Invisible Dermatoses

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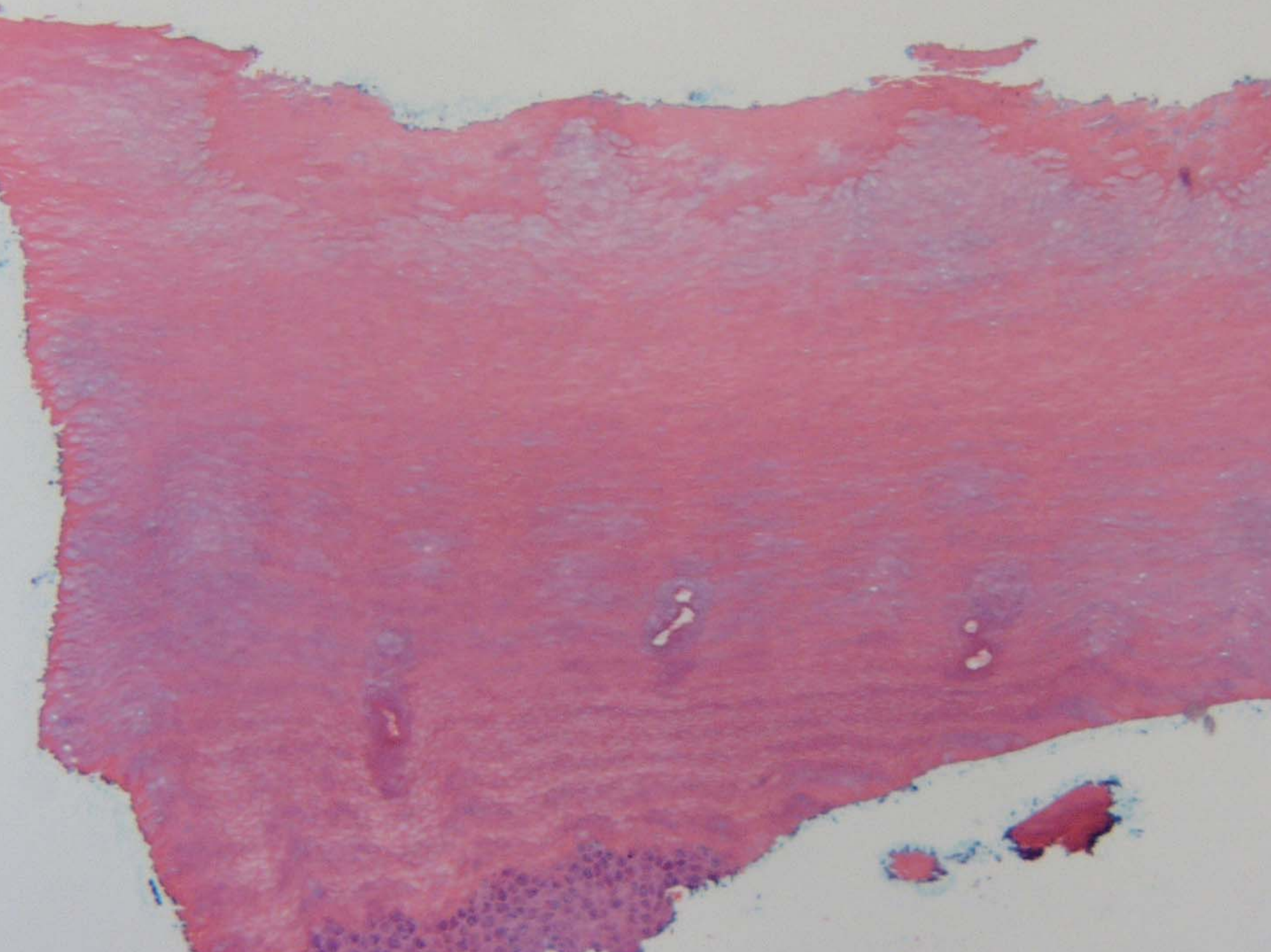
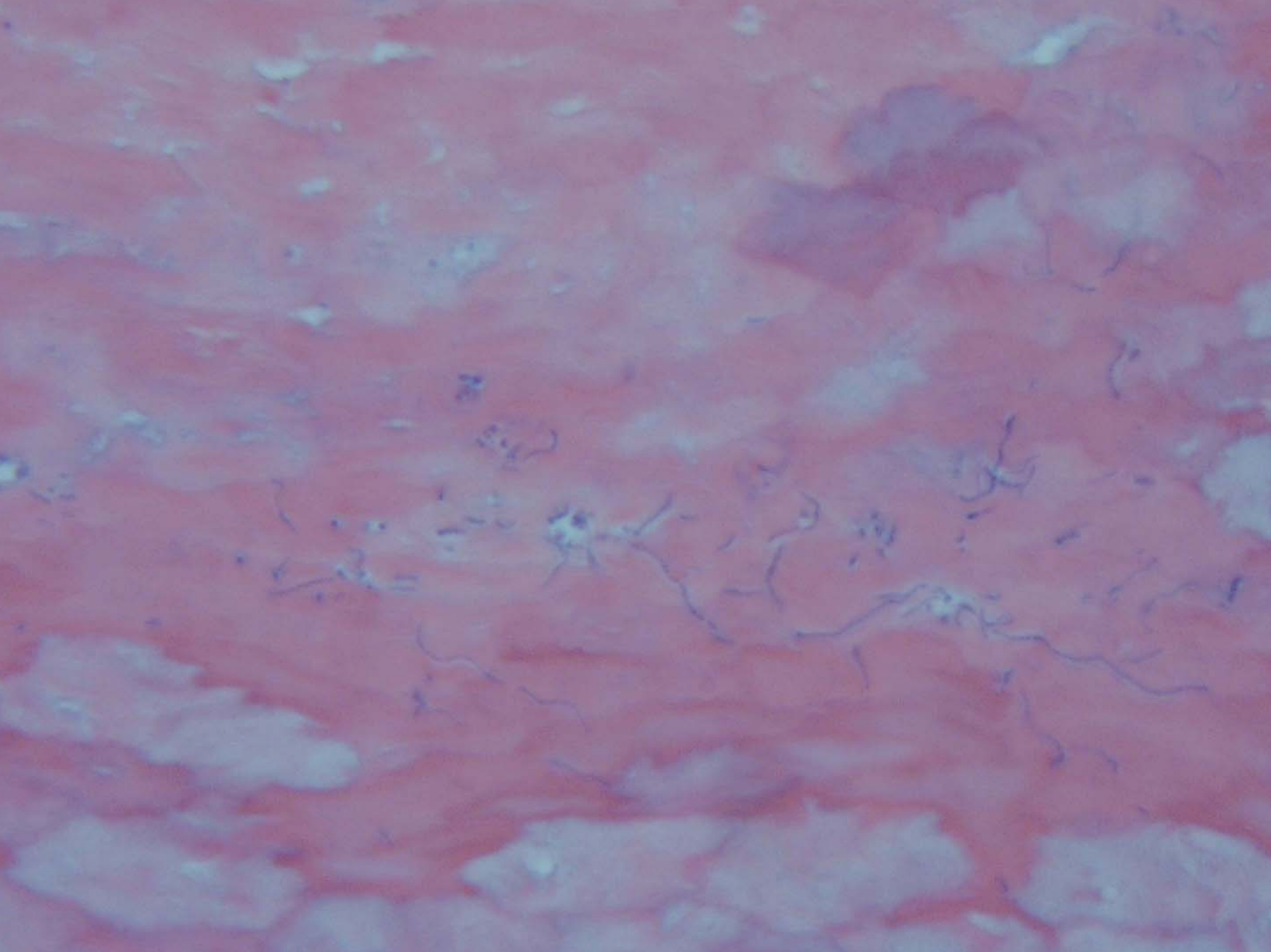
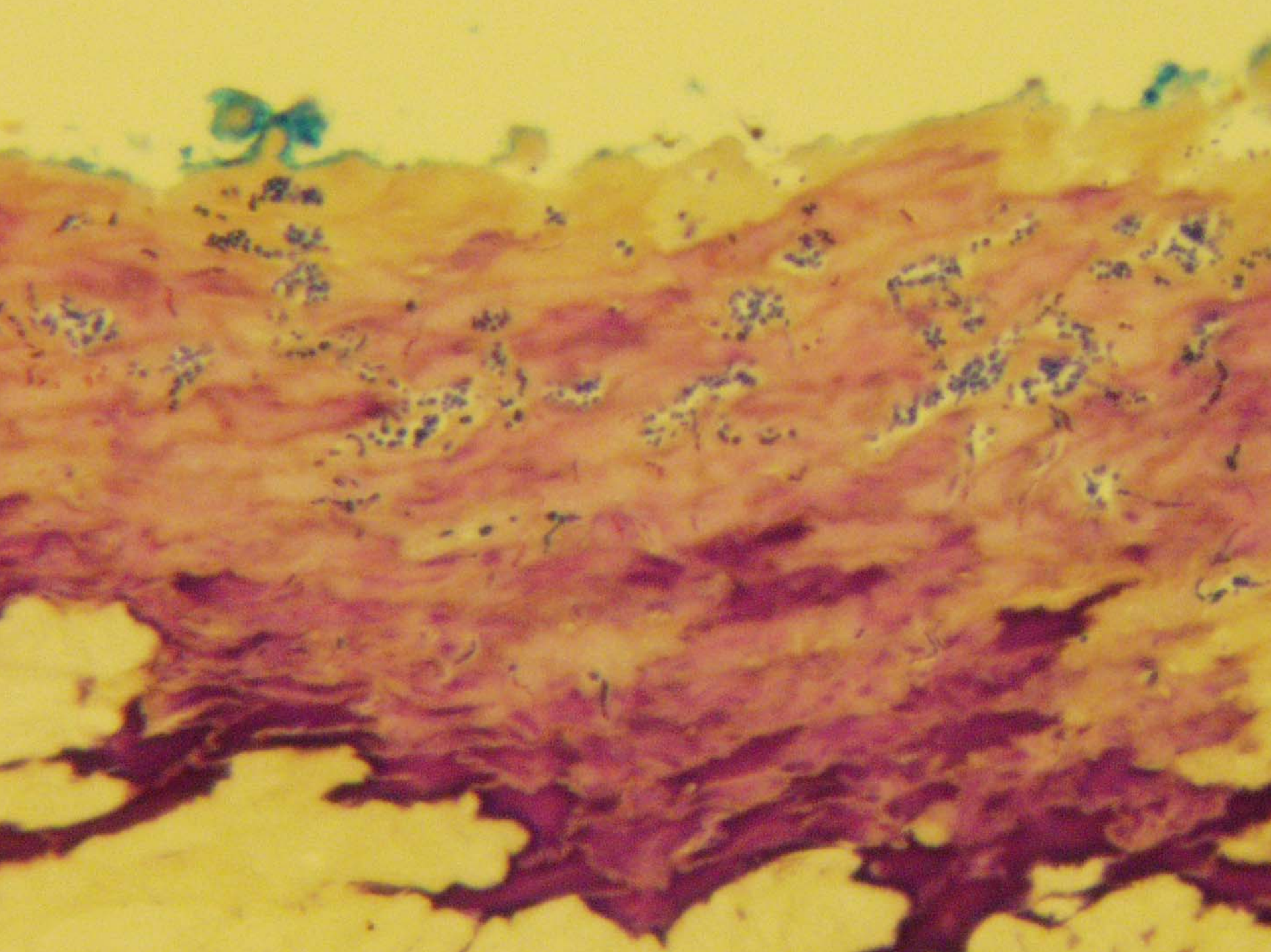
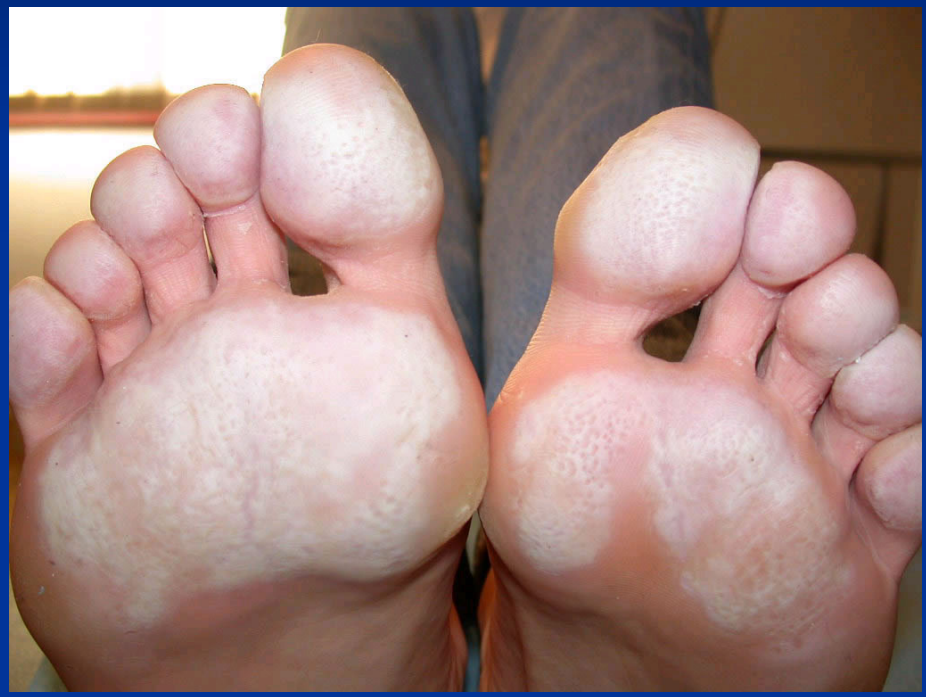


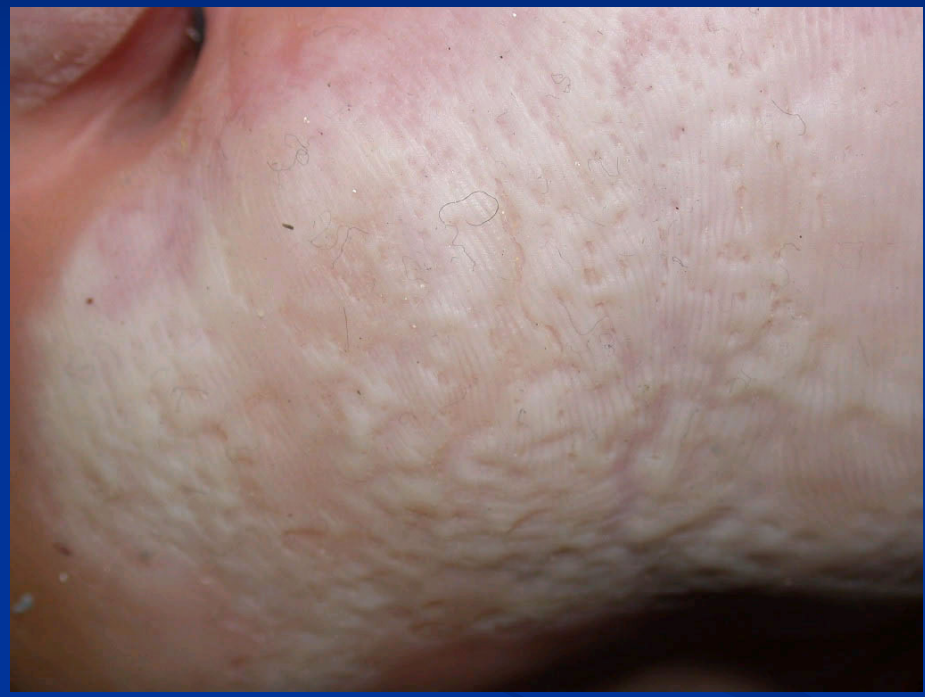




Pitted Keratolysis

- Discrete pits or craterlike lesions on the plantar surfaces
- Range from 1 to 7 mm in diameter and are similar in depth
- Some pits have a brownish color that may give the feet a dirty appearance
- Most cases are asymptomatic
- Hyperhidrosis is often noted on the feet
- Typically malodorous





Corynebacterium

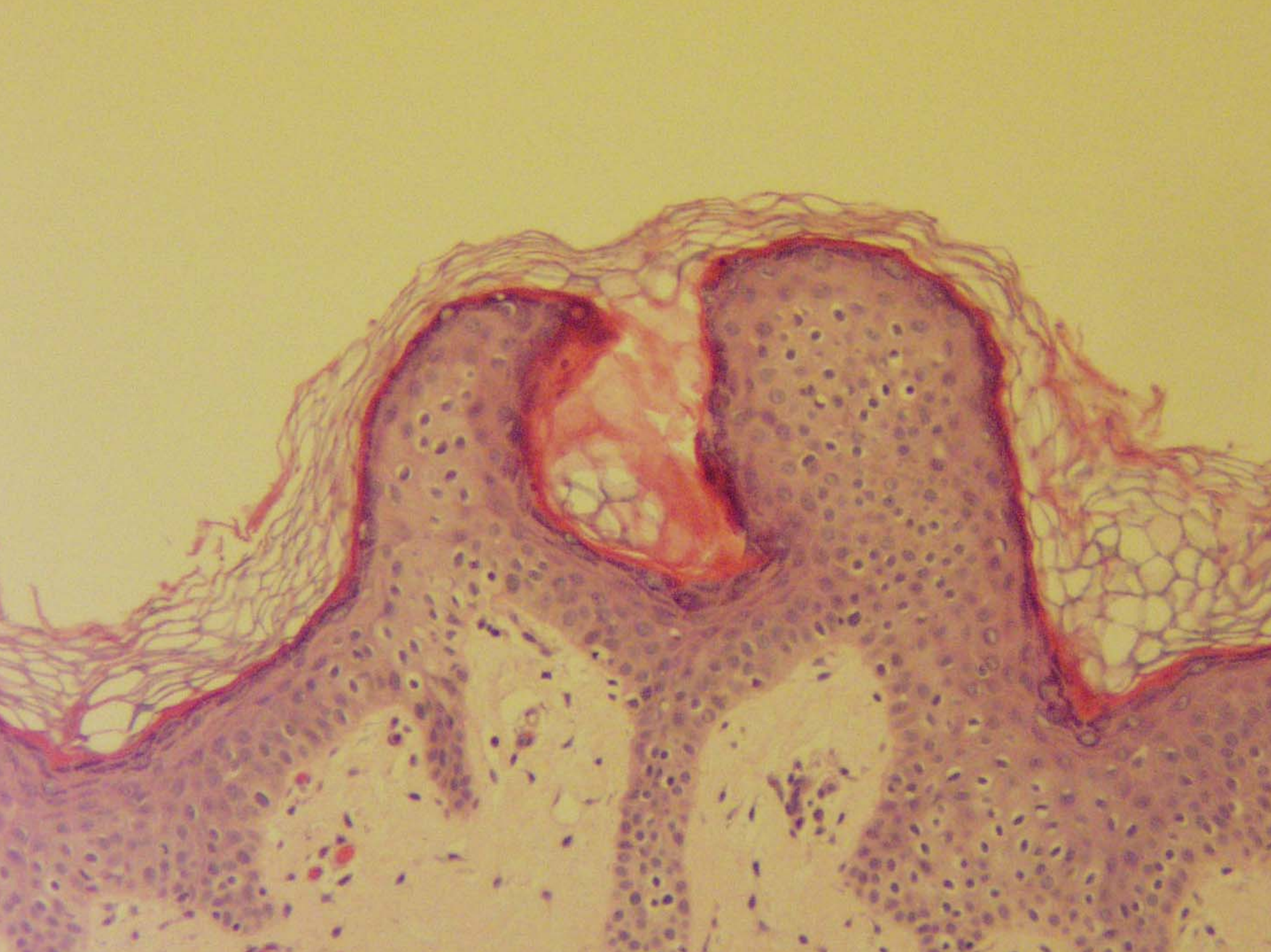
- *Corynebacterium* genus
- Gram-positive, pleomorphic, aerobic rods
- Bacteria can hydrolyze keratin
- Hyperhydration greatly enhances growth of corynebacteria on the feet
  - Pitted keratolysis developed in 53% of 387 military volunteers whose feet remained wet for 3 or more days

