My Most Challenging Chief Complaints in Pediatric Dermatology

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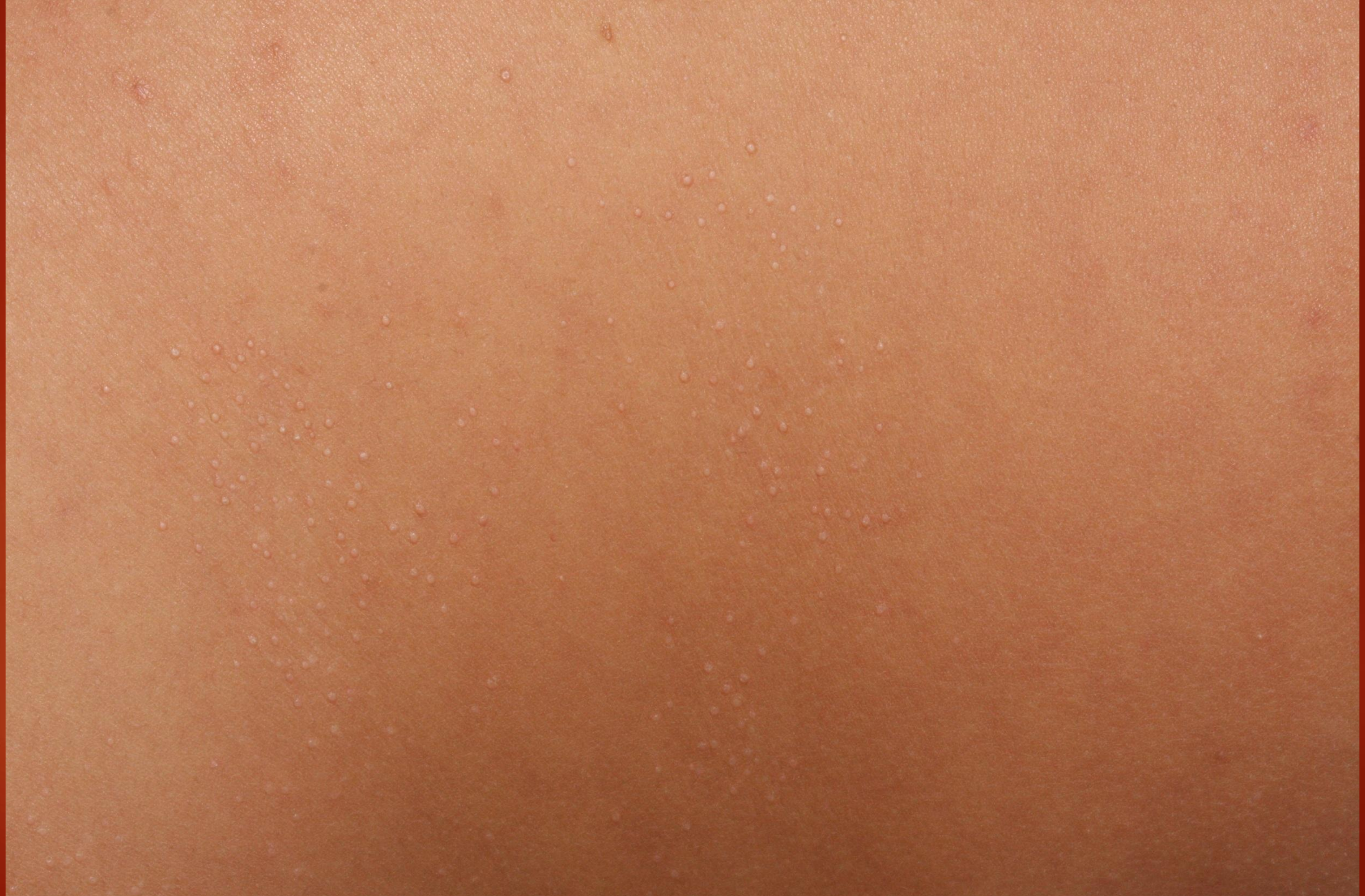
I have no conflicts of interest to disclose
I will be talking about off-label use of Crazy Glue®

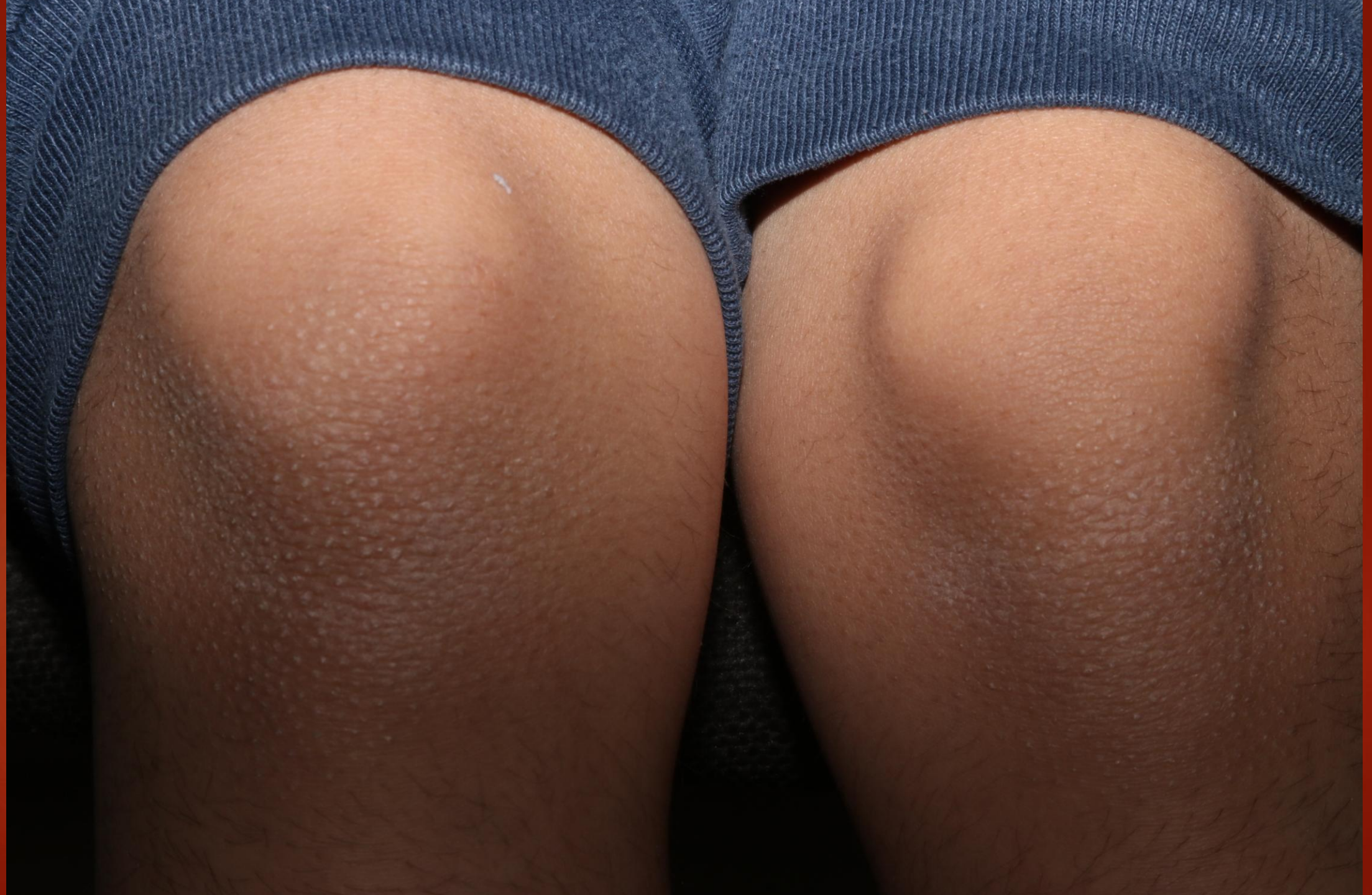
This ought to be easier!

