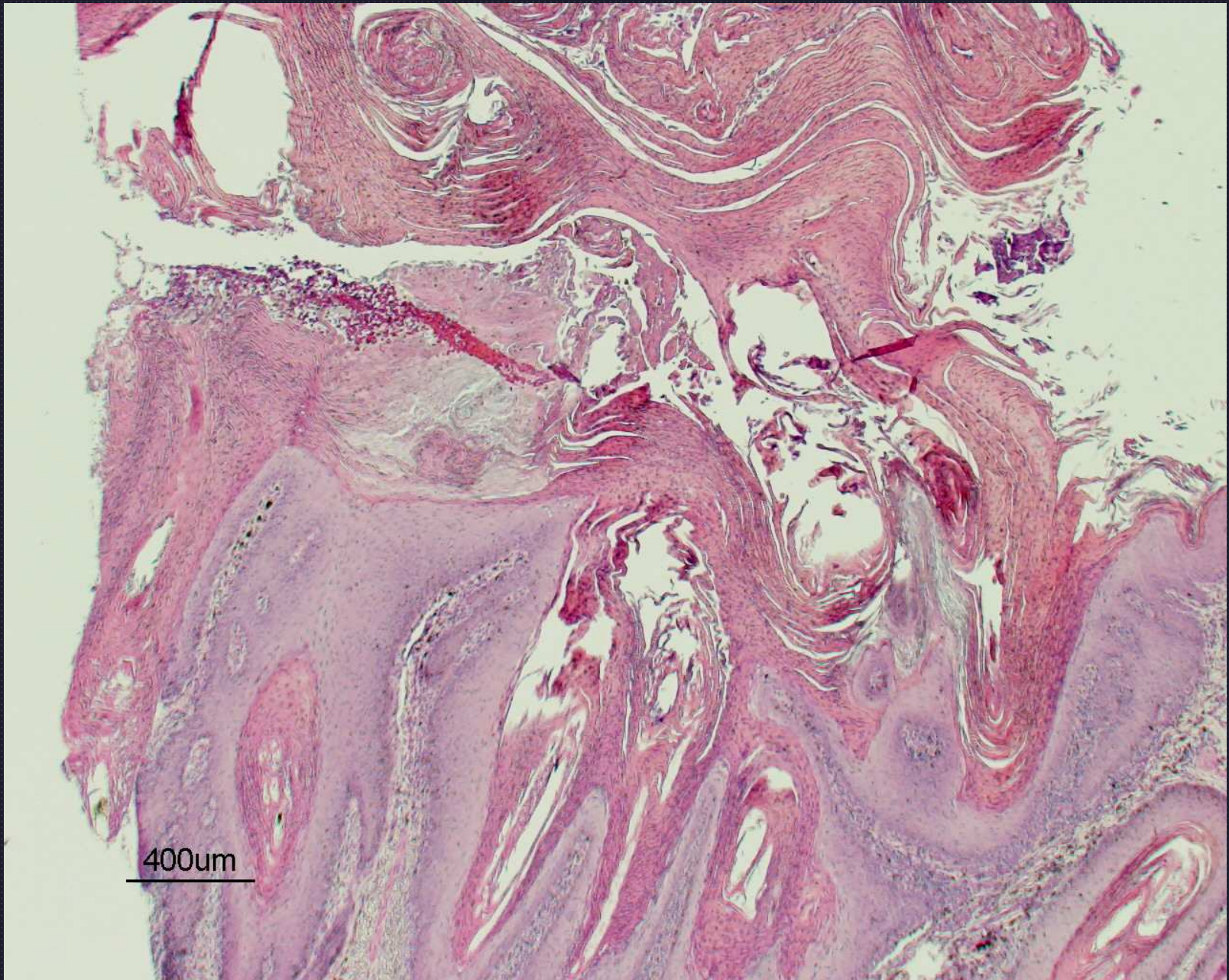
- Required for normal cornification
- Deficiency- delayed wound healing, abnormal cornification of hair, wool, horny appendages



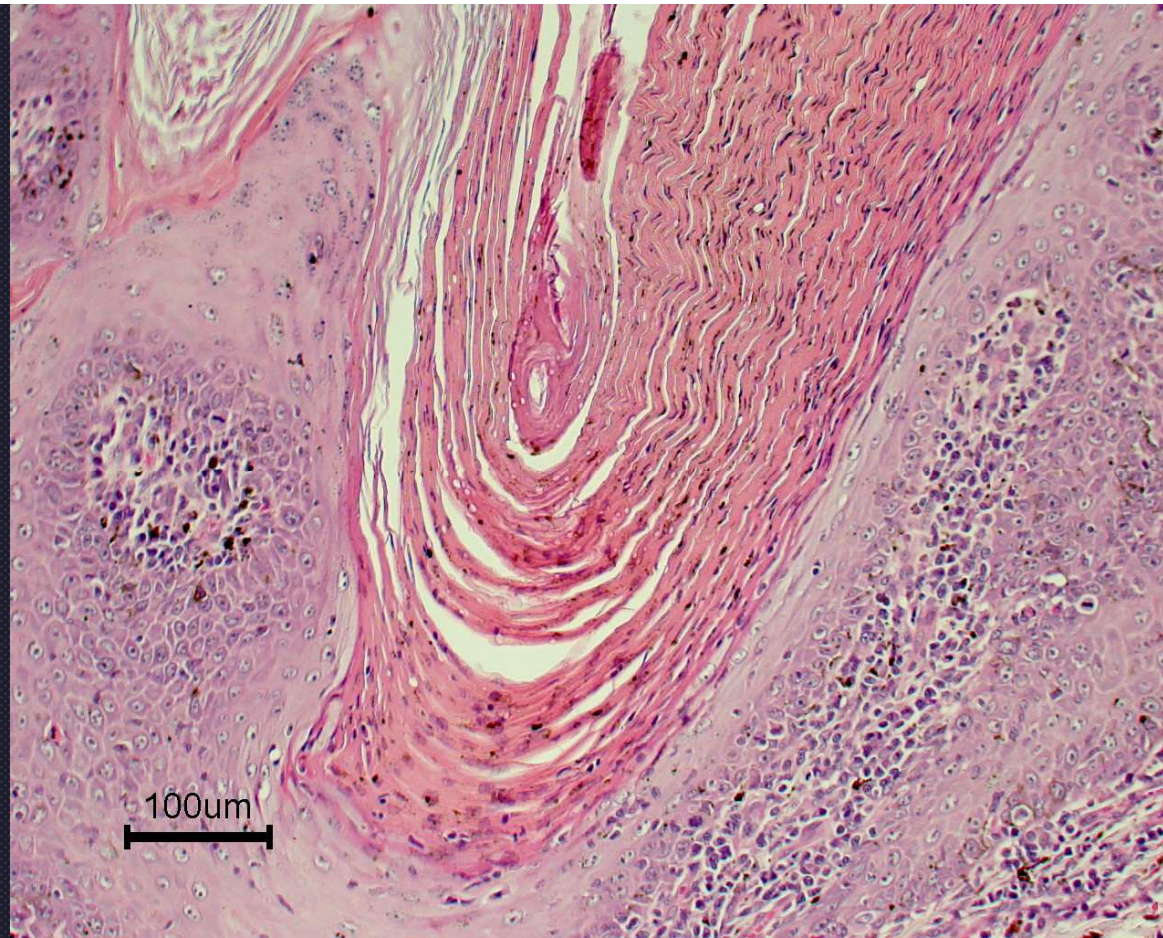
Congenital follicular parakeratosis



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