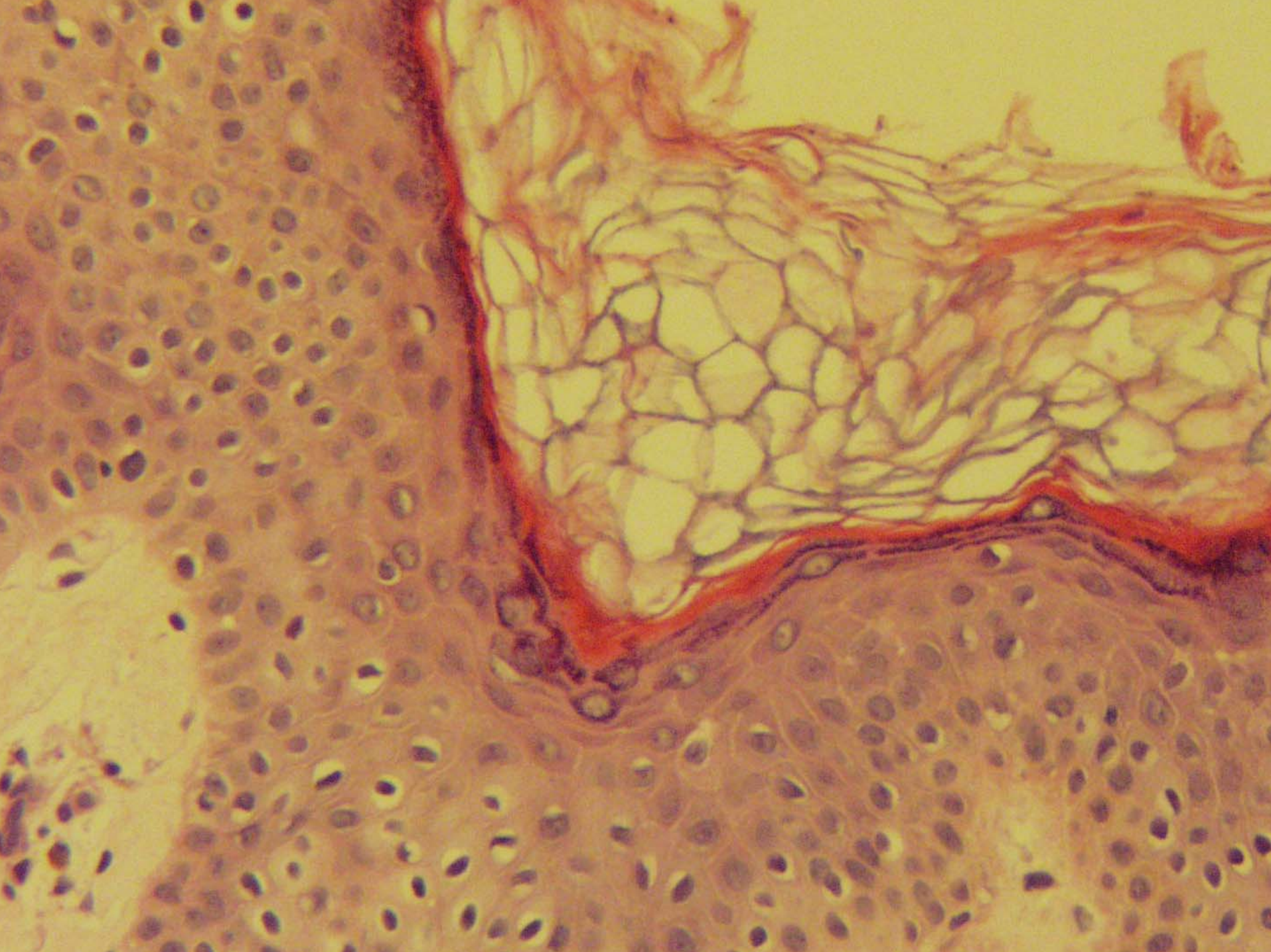
Laboratory

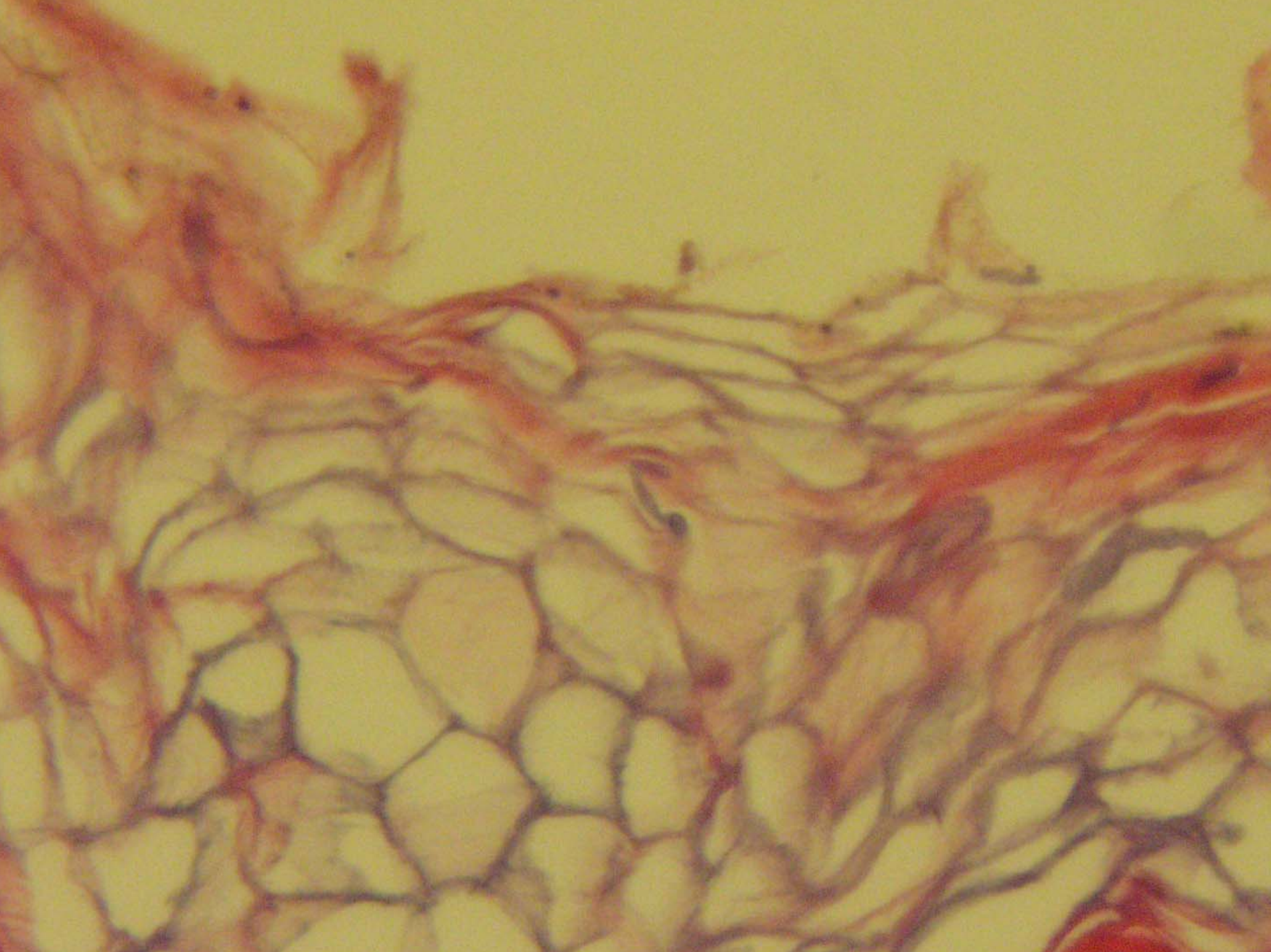
- Wood's Lamp shows characteristic coral red fluorescence
- Fluorescent examination of the patient's intertriginous areas may be helpful
  - Other corynebacteria-induced infections such as erythrasma and trichomycosis axillaris commonly coexist

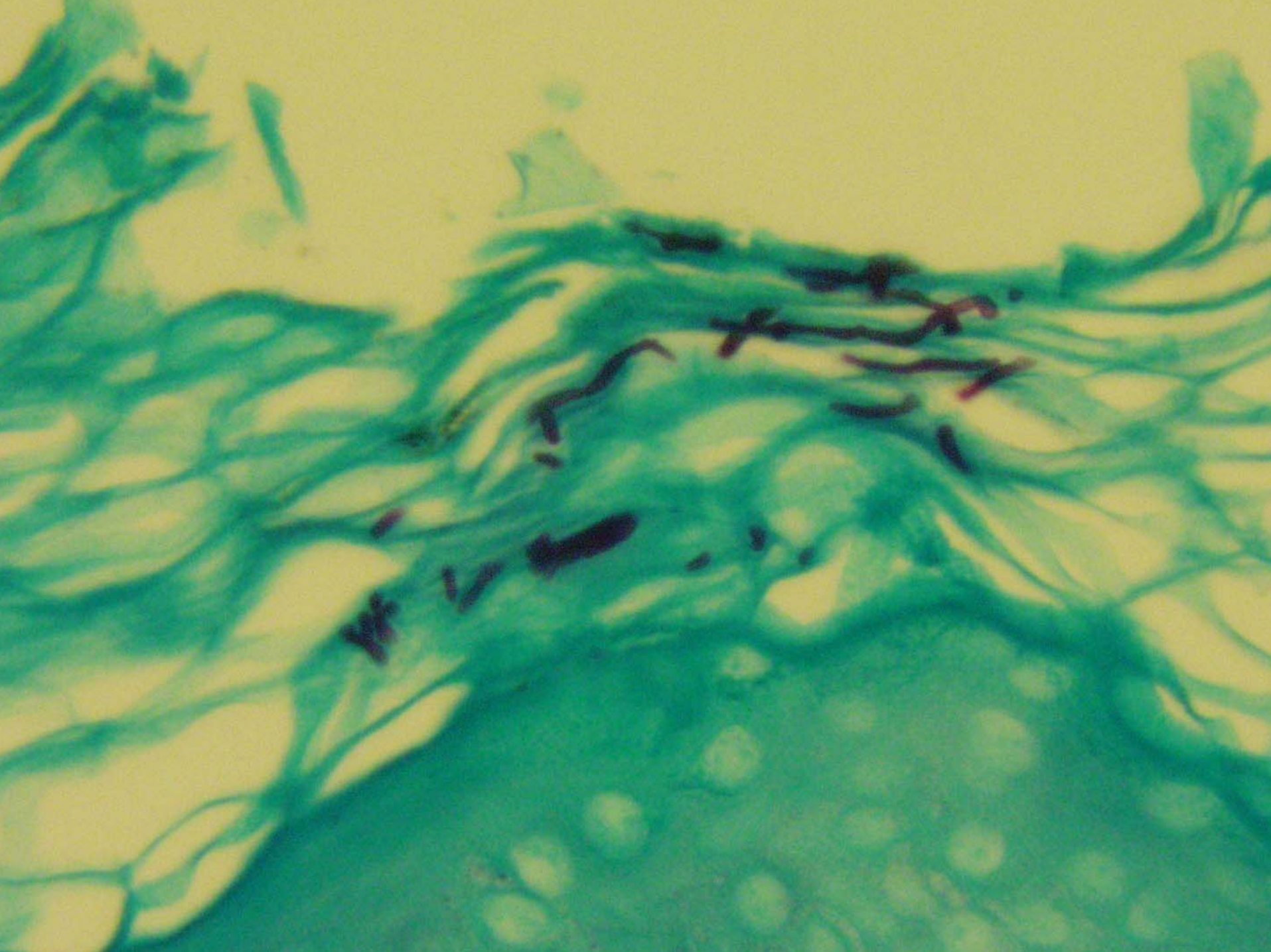
Treatment

- Hygeine
  - Removal of the warm, moist conditions
  - Scrub their feet with an antibacterial soap,.
  - Socks made of either cotton or absorbent synthetic material and change frequently
- Topicals
  - Aluminum chloride hexahydrate 20% (Drysol)
  - Erythromycin 2% solution
  - 1% clotrimazole cream
  - 2% miconazole nitrate cream
  - 1% clindamycin solution
  - Whitfield's ointment
  - 5% formalin solution



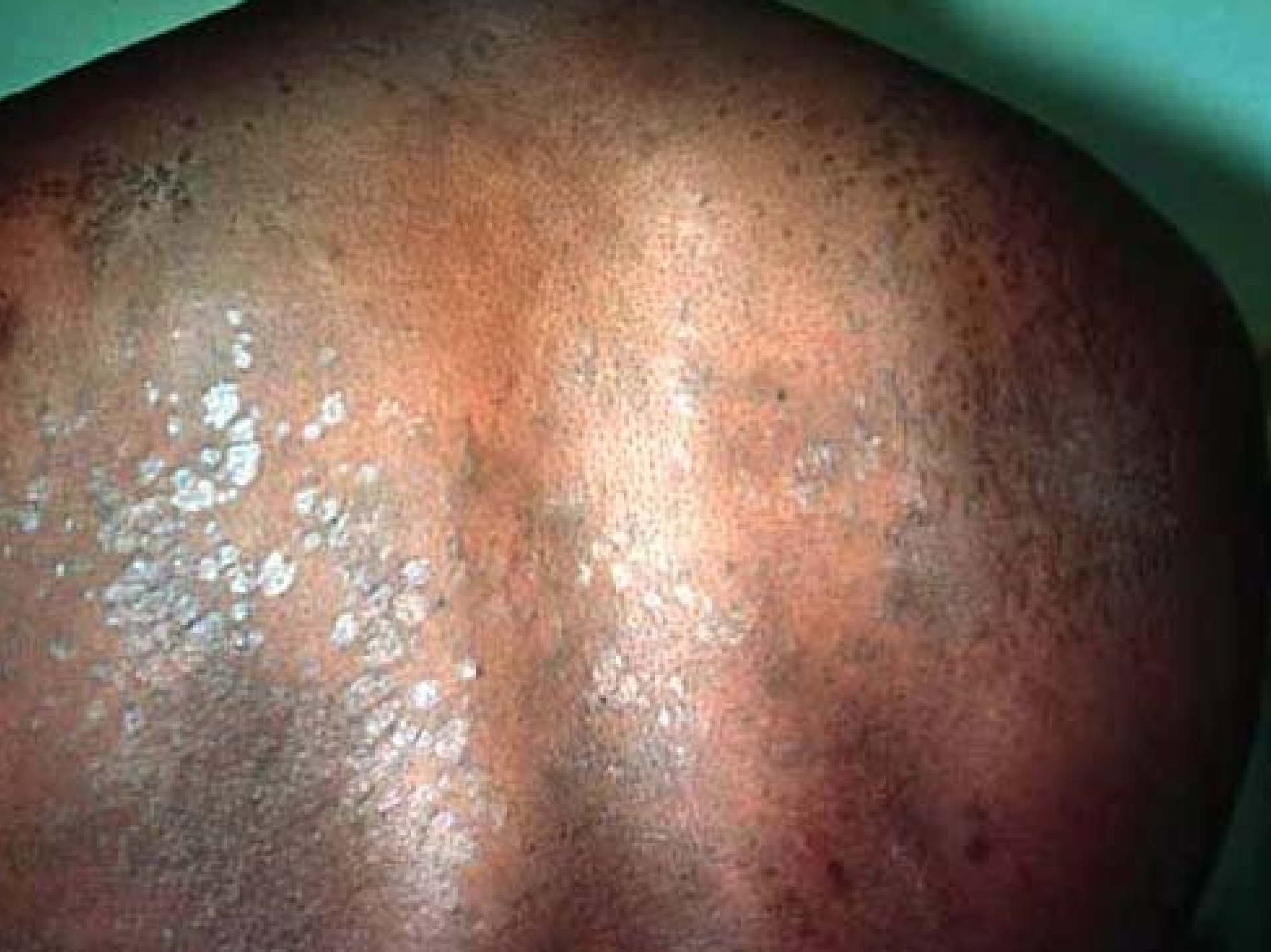


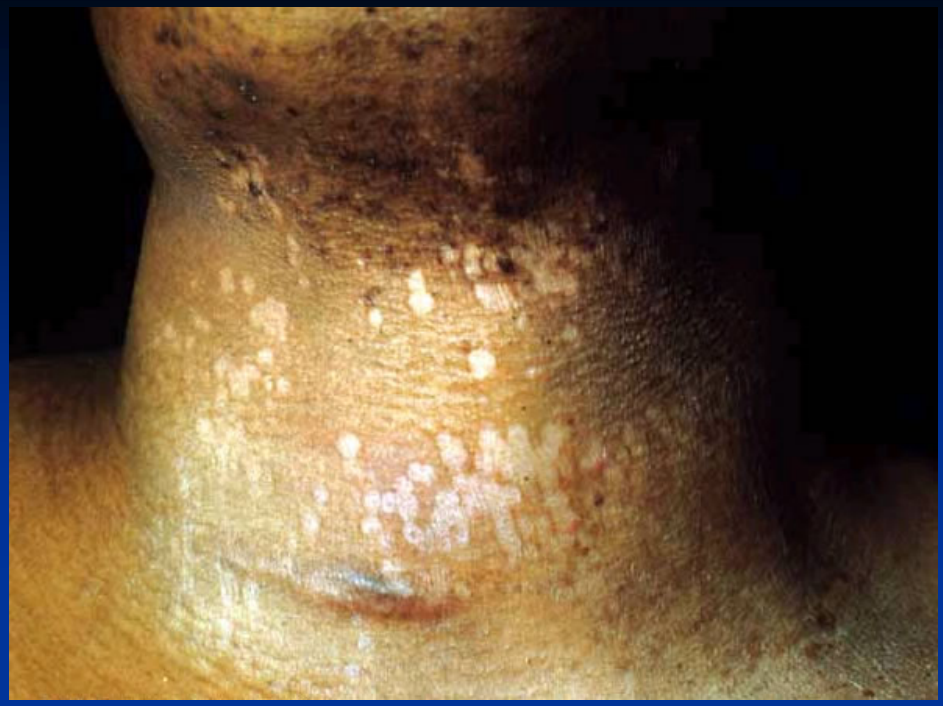


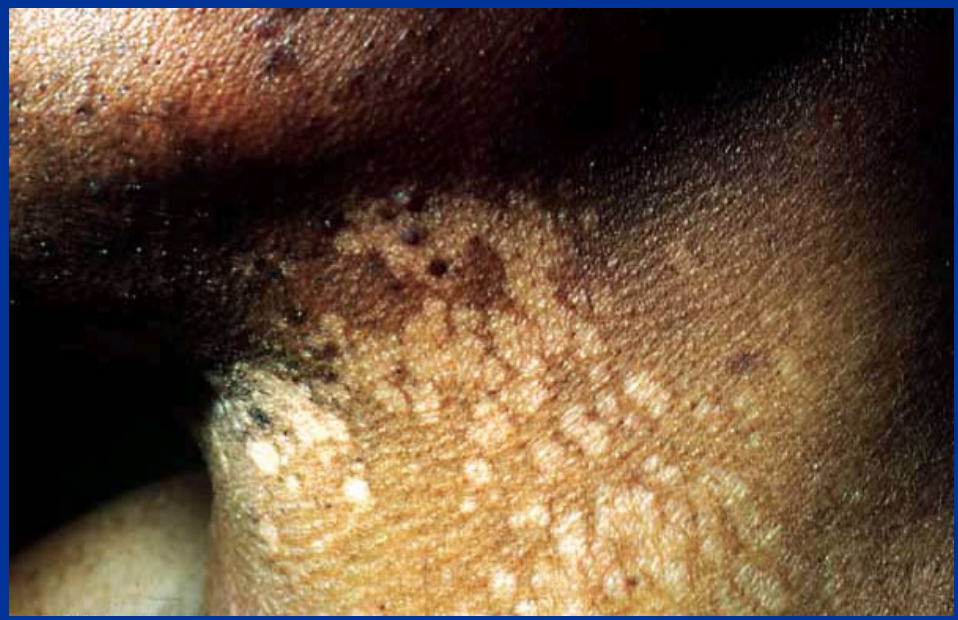


Tinea Versicolor

- Small and scaly white-to-pink-to-tan-to-dark spots
- Upper arms, chest and back, and may sometimes appear on the neck and face
- Prevents the skin from tanning normally