Topics to Cover

- “Lots of tiny bumps” (Lichenoid papules)
- “Peeling fingers” (Nonspecific finger peeling)
- “Vaginal itching” (Vulvovaginial pruritus in preschool girls)
- “Diaper rash” (Diaper rash)
- “Allergy testing” (Eczema with a parent convinced there is a food allergy)
- “Fungus rash won’t go away” (Tinea versicolor mimics)

Lichenoid Papules

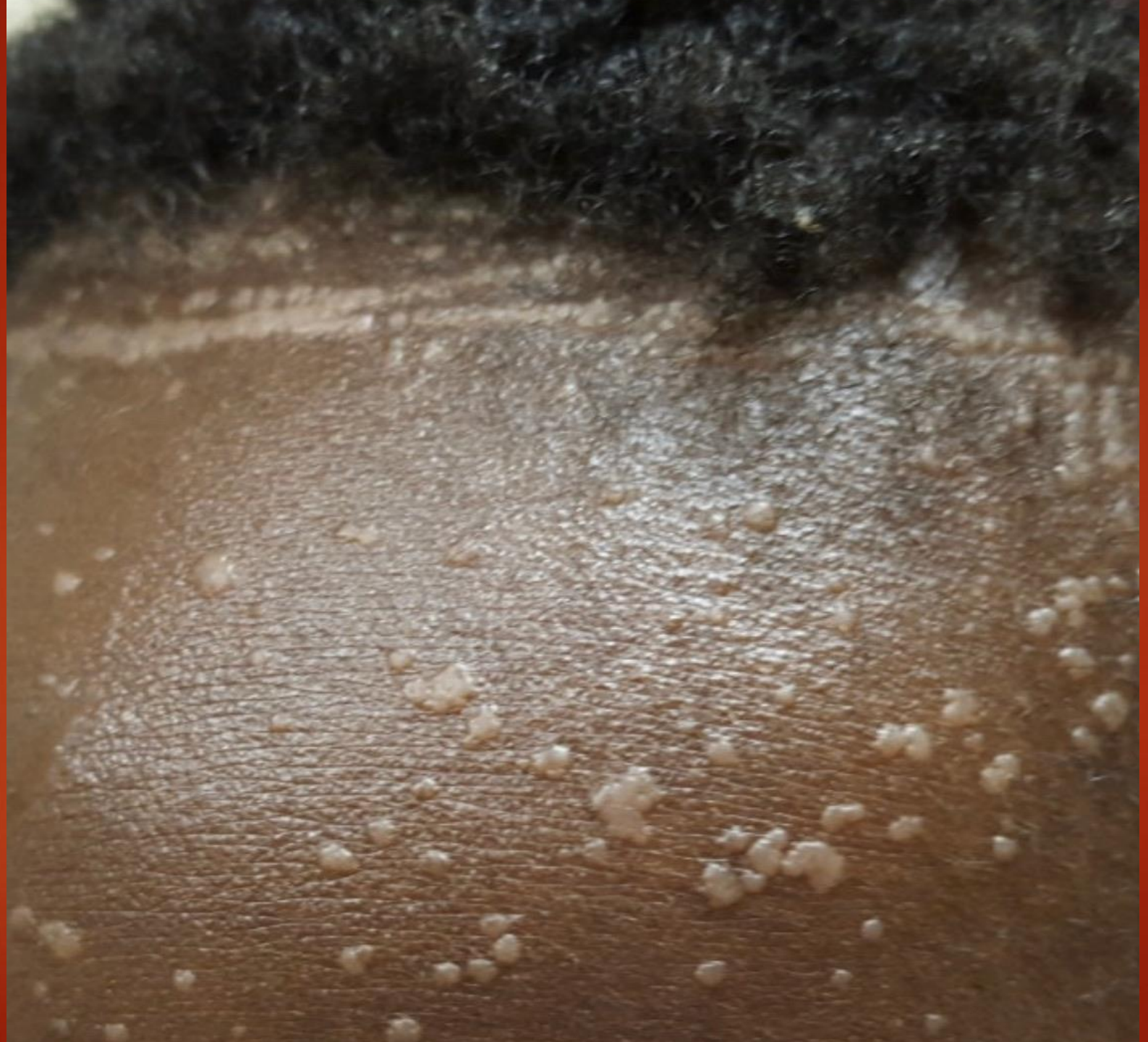




Diagnosis: “I’m not sure what it is, but it doesn’t look dangerous and since it itches, we’ll try a topical steroid on it”

Differential Diagnosis of Small, Flesh-Colored-To-White, Lichenoid Papules

- Lichen nitidus
- Frictional lichenoid dermatitis
- Papular eczema
- Lichen spinulosus
- Lichen striatus
- Flat warts