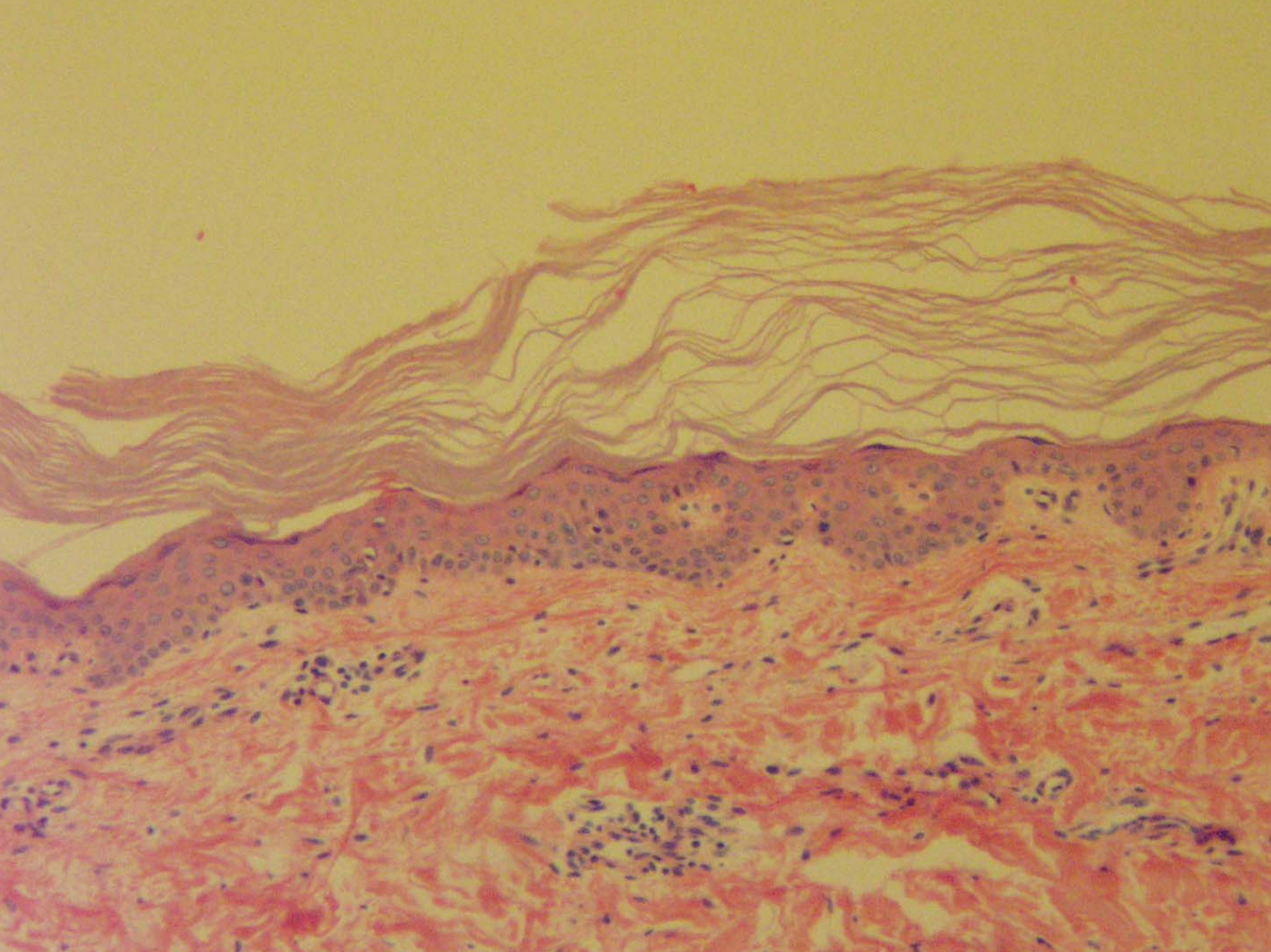


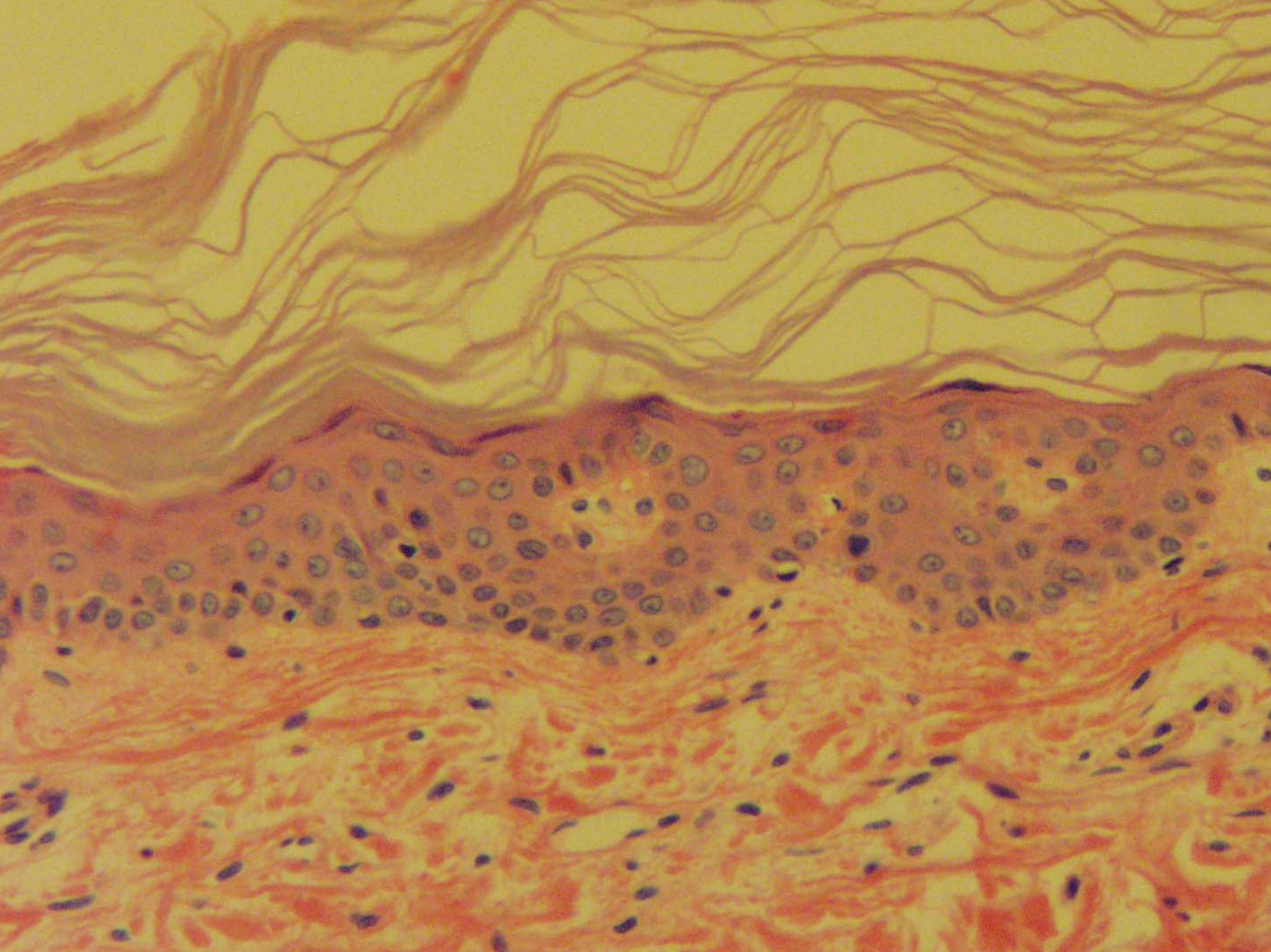


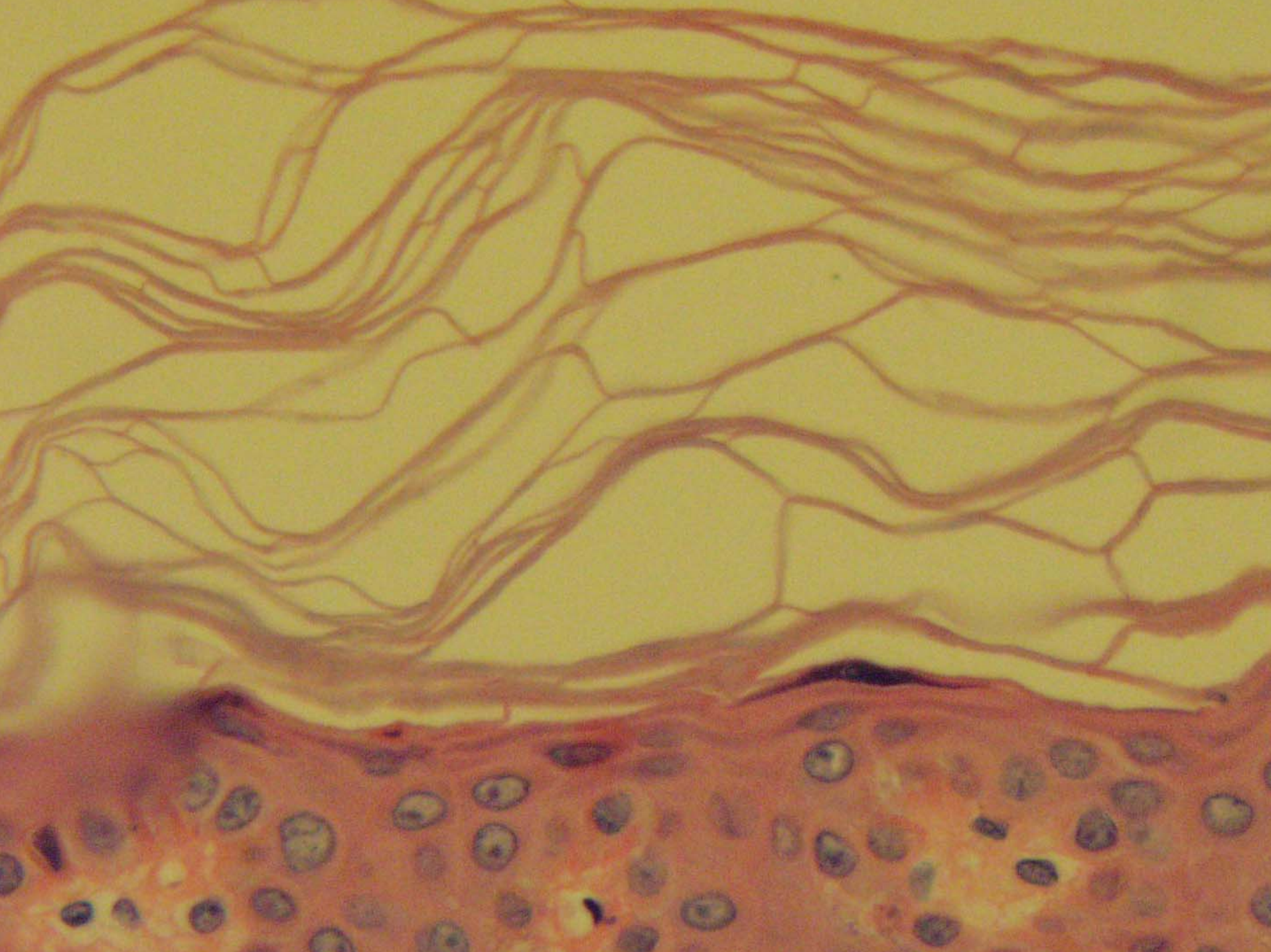


Treatment

- Topical or oral medications
- Uneven color of the skin may remain several months after the yeast has been eliminated

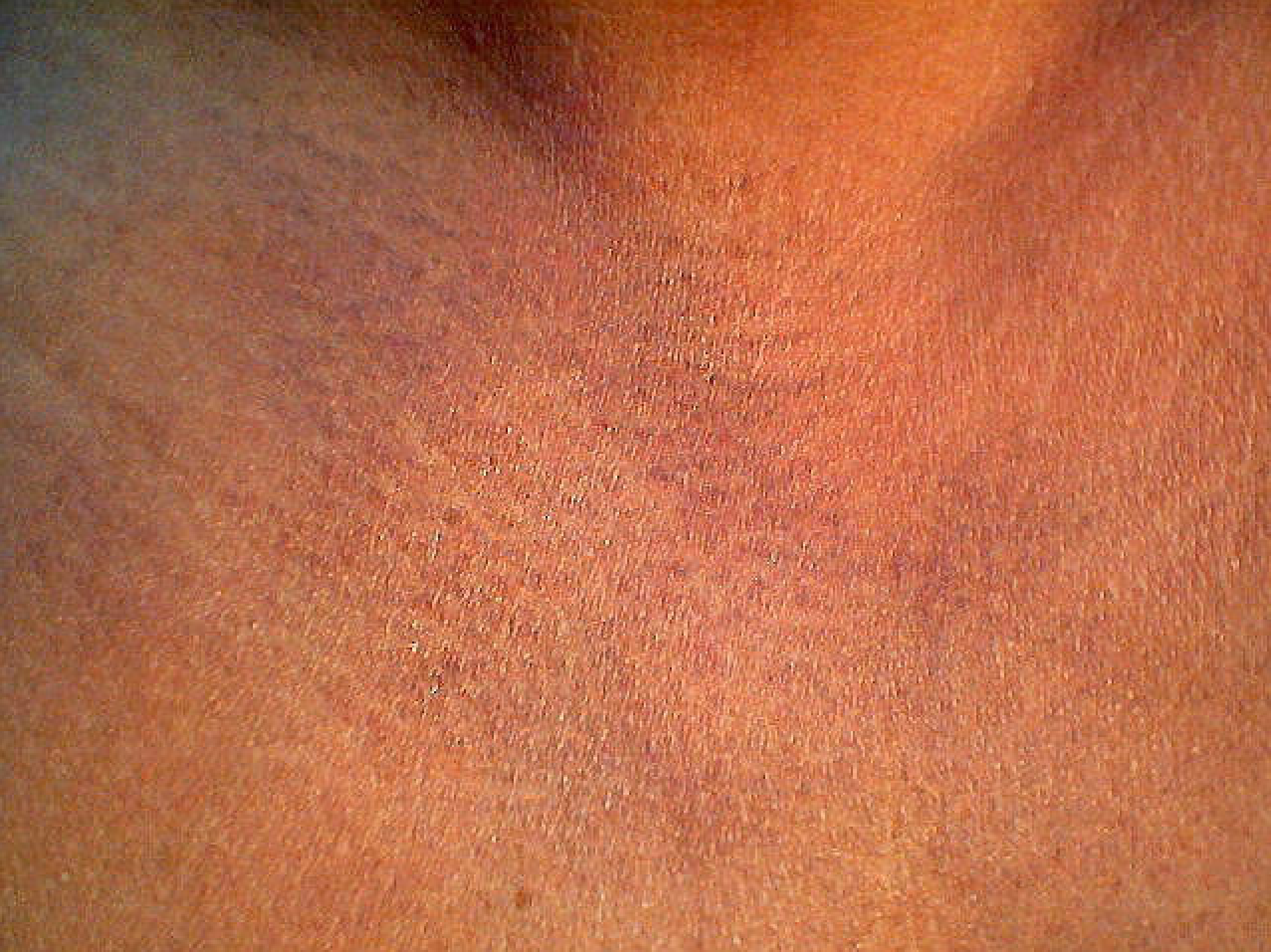


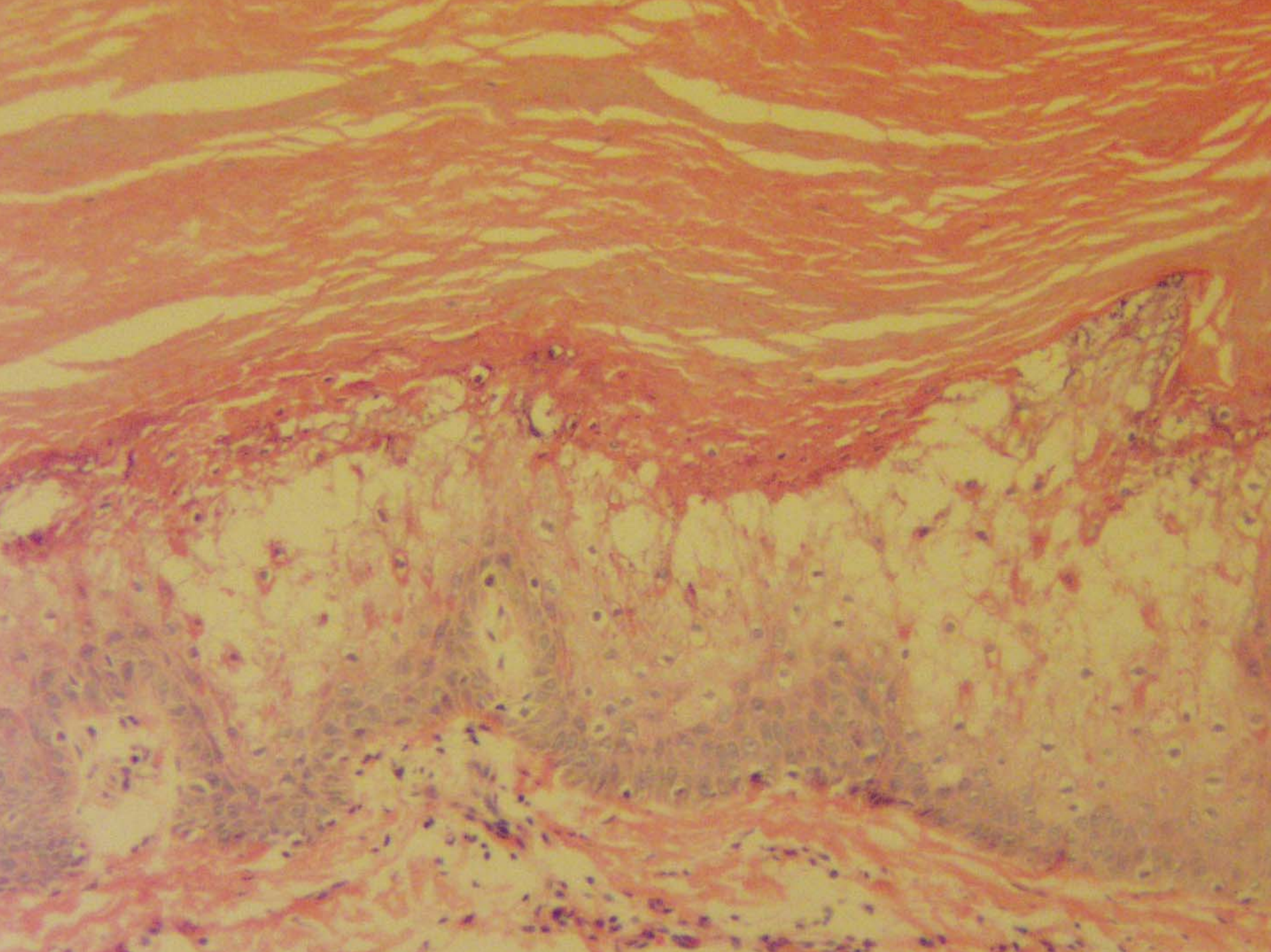


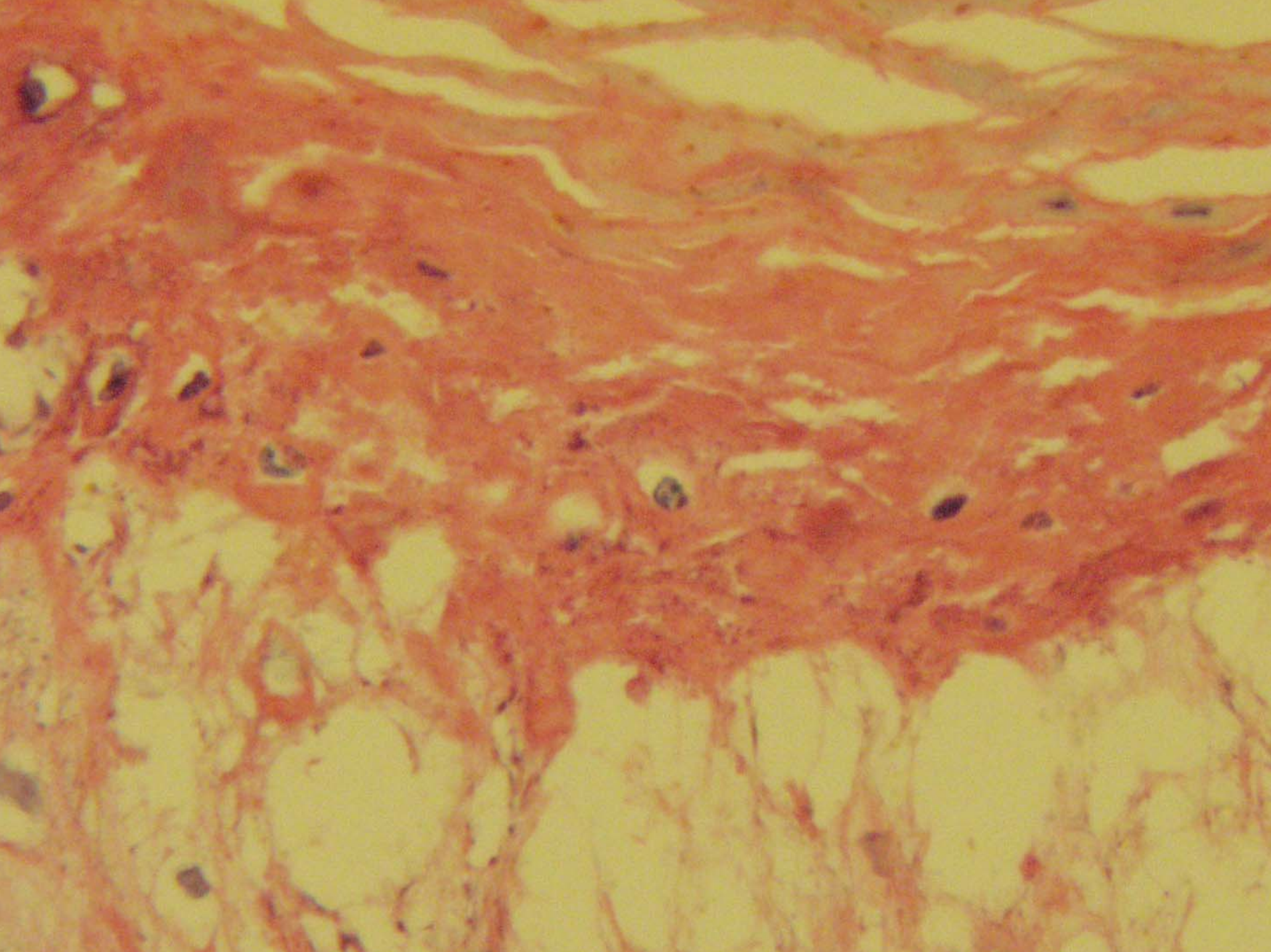


Ichthyosis

- **Xeroderma** (xerosis)
  - Mildest
  - Acquired, usually unassociated with systemic diseases
  - Lower legs of middle-aged or older patients
  - Exacerbated by cold weather and frequent baths
- **Inherited ichthyoses**
  - Excessive accumulation of scale on the skin surface, are classified according to clinical and genetic criteria
  - Consultation with a dermatologist is recommended to provide genetic counseling and guidance to treatments. Ichthyosis is a symptom in Refsum's syndrome (rare hereditary ataxia with polyneuritic changes and deafness caused by a defect in the enzyme phytanic acid hydroxylase) and in Sjögren-Larsson syndrome (hereditary mental deficiency and spastic paralysis); both syndromes are autosomal recessive.
- **Acquired ichthyosis**
  - Some systemic diseases (leprosy, hypothyroidism, lymphoma, AIDS)
  - Fine and localized to the trunk and legs or may be thick and widespread





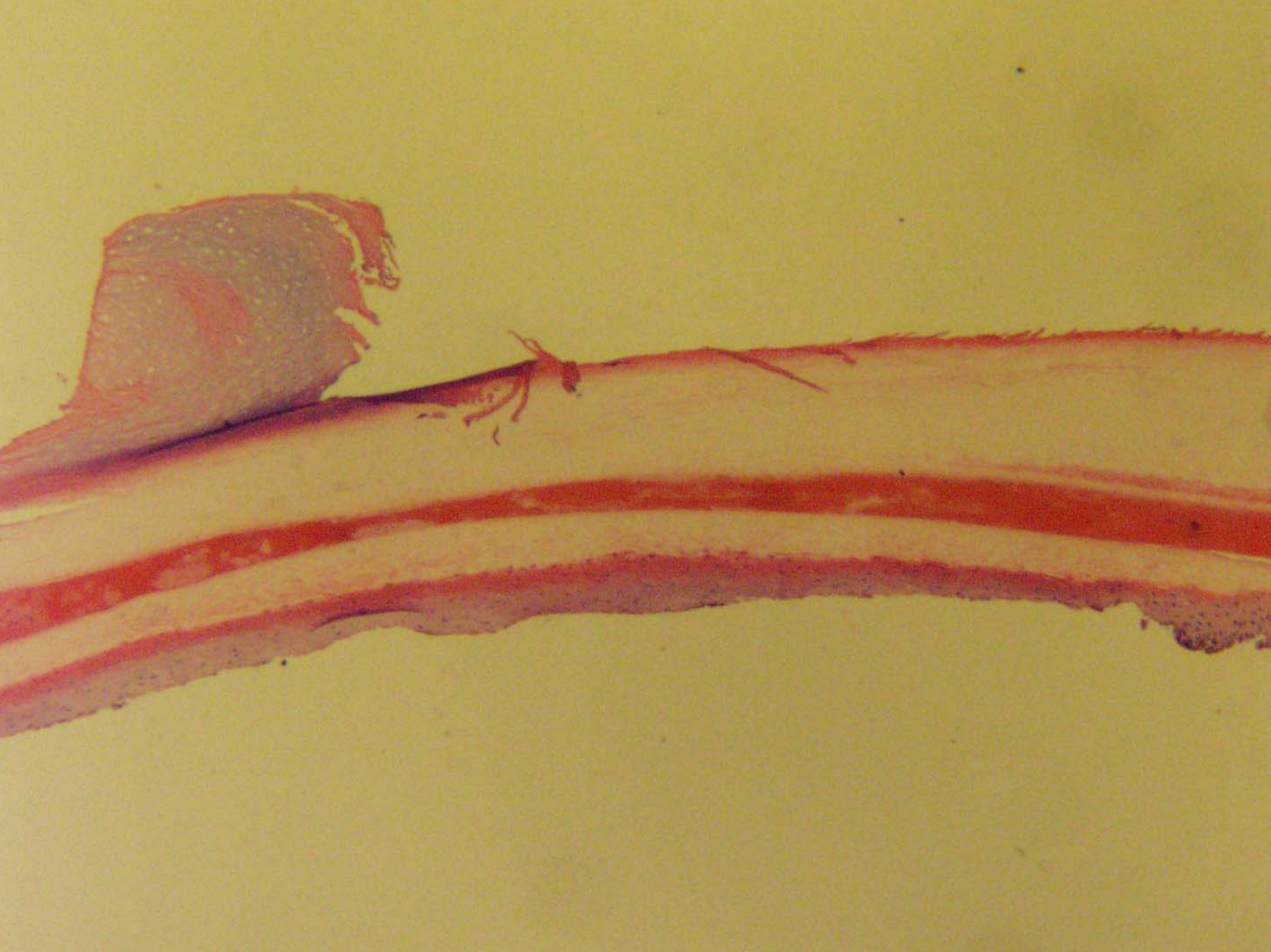


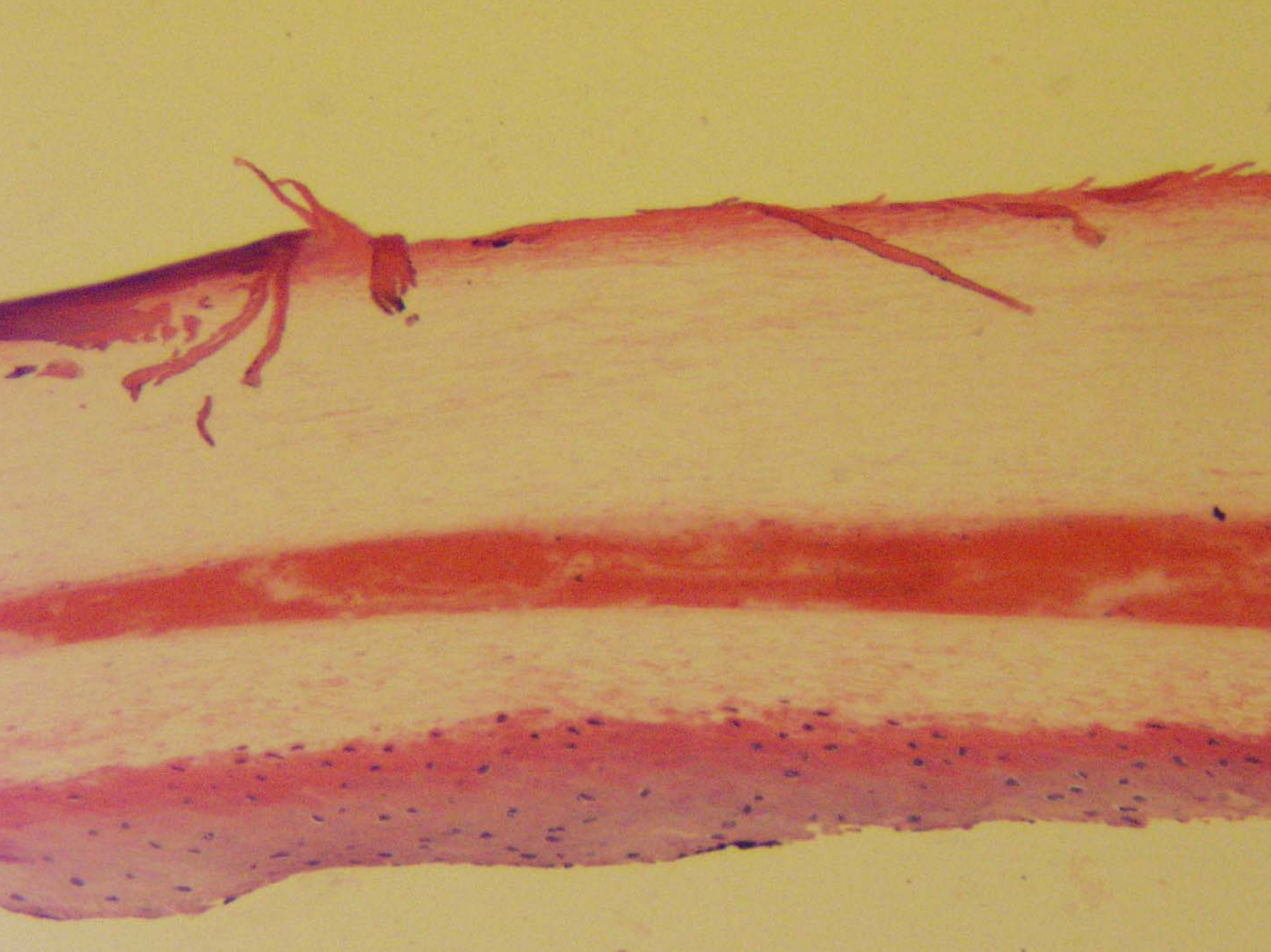
Ichthyosis-Treatment

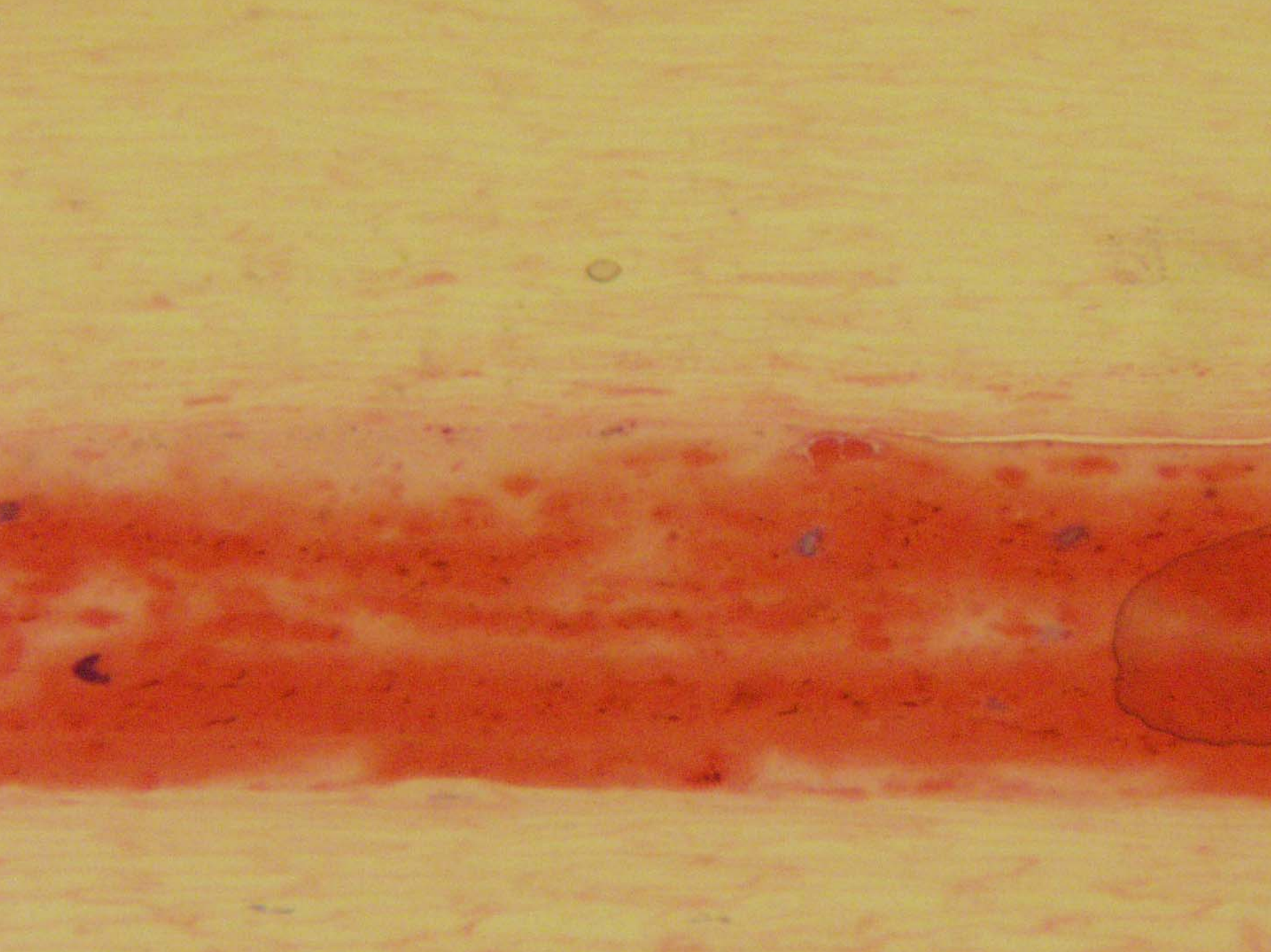
- Minimizing bathing is helpful
- Avoid Soaps and Hexachlorophene products
- Use emollient--preferably plain petrolatum, mineral oil, or lotions containing urea or -hydroxy acids--should be applied twice daily, especially after bathing (for 10 min to hydrate the stratum corneum)
- Preparation containing 50% propylene glycol in water under occlusion (eg, thin plastic film or bags) every night after hydration of the skin is effective to remove the scale in ichthyosis vulgaris, X-linked ichthyosis, and lamellar ichthyosis,
  - Other useful agents include 5% or 6% salicylic acid gel, hydrophilic petrolatum and water (in equal parts), and cold cream and the -hydroxy acids (eg, lactic, glycolic, and pyruvic acids) in various bases
- Most effective therapies for most ichthyoses are oral synthetic retinoids
  - Etretinate is effective in X-linked ichthyosis and epidermolytic hyperkeratosis
  - 0.1% tretinoin (vitamin A acid, retinoic acid) cream or oral for lamellar ichthyosis