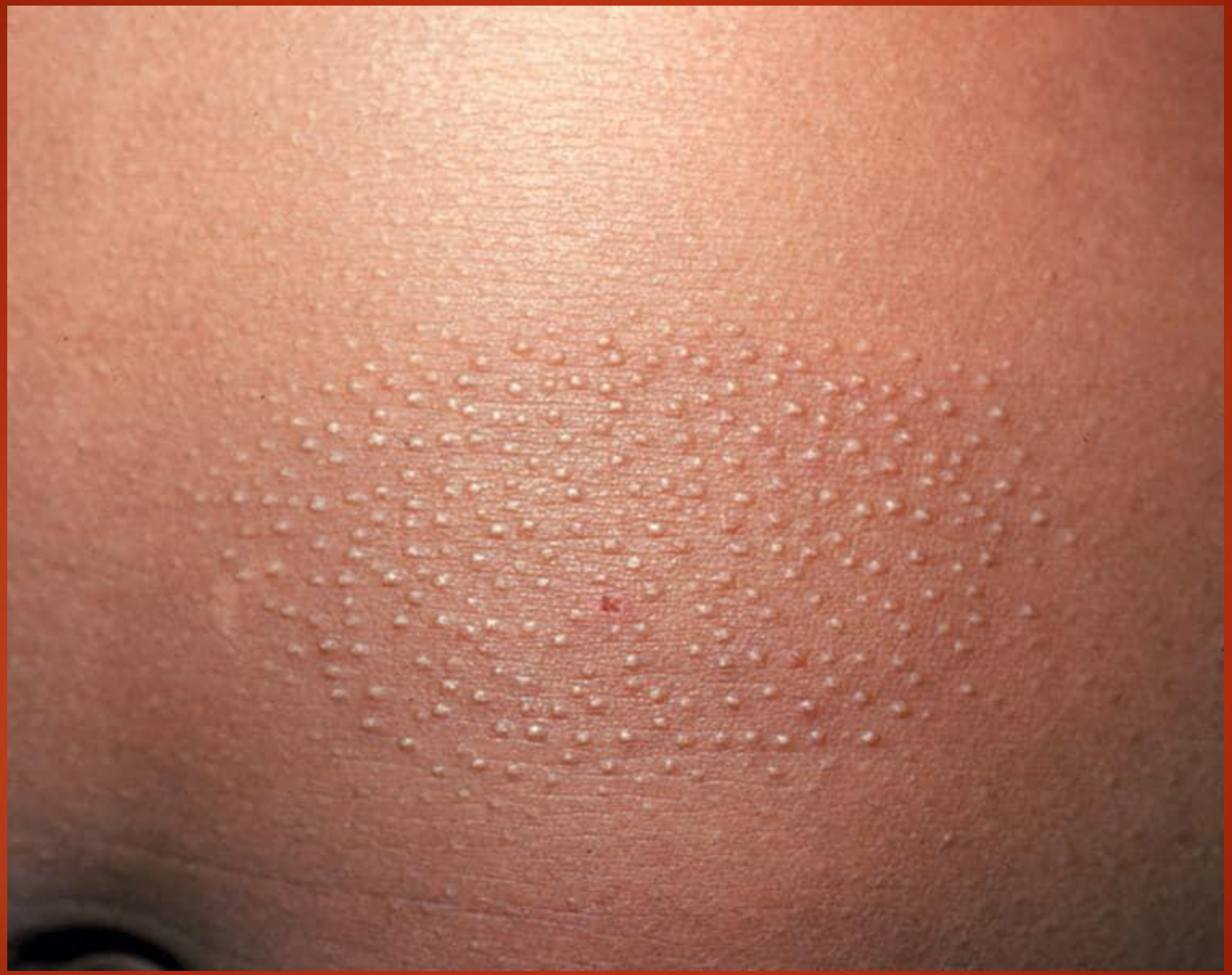


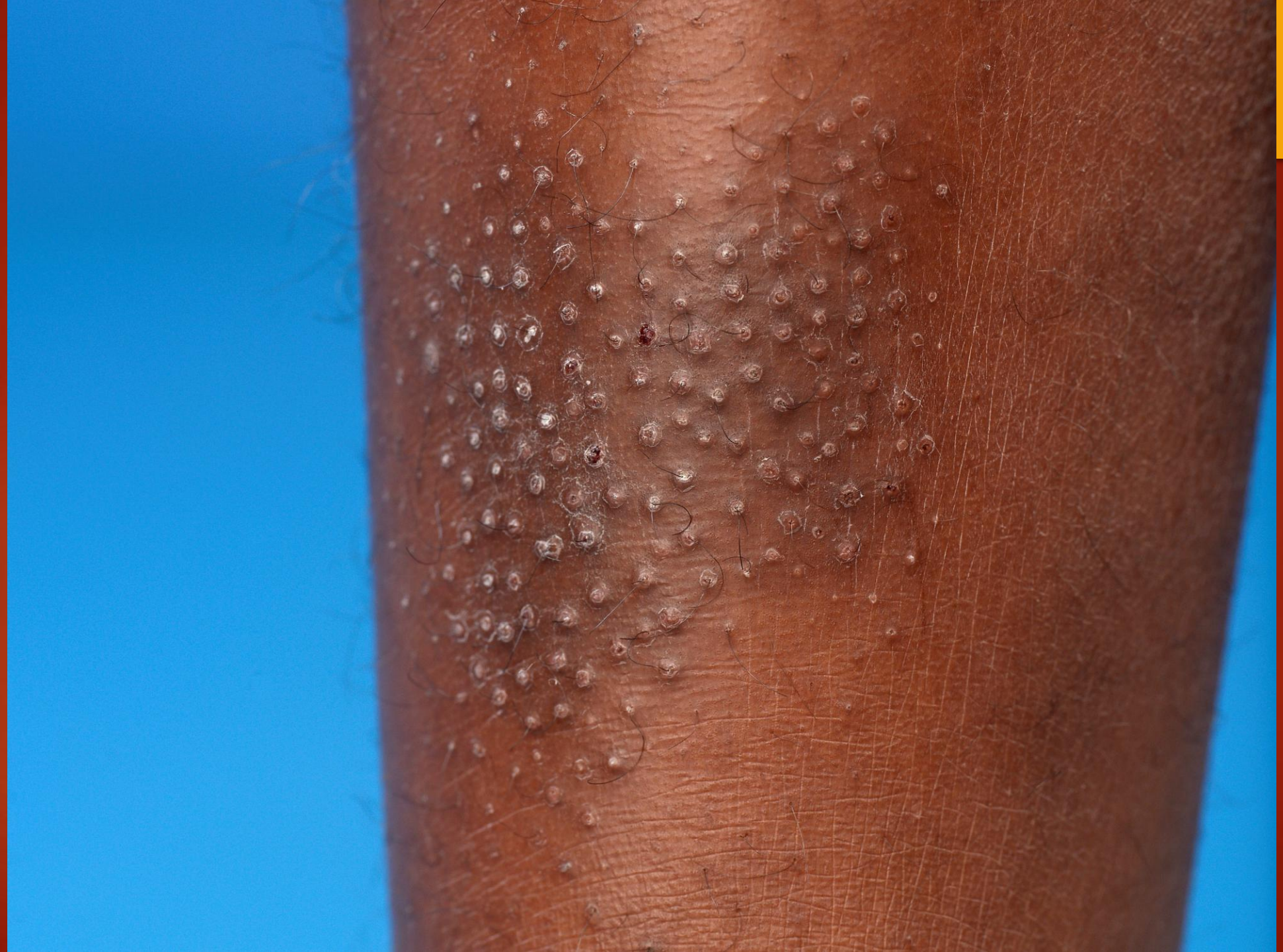
Differential Diagnosis of Small, Flesh-Colored-To-White, Lichenoid Papules

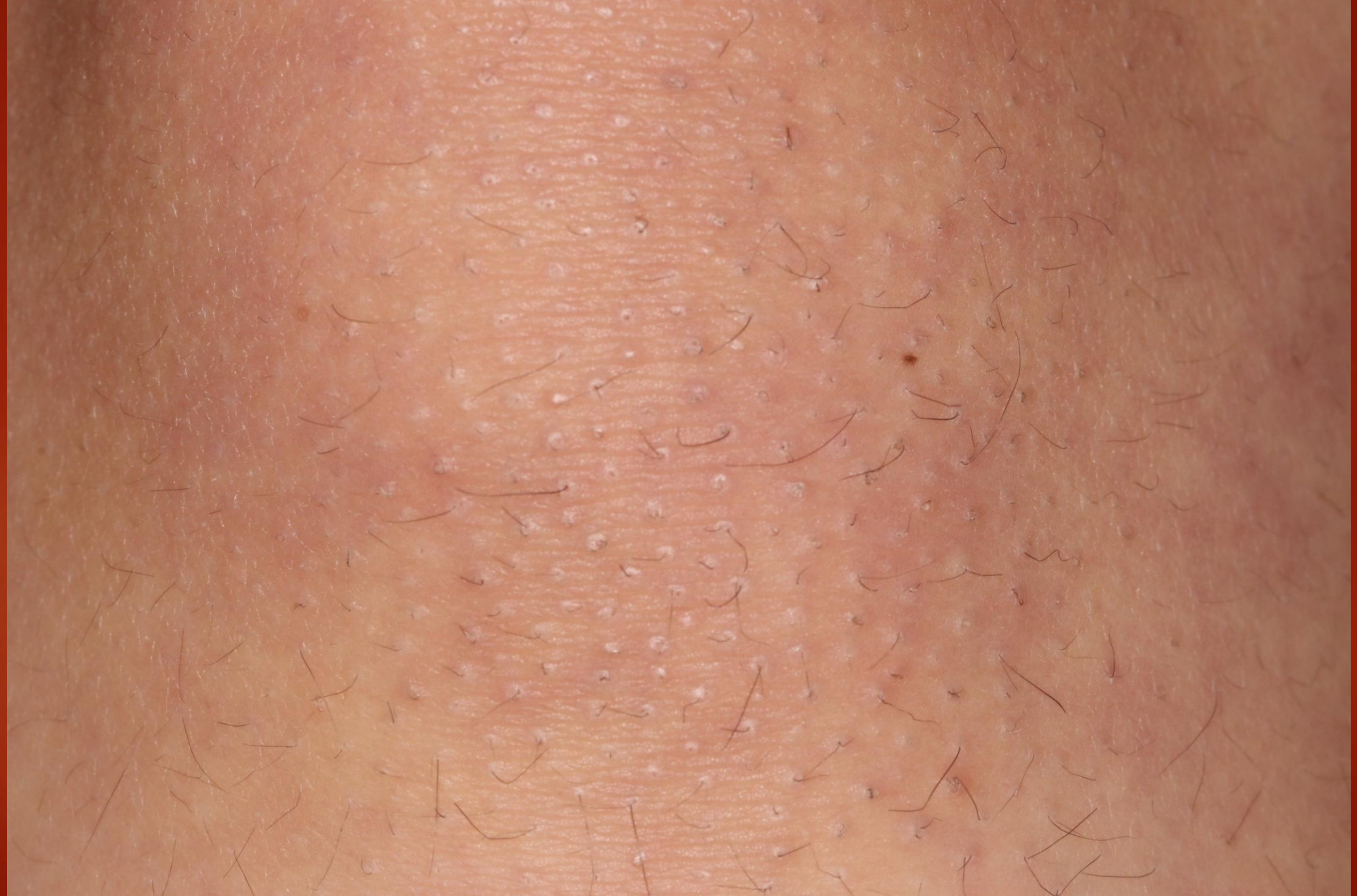
- Lichen nitidus
- Frictional lichenoid dermatitis
- Papular eczema
- Lichen spinulosus- spiny, keratotic, follicularly based papules, looks like a localized patch of keratosis pilaris
- Lichen striatus