Ichthyosis-Treatment for Epidermolytic Hyperkeratosis

- Epidermolytic hyperkeratosis (bullous congenital ichthyosiform erythroderma)
  - Long-term cloxacillin or erythromycin long as thick intertriginous scaling is present
  - Prevent superinfection with painful, foul-smelling pustules
  - Regular use of soaps containing chlorhexidine may also reduce the bacteria

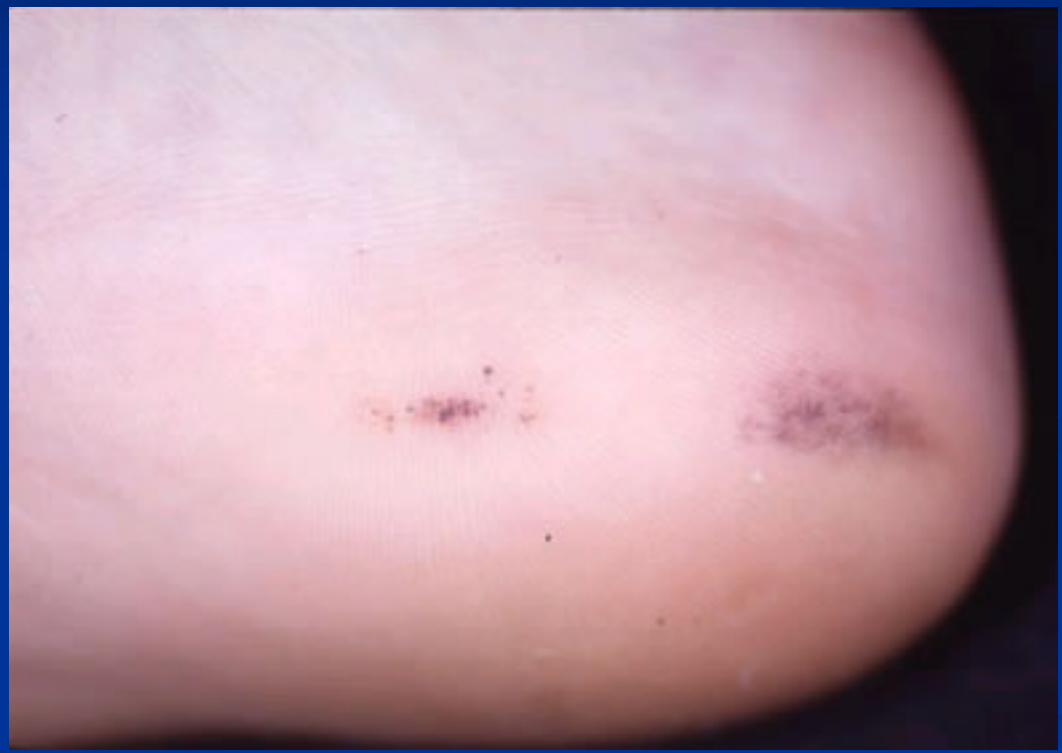






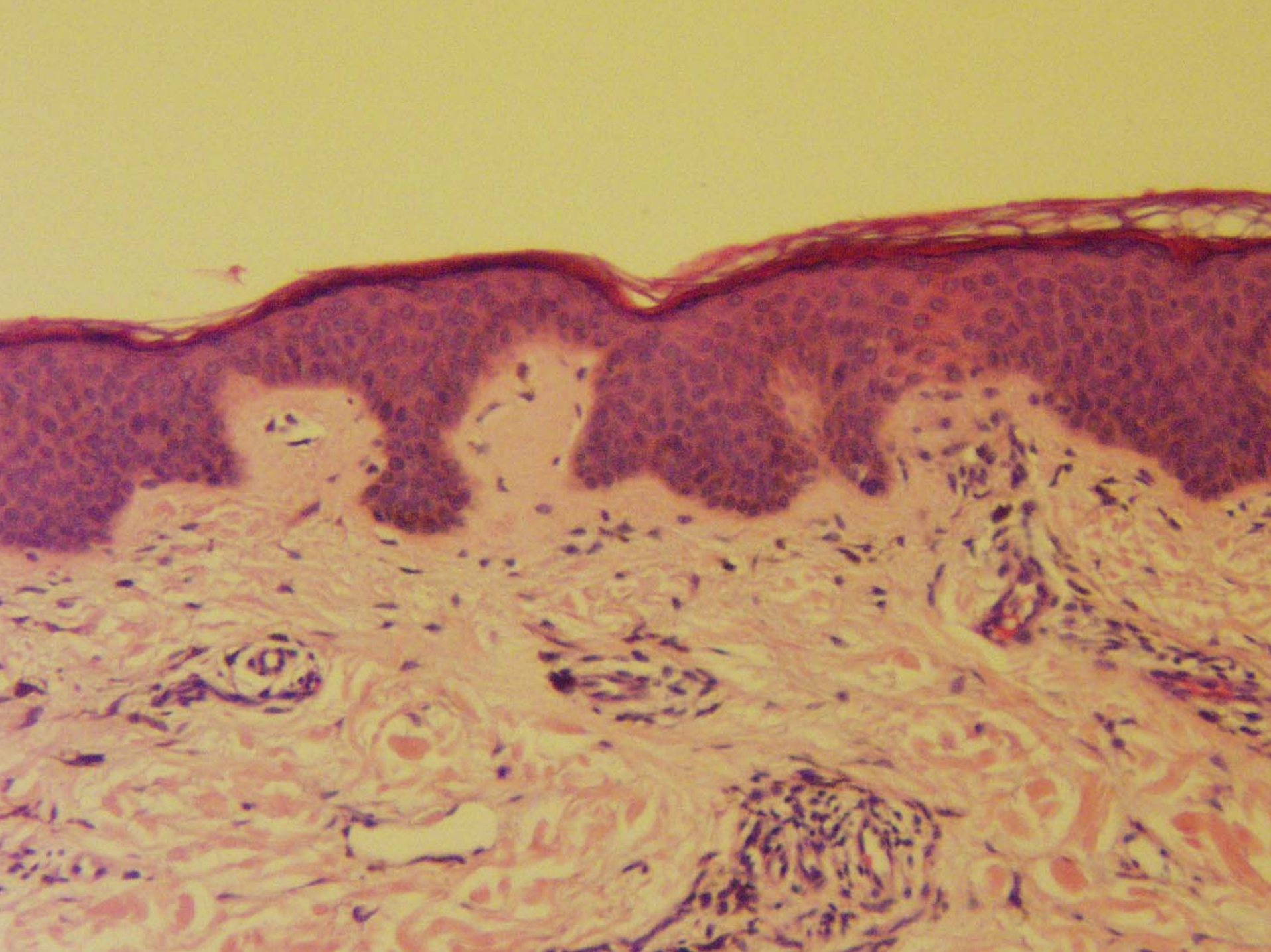
Calcaneal Petechiae

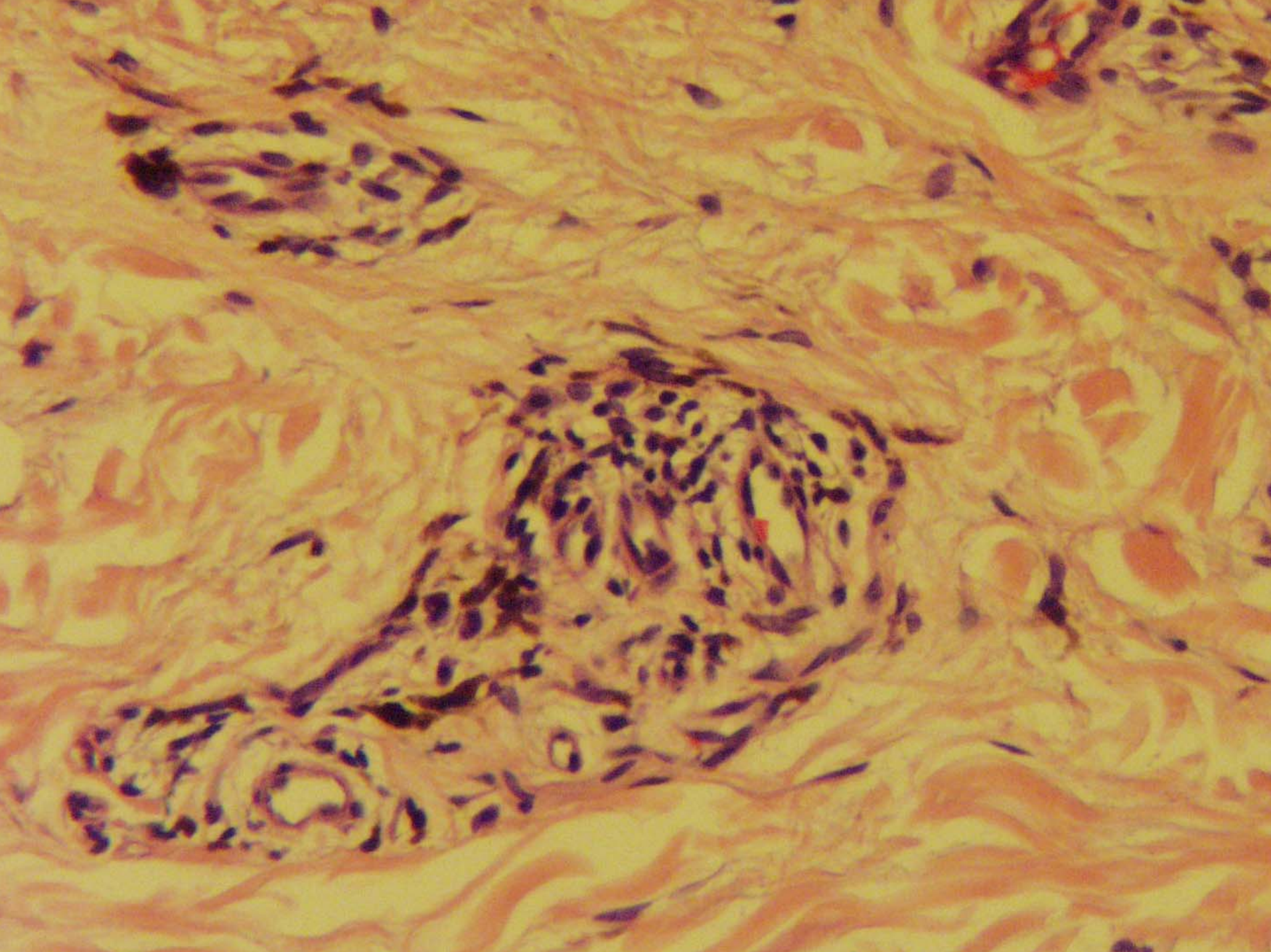
- Self-limited, asymptomatic, trauma-induced darkening of the posterior or posterolateral aspect of the heel that occurs primarily in young adult athletes
  - First described in a group of basketball players in 1961
- Clinically insignificant but may be mistaken for malignant melanoma
- Similar lesion termed black palm (tache noir) has been described on the thenar eminence in weightlifters, gymnasts, golfers, tennis players, and mountain climbers

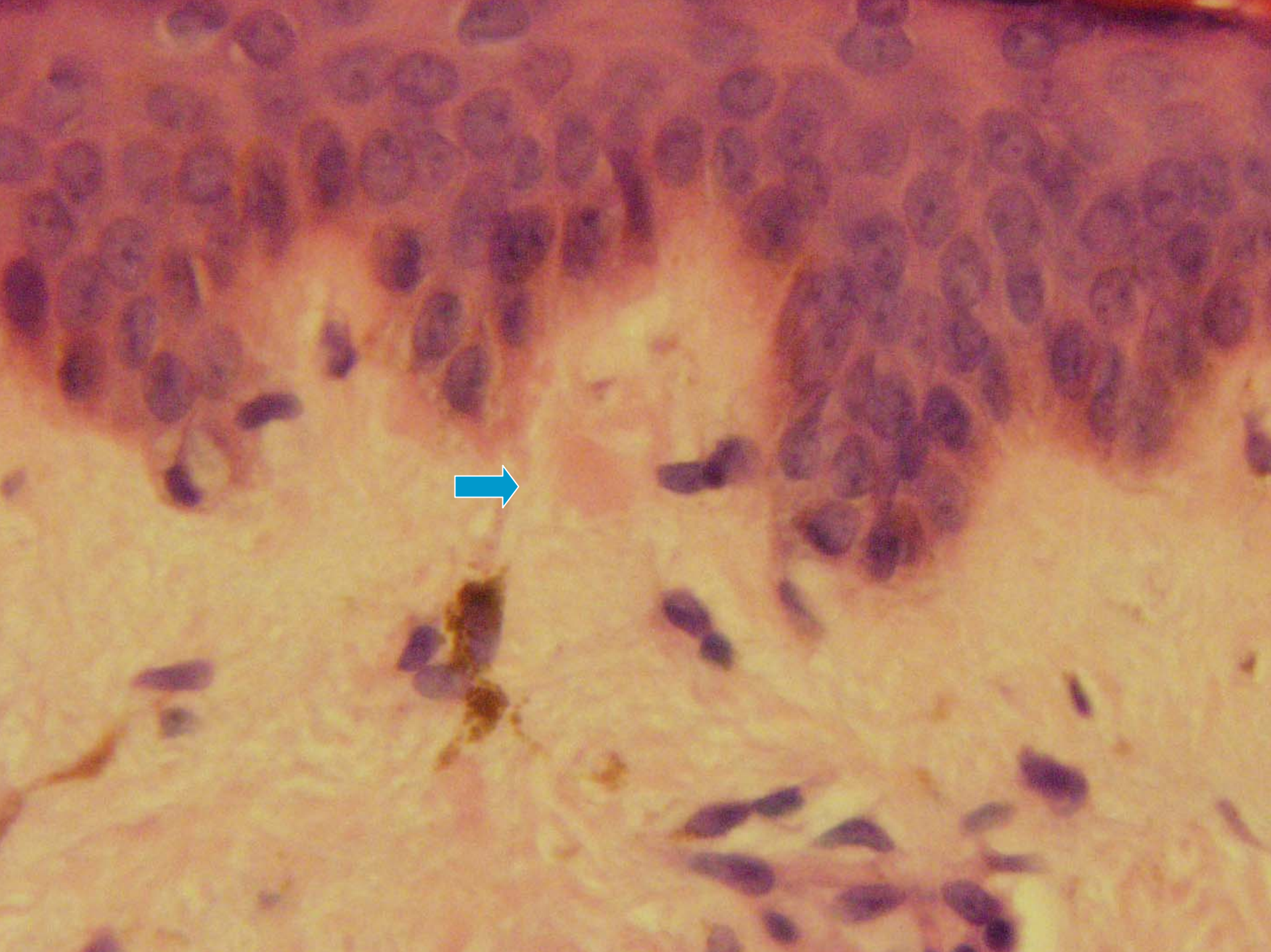


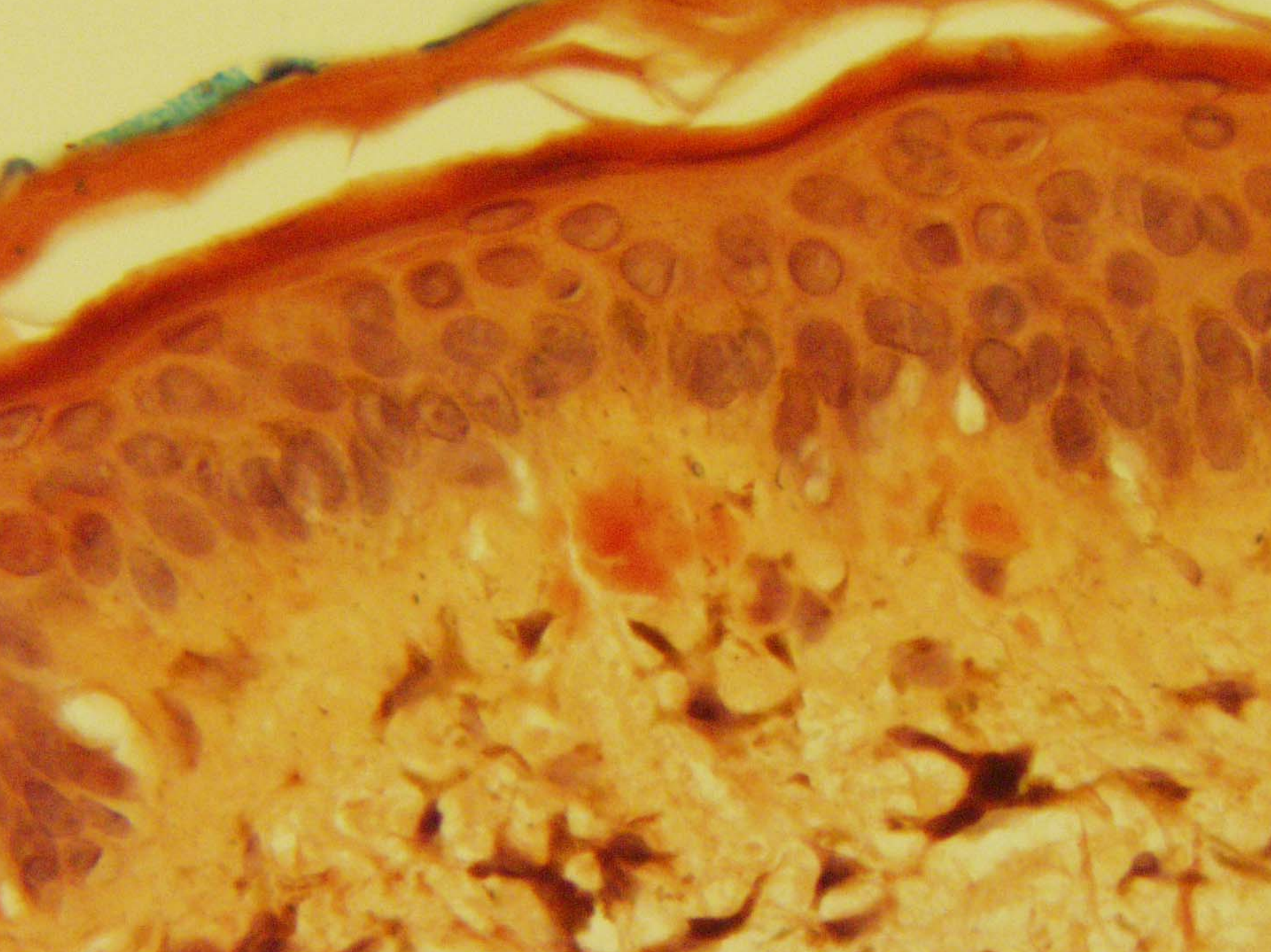
Calcaneal Petechiae

- Black heel occurs in adolescents and young adults who participate in sports that involve frequent starts and stops, such as basketball, football, soccer, lacrosse, and racquet sports.
  - Irregular dark lesion over the heel
  - Usually is asymptomatic and does not inhibit the patient from performing routine daily activities
- Examination reveals a blue-to-black macule or patch ranging in size from a few millimeters to several centimeters in diameter.
  - The posterior and posterolateral heel are affected most commonly.
  - On close inspection, multiple petechiae are centrally aggregated with a few scattered satellite patches.
  - The dyschromia often is in a horizontal distribution; however, both circular and oval lesions may occur.