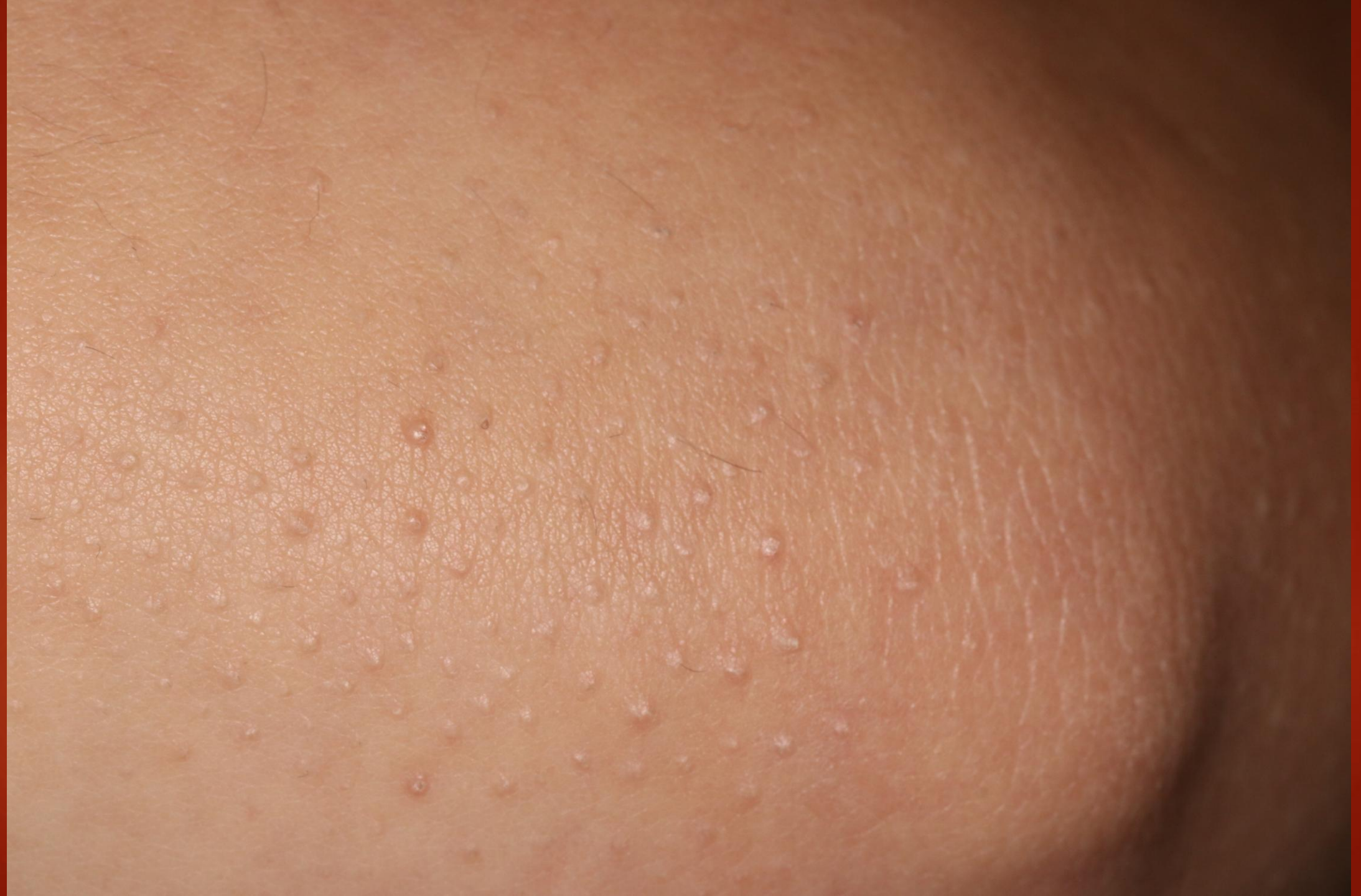
Differential Diagnosis of Small, Flesh-Colored-To-White, Lichenoid Papules

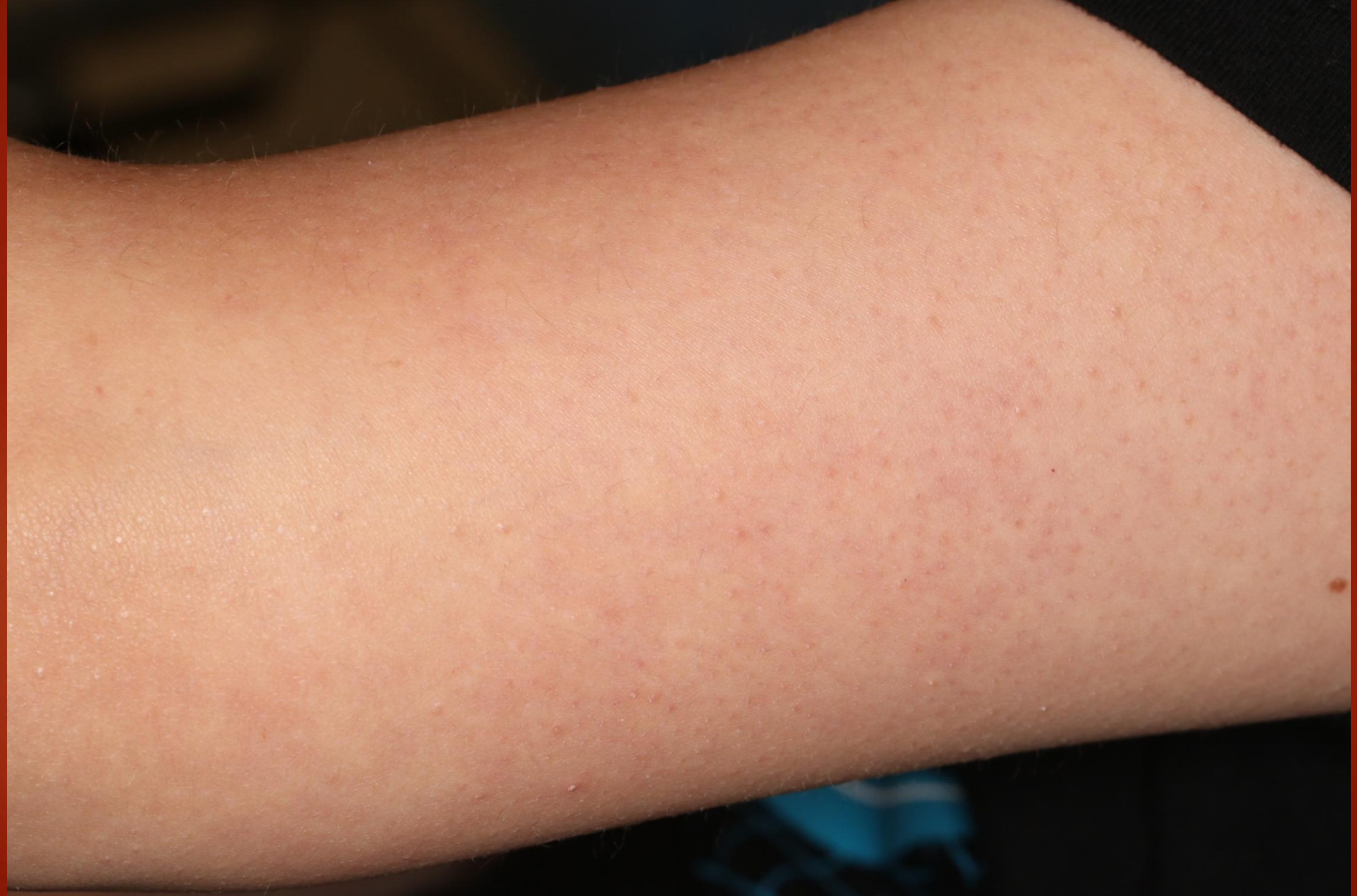
- Lichen nitidus
- Frictional lichenoid dermatitis
- Papular eczema
- Lichen spinulosus
- Lichen striatus- linear string of lichenoid papules

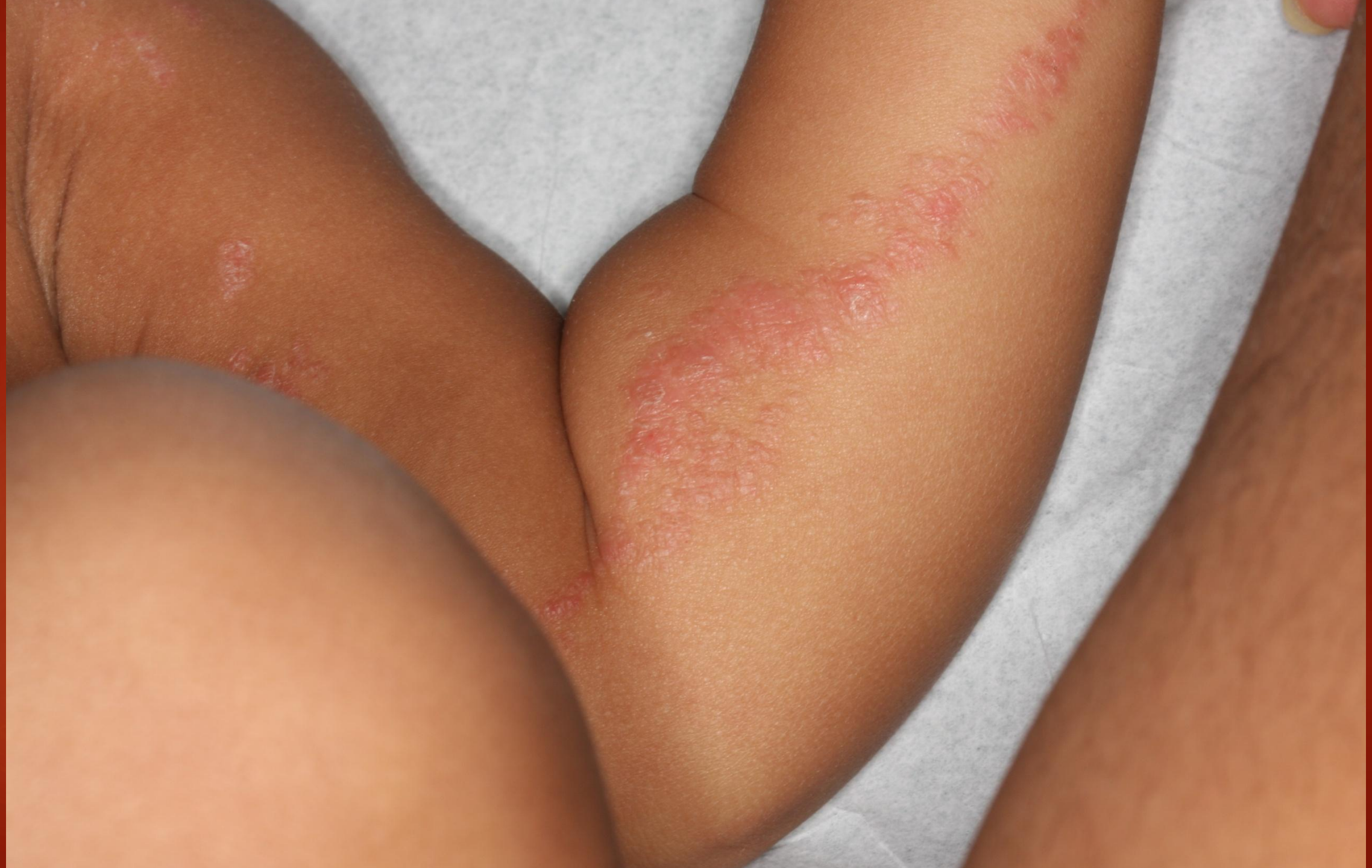


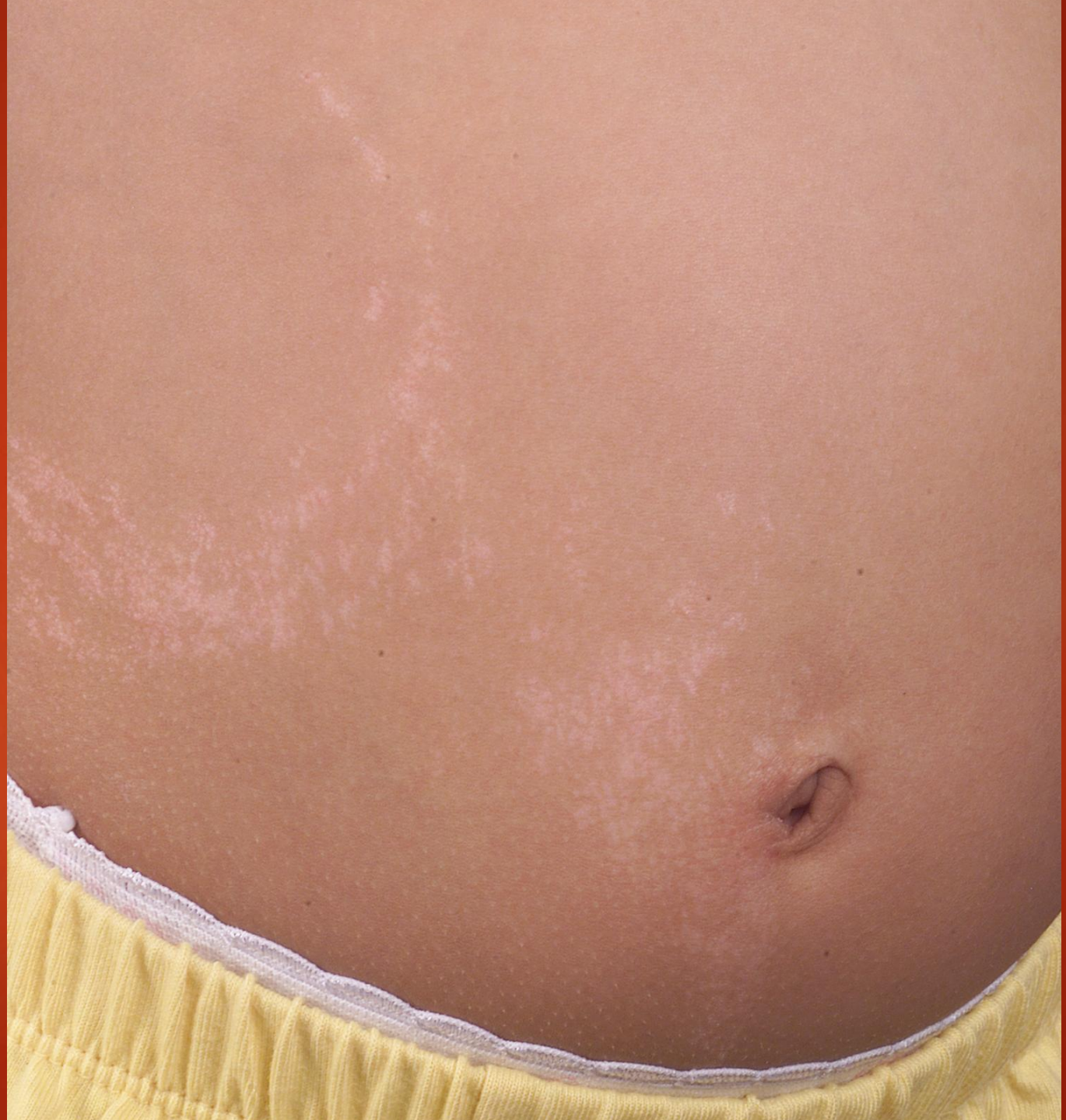


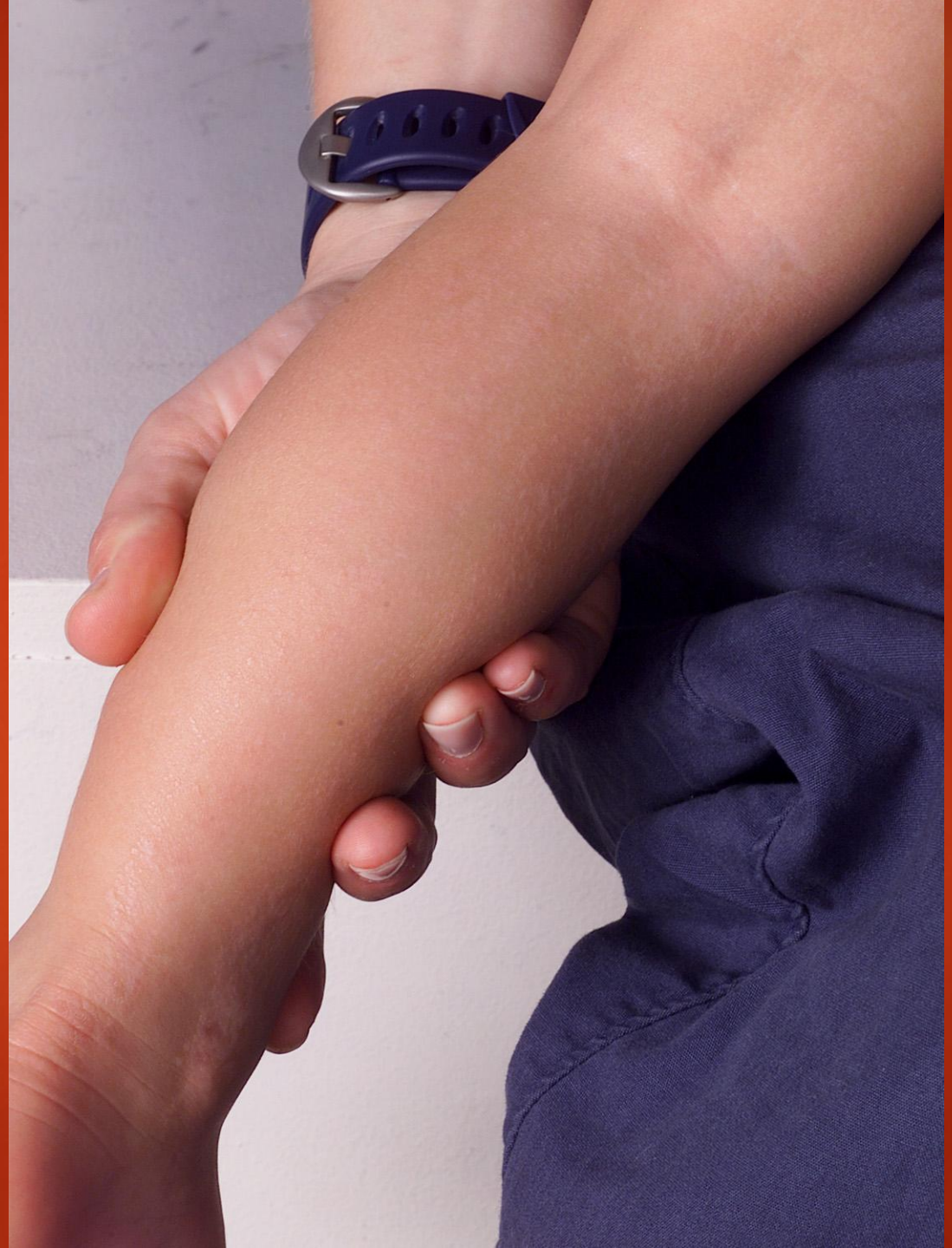