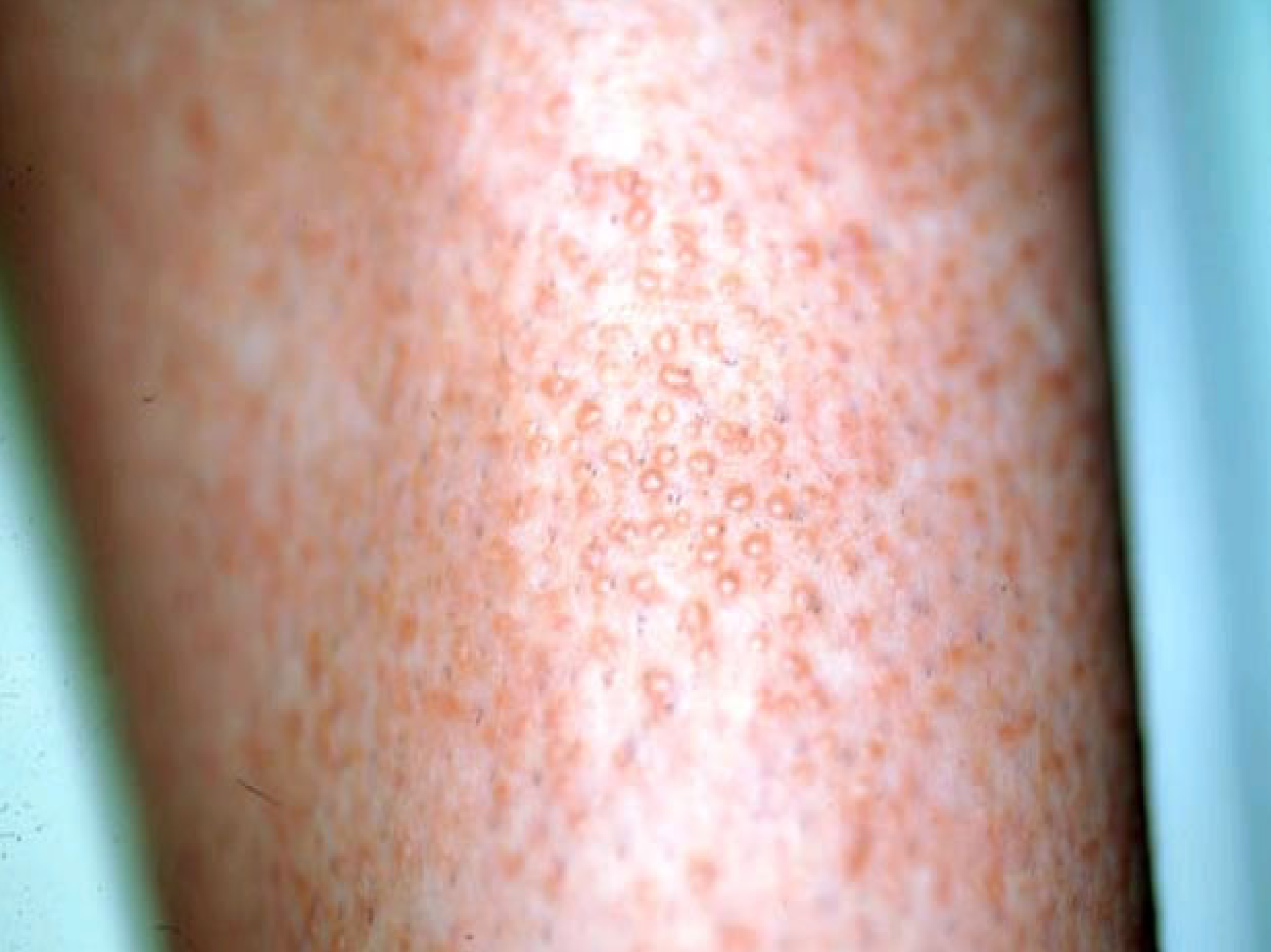


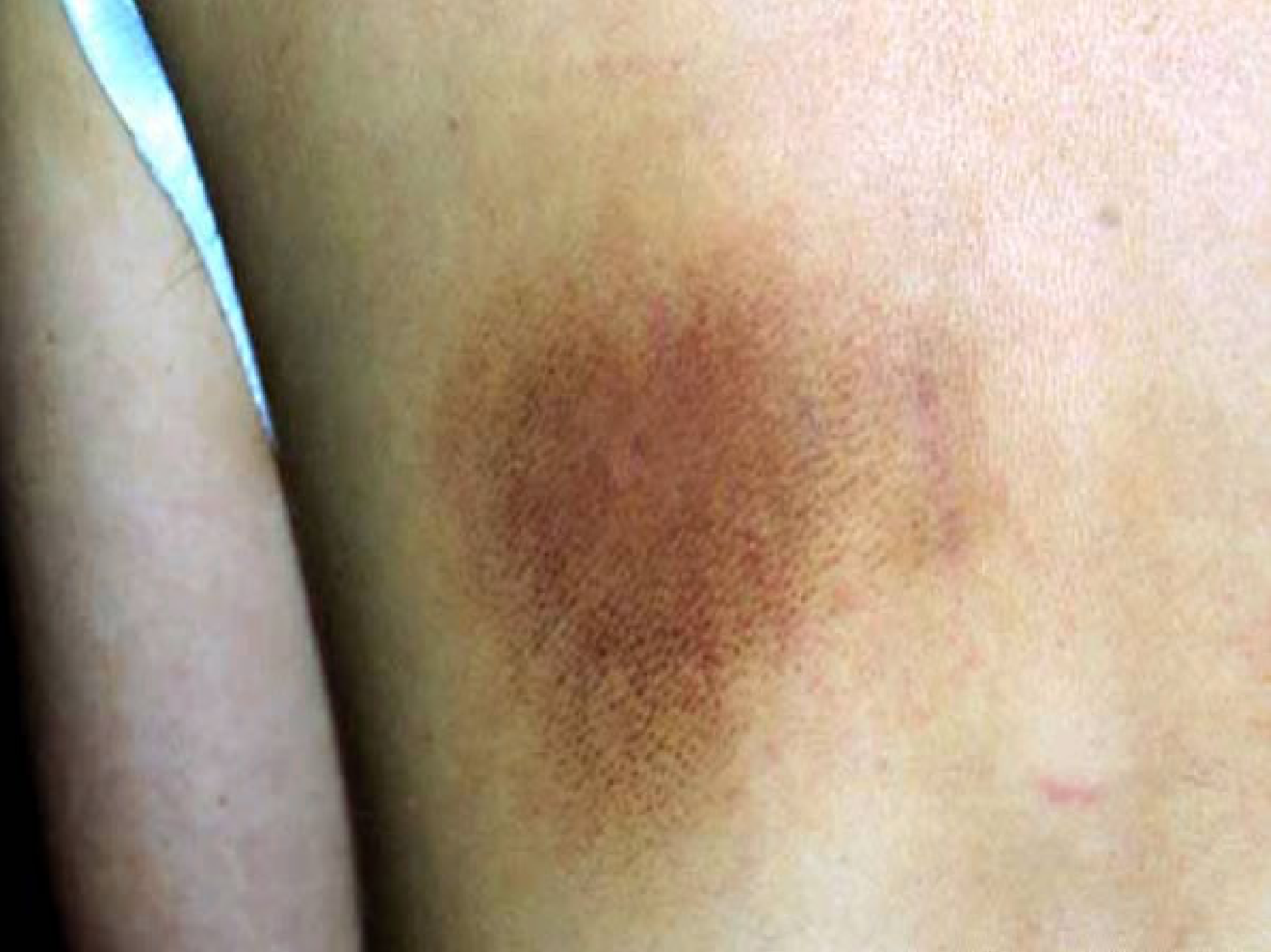




Macular Amyloidosis

- Pruritic eruption that is variable in severity often hyperpigmented
  - Small dusky-brown or grayish pigmented macules distributed symmetrically over the upper back and, in some patients, the arms
  - About 50% have reticulated or rippled pattern of pigmentation
- Nylon Towel Dermatitis
  - Constant friction and rubbing with a nylon brush or towel



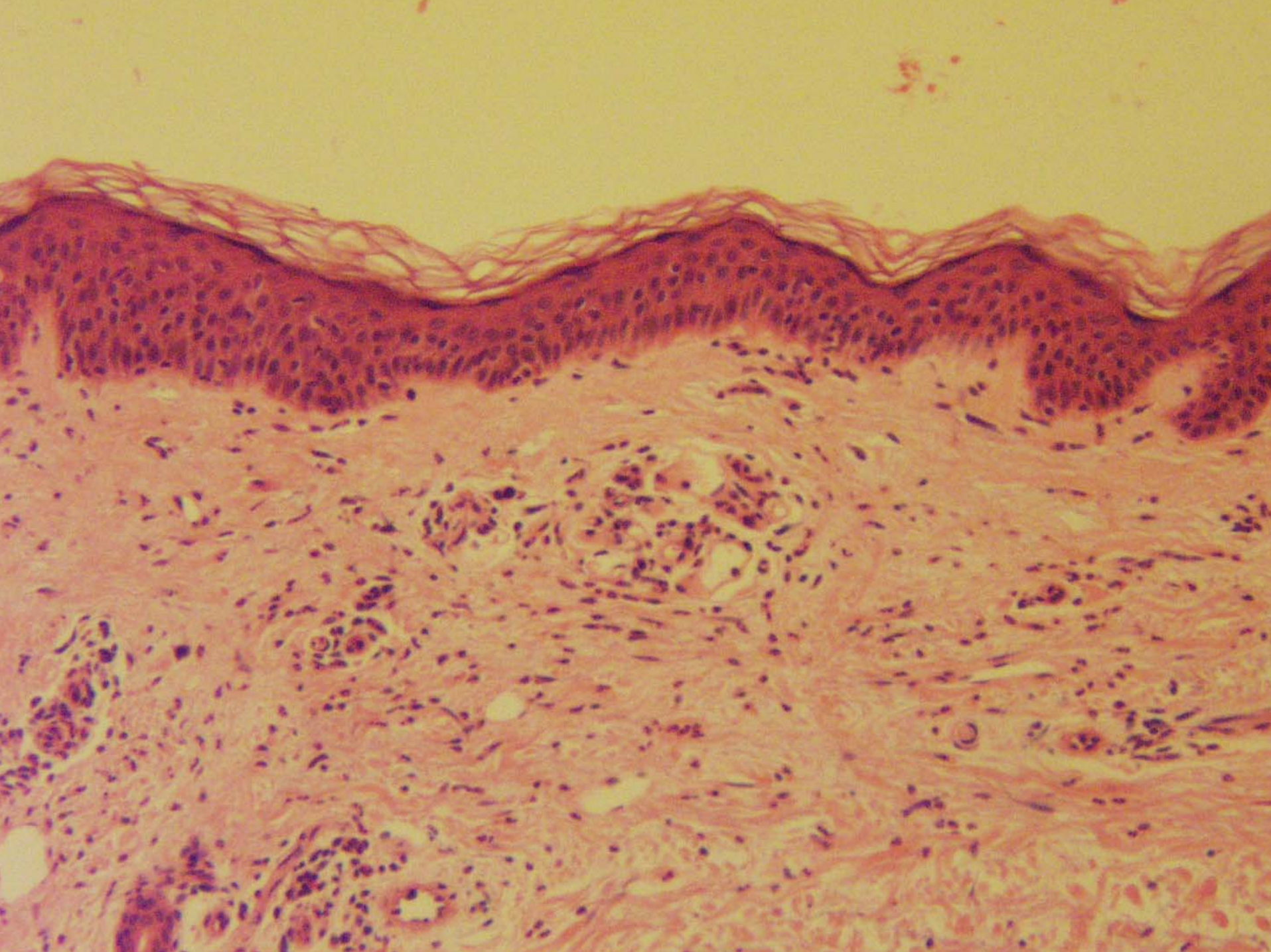


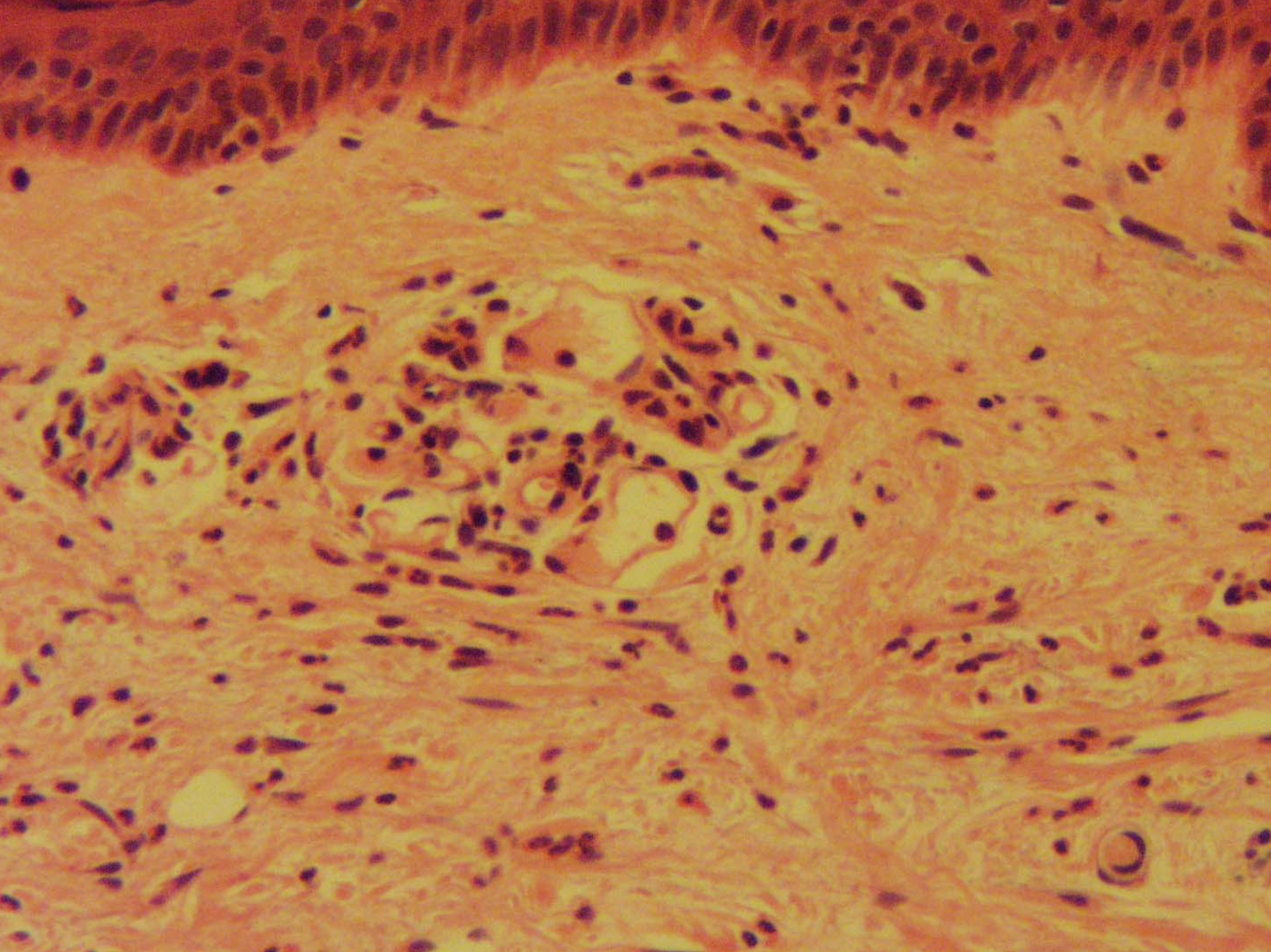
Macular Amyloidosis-Histopathology

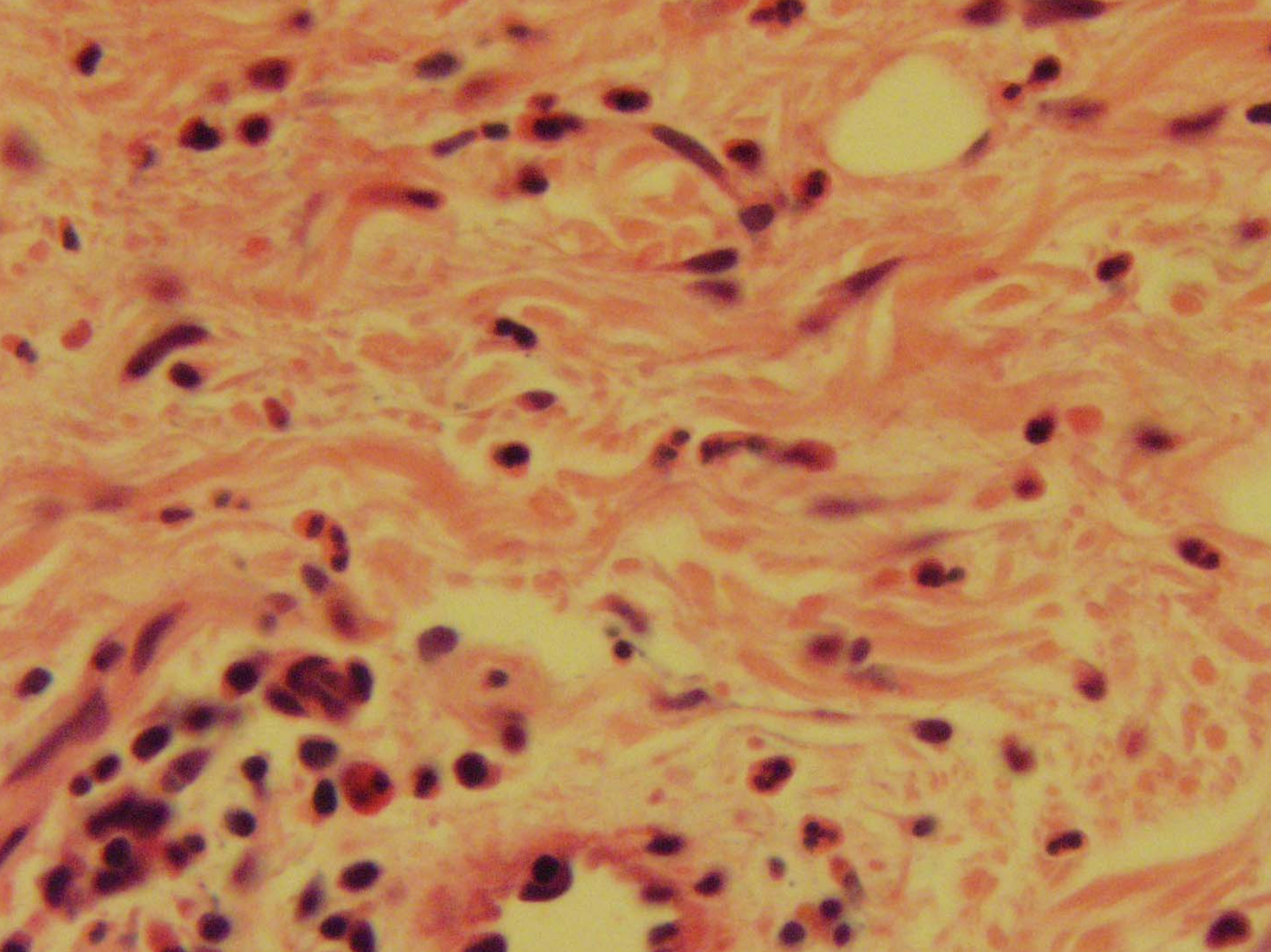
- Amyloid stains
  - Congo-red stain
  - Periodic acid-Schiff (PAS)
  - Methyl violet
  - Crystal violet
  - Cotton dyes (pagoda red, Sirius red)
  - Fluorescent dyes (thioflavin-T and Phorwhite BBU)
- Amyloid deposits are usually found within the dermal papillae
  - Globular, resembling colloid bodies, and may be in contact with basal cells at the DEJ