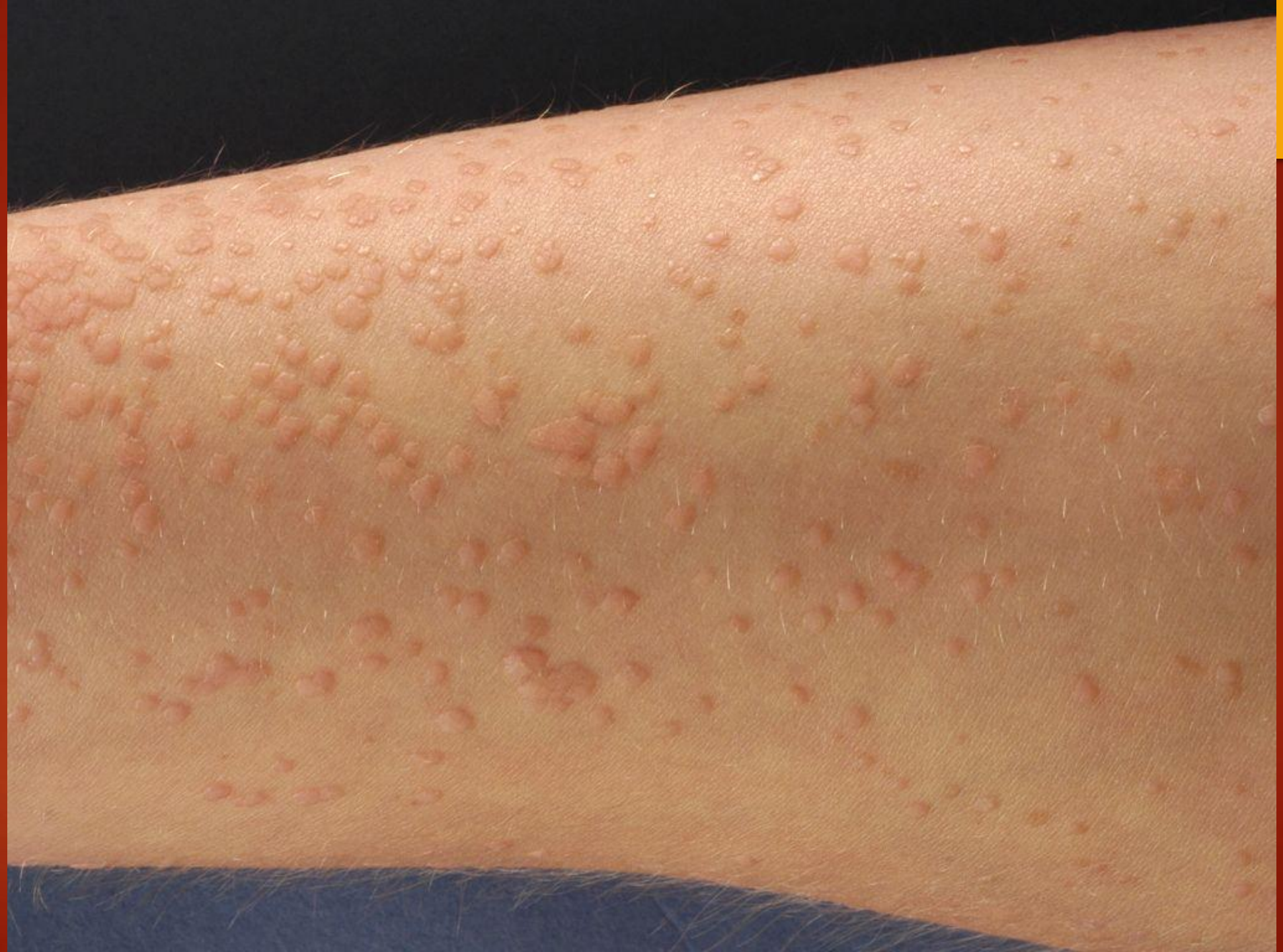


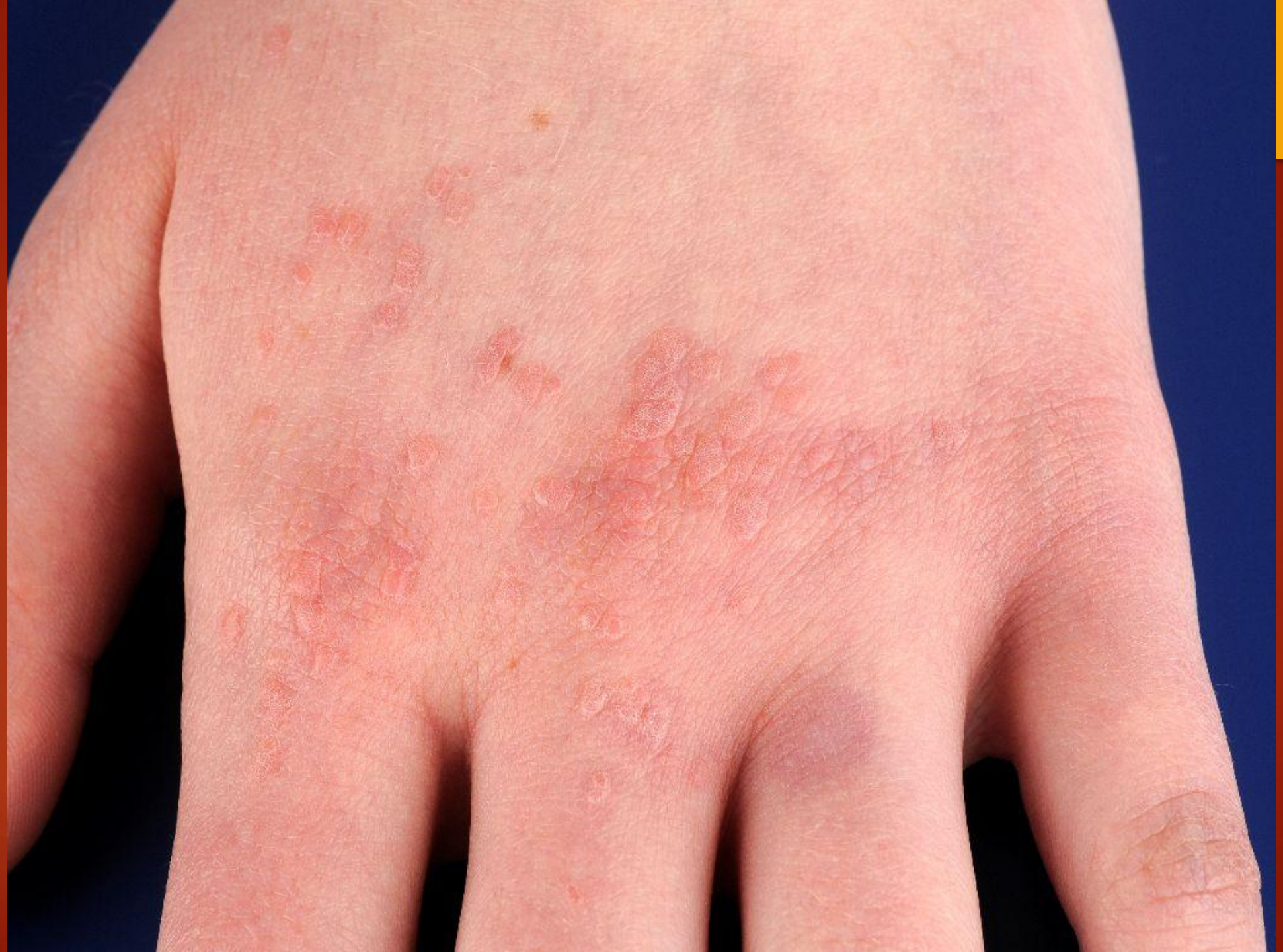










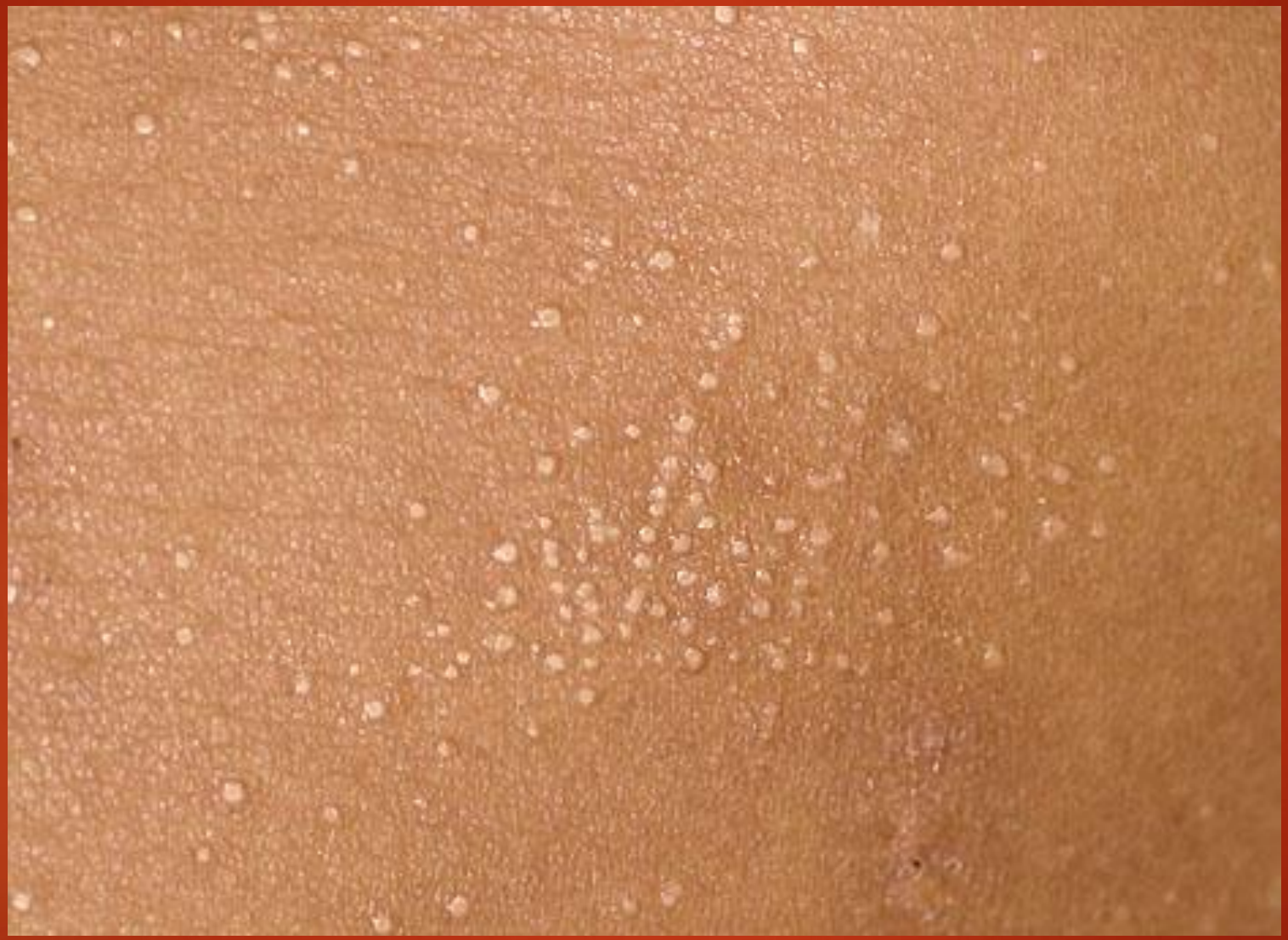