Macular Amyloidosis-Treatment

- Control pruritis
  - Sedating antihistamines
  - Topical dimethyl sulfoxide (DMSO)
  - Intralesional steroids
  - Ultraviolet B (UVB)
- Laser vaporization, dermabrasion, and excision
- Electrodesiccation and curettage?

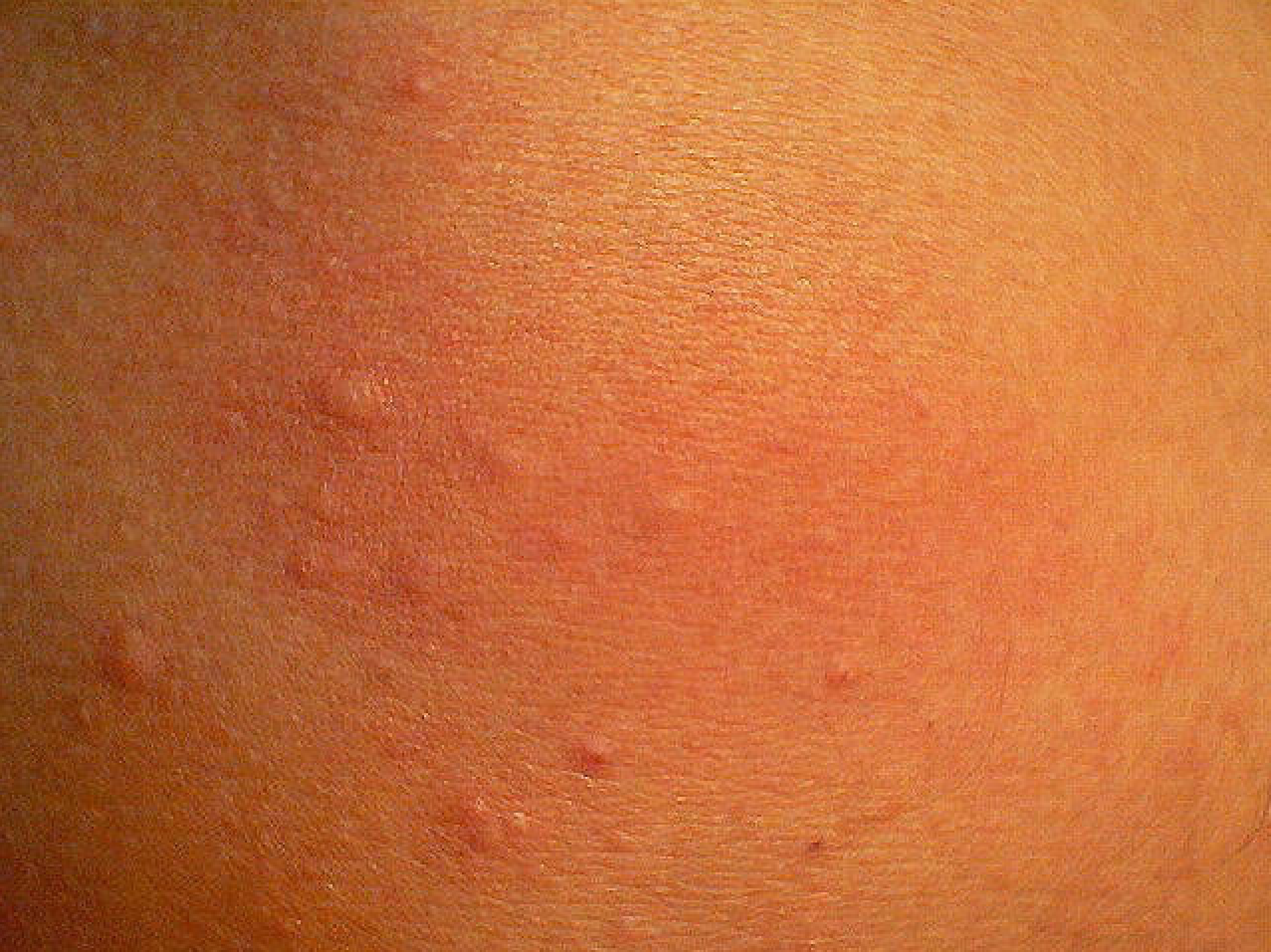


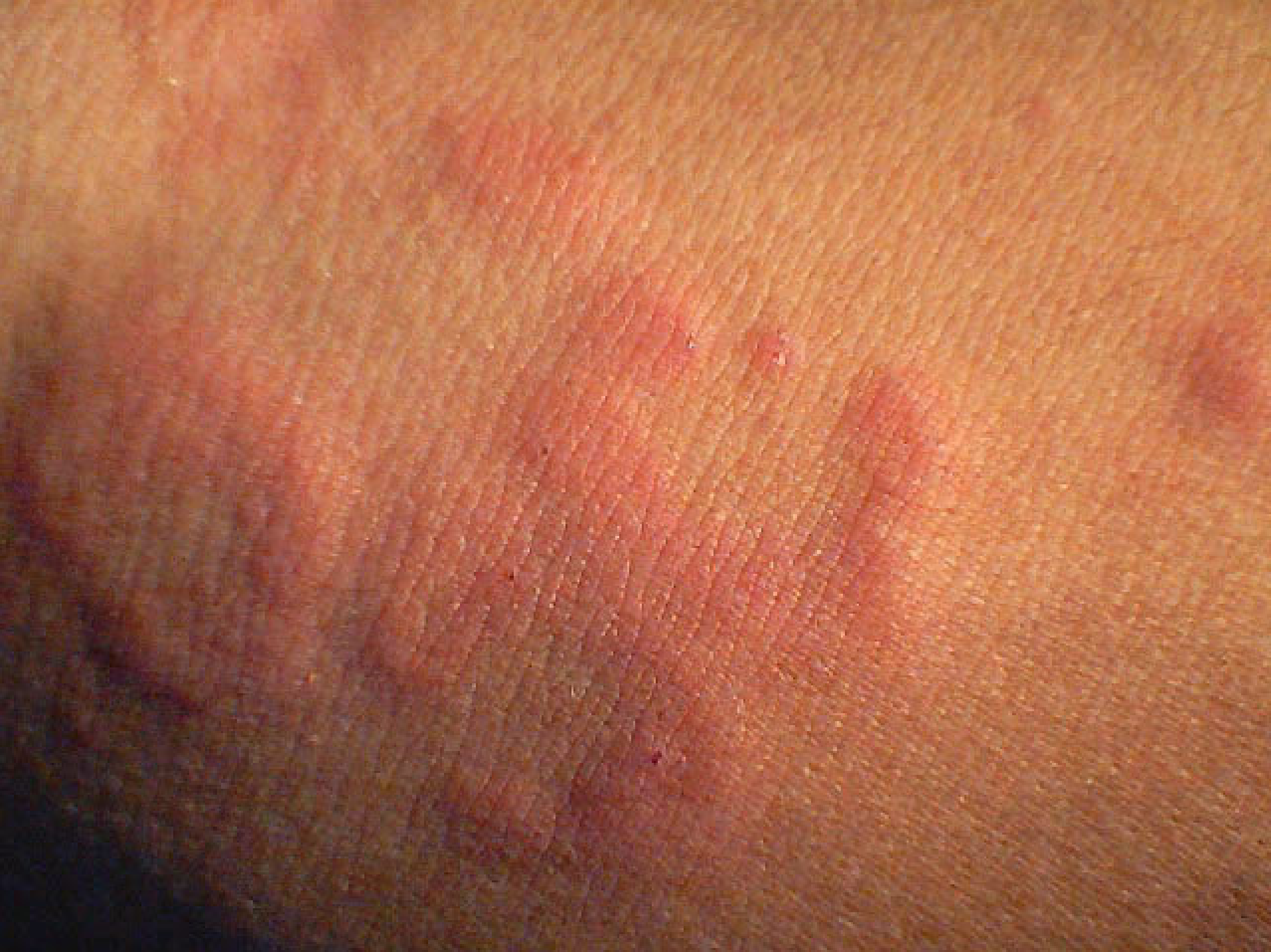




Urticaria (Hives)

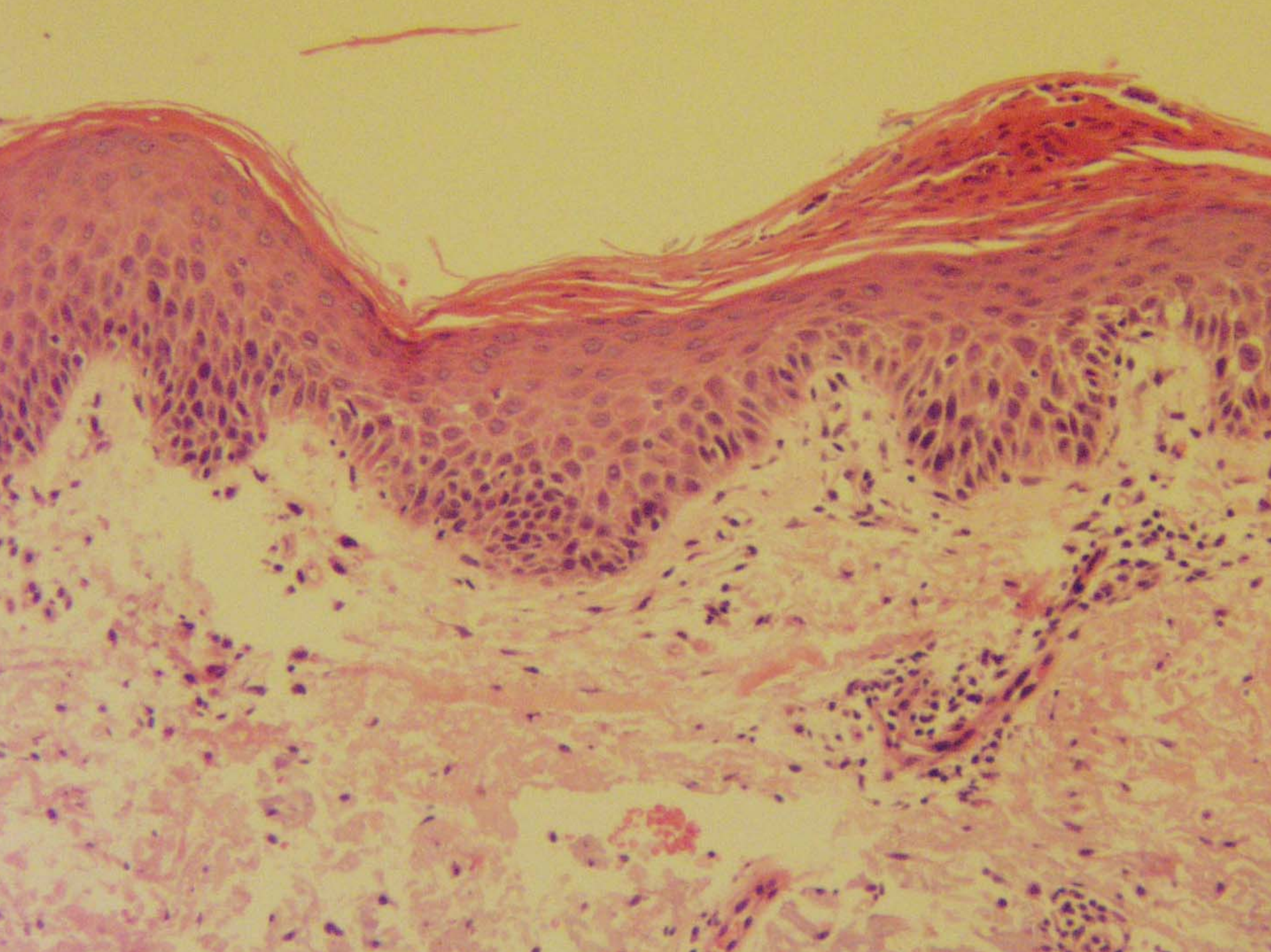
- Lasts a few hours before fading without a trace
  - New areas may develop as old areas fade
  - Vary in size from as small as a pencil eraser to as large as a dinner plate and may join together to form larger swellings
  - Usually are itchy, but may also burn or sting
- 10-20 percent of the population will have at least one episode in their lifetime
  - Usually disappear quickly in a few days to a few weeks. Occasionally, a person will continue to have hives for many years.
- Difficulty breathing or swallowing you should go to the emergency room