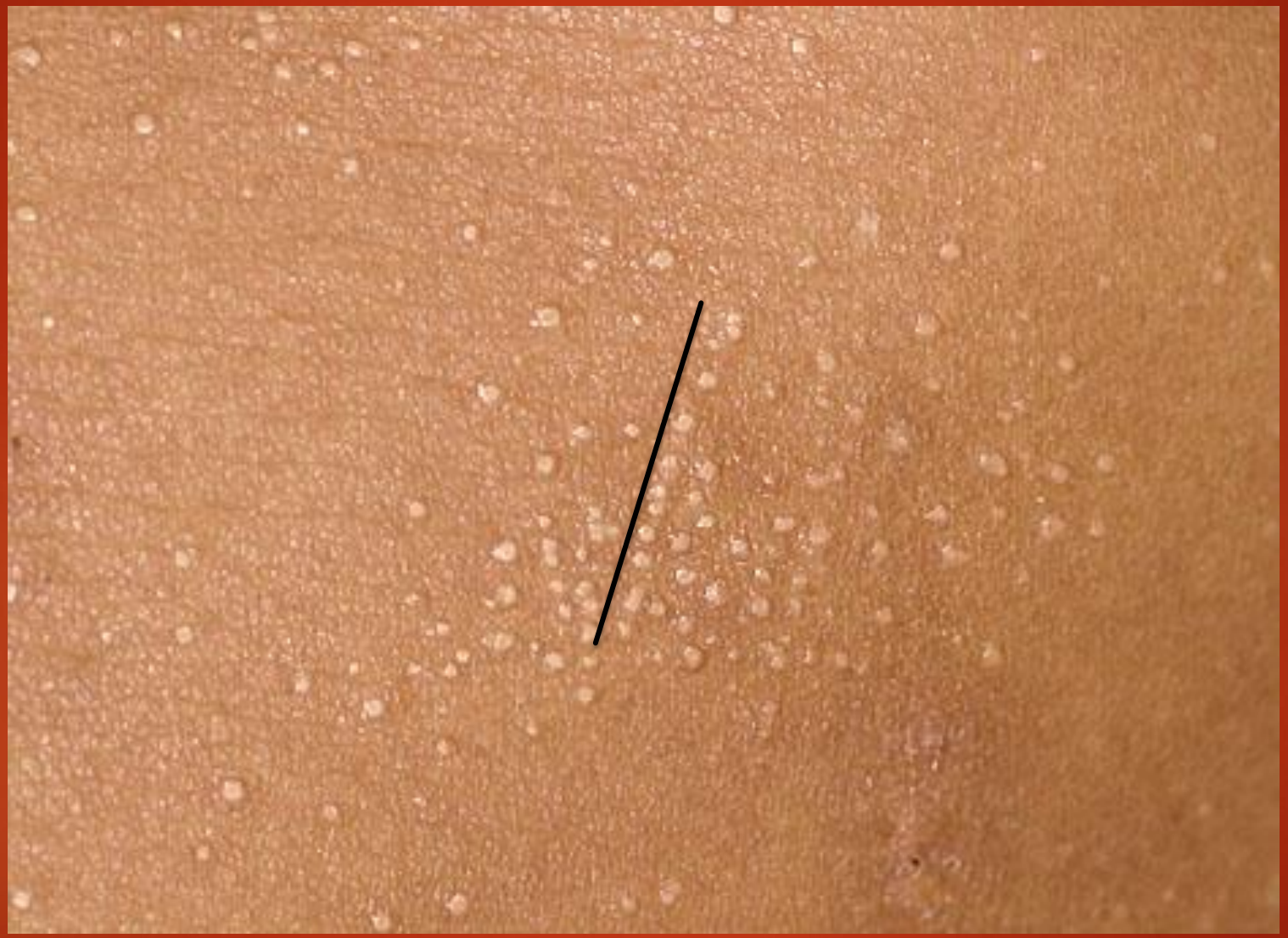
Differential Diagnosis of Small, Flesh-Colored-To-White, Lichenoid Papules