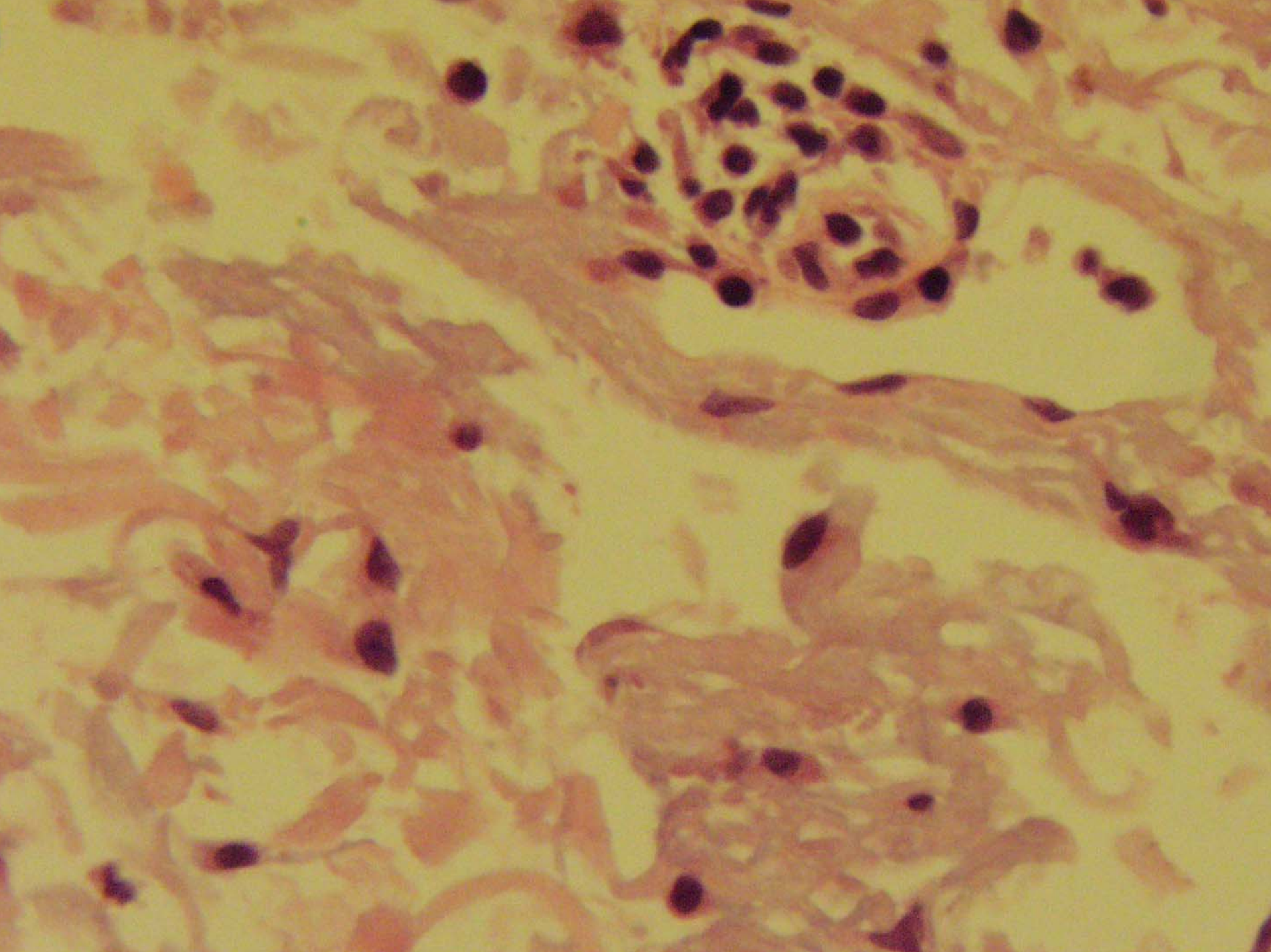


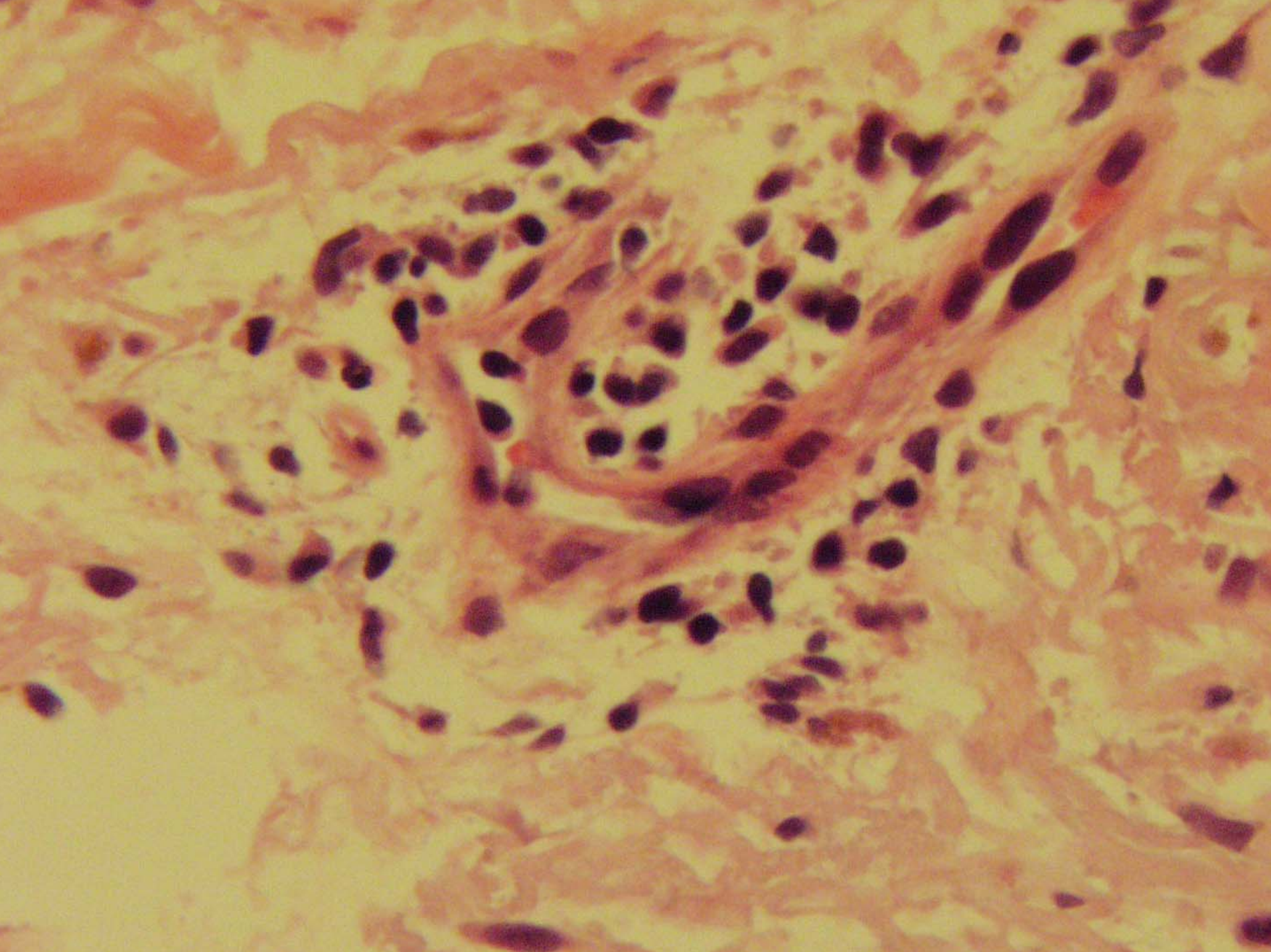


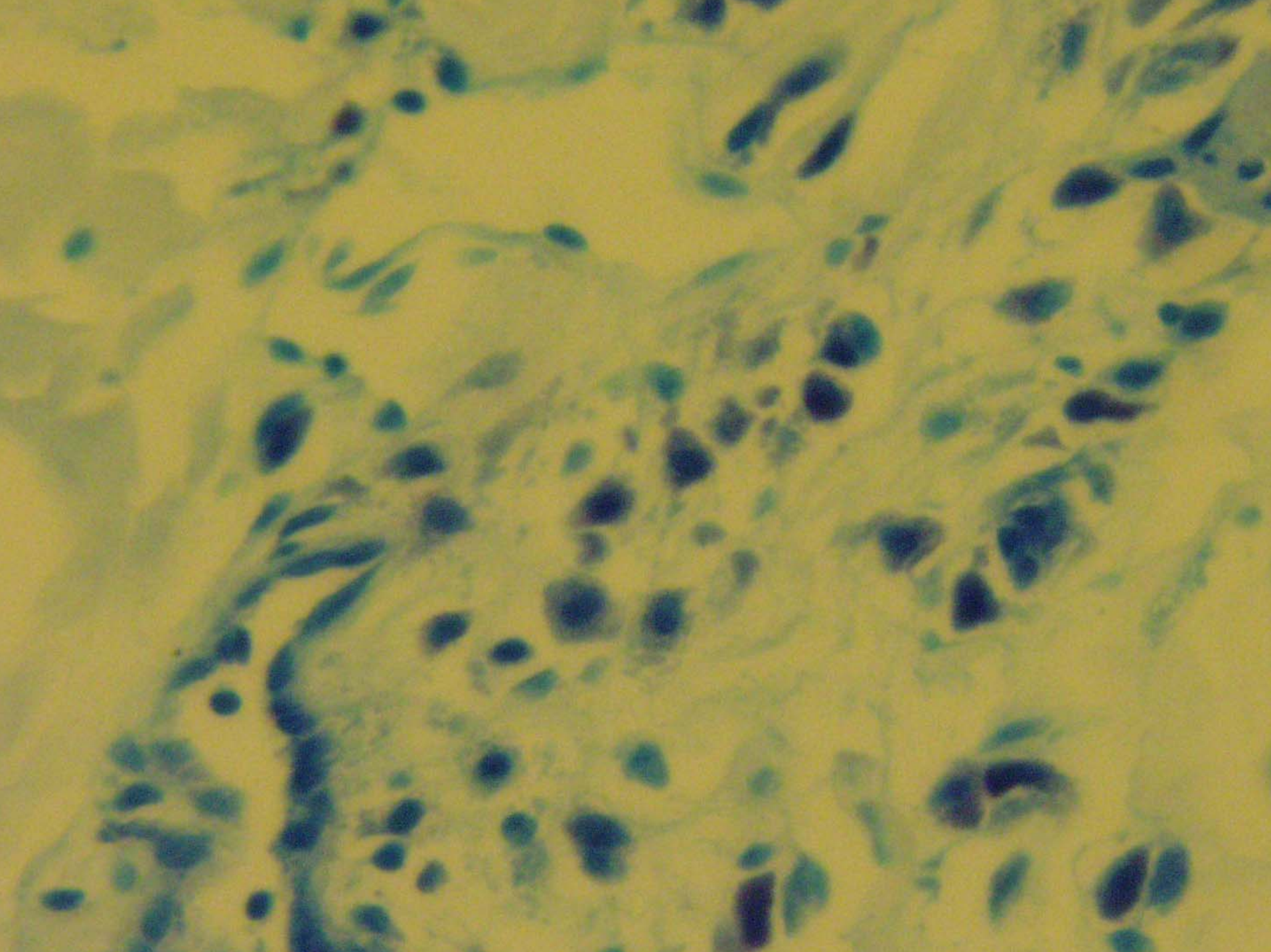
Urticaria

- Biopsies are typically paucicellular
- Papillary dermal edema with scattered neutrophils and eosinophils
- Chronic or persistent lesions may have increased infiltrate
- Always rule out vasculitis









Brachioradial Pruritis

- Itch, burning and/or changed sensation arise in the areas of skin on either or both arms
  - Most commonly affected area is the mid-arm
  - Affected skin may appear entirely normal
  - Changes may arise from rubbing and scratching purpura and ecchymoses

Brachioradial Pruritis

- 22 patients with BRP-11 had cervical spine radiographs
  - The radiographs showed cervical spine disease that could be correlated with the location of pruritus in each of these 11 patients
- CONCLUSIONS
  - Patients with BRP may have underlying cervical spine pathology

- J Am Acad Dermatol 2003 Apr;48(4):521-4

Brachioradial Pruritis-Treatment

- Sun protection
- Cooling lotions (camphor and menthol)
- Cervical spine manipulation
- TENS
- Capsaicin cream-depletes nerve endings of their chemical transmitters
- Local anaesthetic creams
- Amitriptyline tablets

Argyria

- Gray to gray-black staining of skin and mucous membranes produced by silver deposition
- Early gray-brown staining of the gums develops, later progressing to involve the skin diffusely
- Slate-gray, metallic, or blue-gray color and may be clinically apparent after a few months to years
- Viscera tend to show a blue discoloration, including the spleen, liver, and gut

Argyria

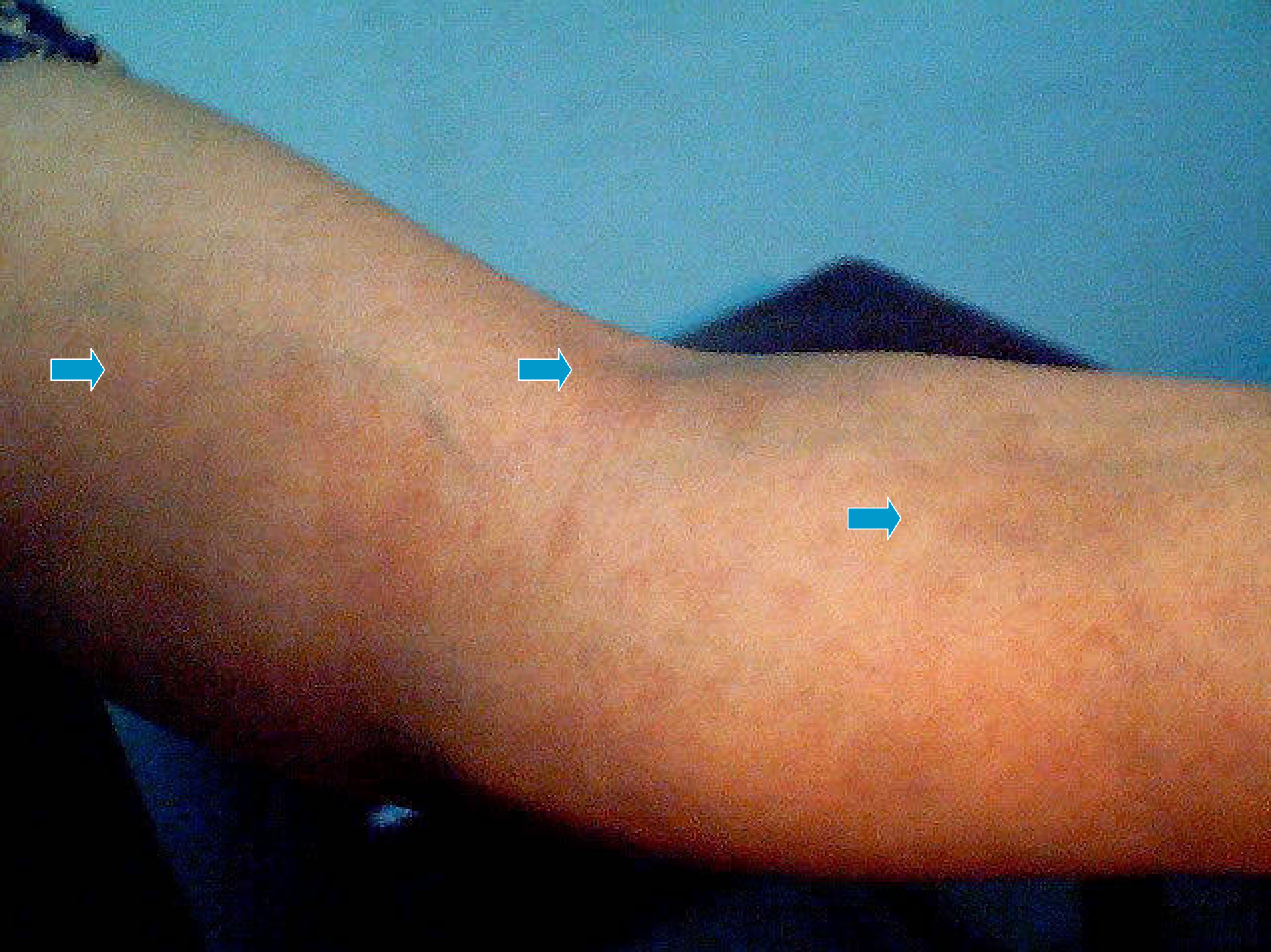
- Long-term systemic treatment with silver salts containing drugs
  - Silver protein suspension for chronic gastritis or gastric ulcer, or as nose drops
  - Colloidal silver dietary supplements are marketed widely for cancer, AIDS, diabetes mellitus, and herpetic infections
  - Occupational disease in workers who prepare artificial pearls or who are employed in the cutting and polishing of silver
- Smallest amount of silver reported to produce generalized argyria in humans ranges from 4-5 g to 20-40 g.
  - Silver at 50-500 mg/kg body weight is the lethal toxic dose in humans
  - Normal human body contains about 1 mg silver

Argyria

- Small, round, brown-black granules appear singly or in clusters
  - Spare both the epidermis and its appendages, appearing in greatest numbers in the basement membrane zone surrounding sweat glands.
  - Favor the connective tissue sheaths around pilosebaceous structures and nerves
  - Predilection for elastic fibers and are best visualized as strikingly refractile with dark-field illumination
  - An increase in the amount of melanin in exposed skin also appears to occur
- Electron microscopy demonstrates electron-dense granules
- Neutron-activation analysis, atomic absorption spectrophotometry, or x-ray dispersive microanalysis can be used to confirm
- May decolorize the silver by placing histologic sections into 1% potassium ferricyanide in 20% sodium thiosulfate

Treatment

- 5% hydroquinone treatment
- Sunscreens and opaque cosmetics may be helpful
- Dermabrasion
- Chelation attempts unsuccessful



Morphea

- Usually asymptomatic and onset of lesions is insidious
- Arthralgias occasionally localized to an affected extremity
- Deep morphea may be associated with arthralgias, arthritis, myalgias, and carpal tunnel
- En coup de sabre lesions of linear morphea
  - Can present with seizures, headache, and visual changes

Localized vs. Systemic

- Localized scleroderma
  - Mainly the skin
  - May also affect muscles and bone, but it does not affect internal organs
  - Usually no progression to systemic
  - Two types of localized scleroderma
    - Morphea and linear
    - Inflammatory stage, followed by one or more slowly enlarging patches or plaques
    - Plaques are most commonly oval in shape and vary in size
      - Ivory/yellow center and are surrounded by a violet colored area.
  - Generalized morphea may involve almost the entire skin surface

Histopathology

- Some cases need comparative biopsies of adjacent normal skin
  - Atrophoderma of Pasini and Peirini
- Decreased thickness of dermis

Electron Microscopy

- 143 patients underwent axillary skin biopsies as part of evaluations for metabolic disease.
- Twenty-three (16%) had abnormalities
  - Mitochondrial (n = 12)
  - Lysosomal (n = 6)
  - Increased glycogen (n = 3)
  - Nonspecific cytoplasmic inclusions (n = 2)
  - Ceroid lipofuscinosis (n = 1)
  - Intradermal giant cells containing vacuoles and tubular inclusions (n = 1)

Electron Microscopy

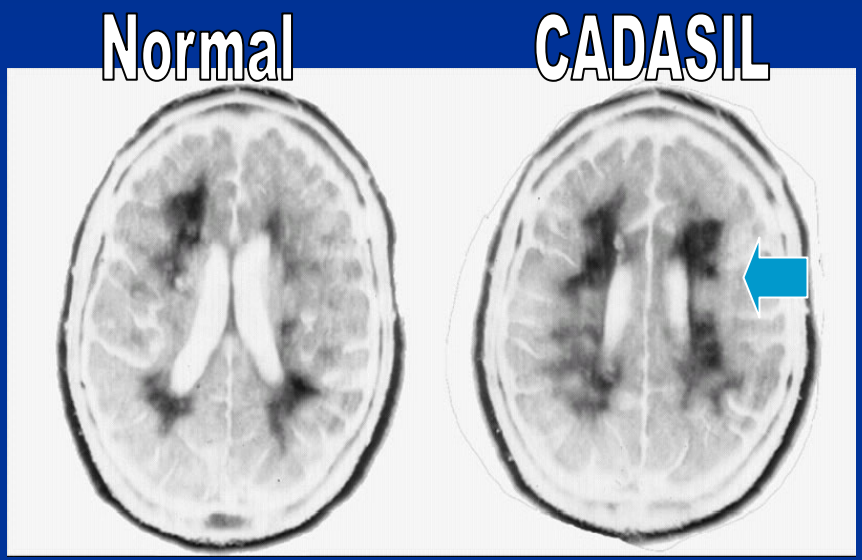
- Muscle biopsies were performed in 13 of the 23 patients
  - Clinical or biochemical diagnosis was reached in 11 patients
    - Metachromatic leukodystrophy (n = 2)
    - Electron transport chain abnormalities (n = 2)
    - Glutaric aciduria type II (n = 1)
    - Unverricht disease (n = 1)
    - Lennox-Gastaut syndrome (n = 1)
    - Ketotic hypoglycemia of childhood (n = 1)
    - Probable Leigh disease (n = 1)
    - 5-methyl tetrahydrofolate homocystine methyltransferase deficiency (n = 1)
    - Pyruvate dehydrogenase deficiency (n = 1).

- Hum Pathol 2001;32:649-655

CADASIL

- Cerebral Autosomal Dominant Arteriopathy with Subcortical Infarcts and Leukoencephalopathy
- Disease of young adults and presents with migraines with or without an aura, mood disturbances, focal neurologic deficits, strokes, and dementia
  - Most patients will show symptoms by age 60 years
  - Recurrent subcortical ischemic events causing permanent deficits in as many as 2/3 of patients
- Mutations in the Notch 3 gene cause degeneration of vascular smooth muscle cells and multiple small infarcts in the white and deep gray matter of the brain
- Numerous areas, granular, electron-dense, osmiophilic material abutted vascular smooth muscle cells

CADASIL-MRI Findings



- Lesions usually symmetrically situated within the white matter and deep gray nuclei-periventricular white matter is preferentially involved
- Usually in the frontal lobe, temporal lobe, subinsular white matter, and internal and external capsules with relative sparing of the inferior frontal and occipital white matter in the early stages
- Brainstem affected in 45% of cases

Granular osmiophilic material abutting basement membrane of pericytes

Questions

- The advantage of a bad memory is that one enjoys several times the same good things for the first time.

-- Friedrich Nietzsche