- Lichen nitidus
- Frictional lichenoid dermatitis
- Papular eczema

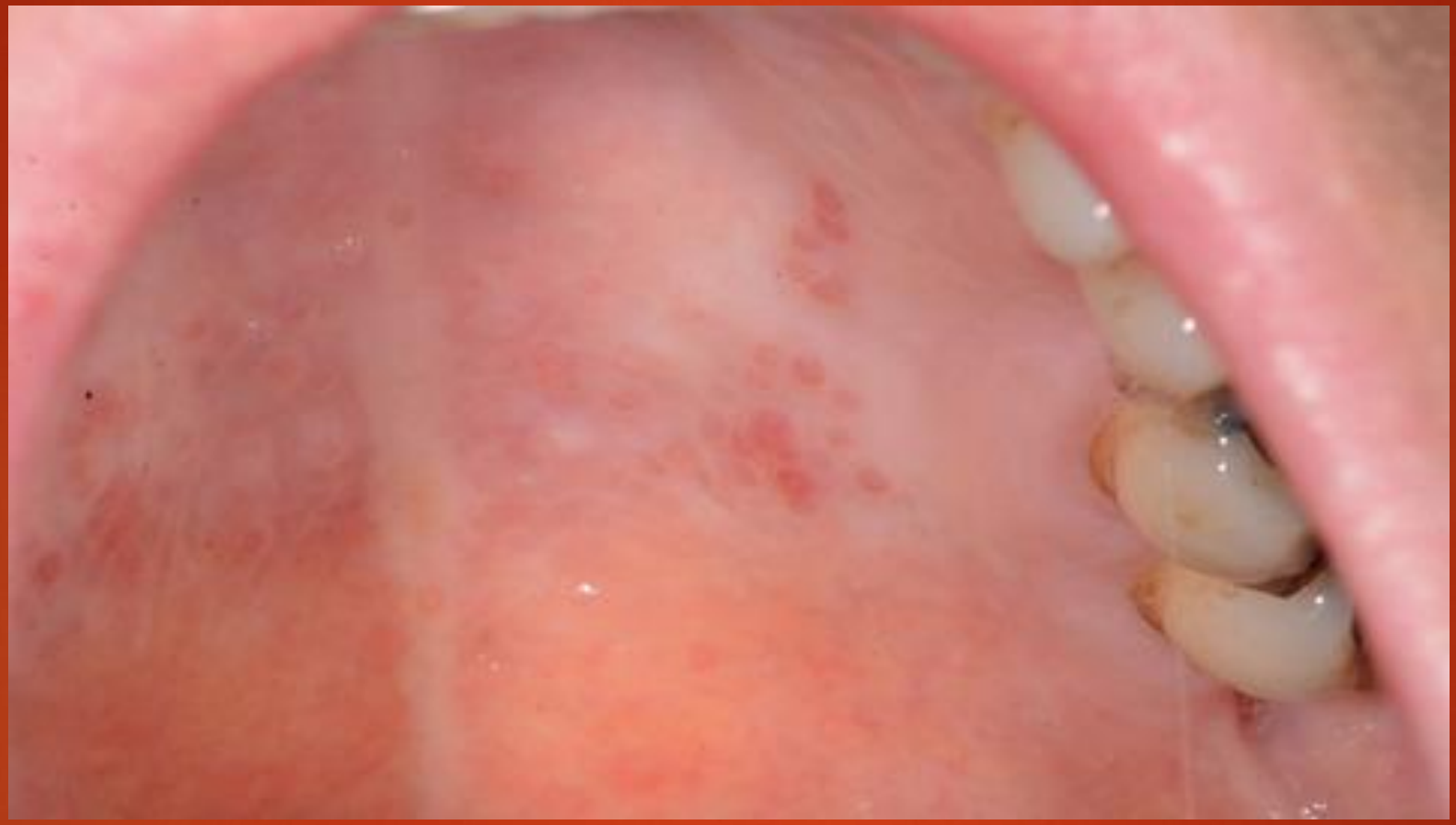
Lichen Nitidus

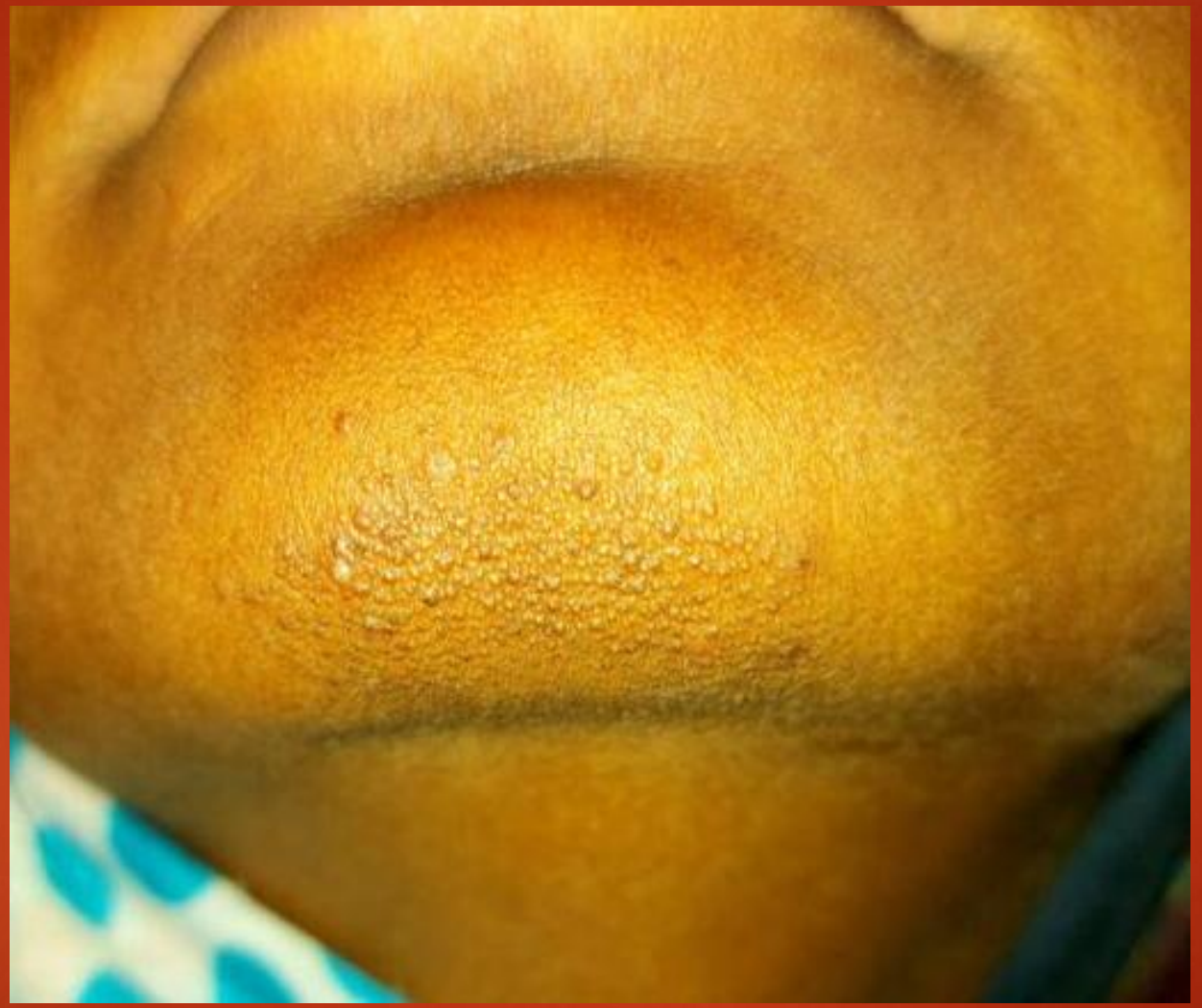
- Trunk, genitals, forearms but can be generalized
- Knoebnerization
- Mucous membrane- buccal mucosa, yellowish papules on the gums
- Nail changes
- Minimal or no itch

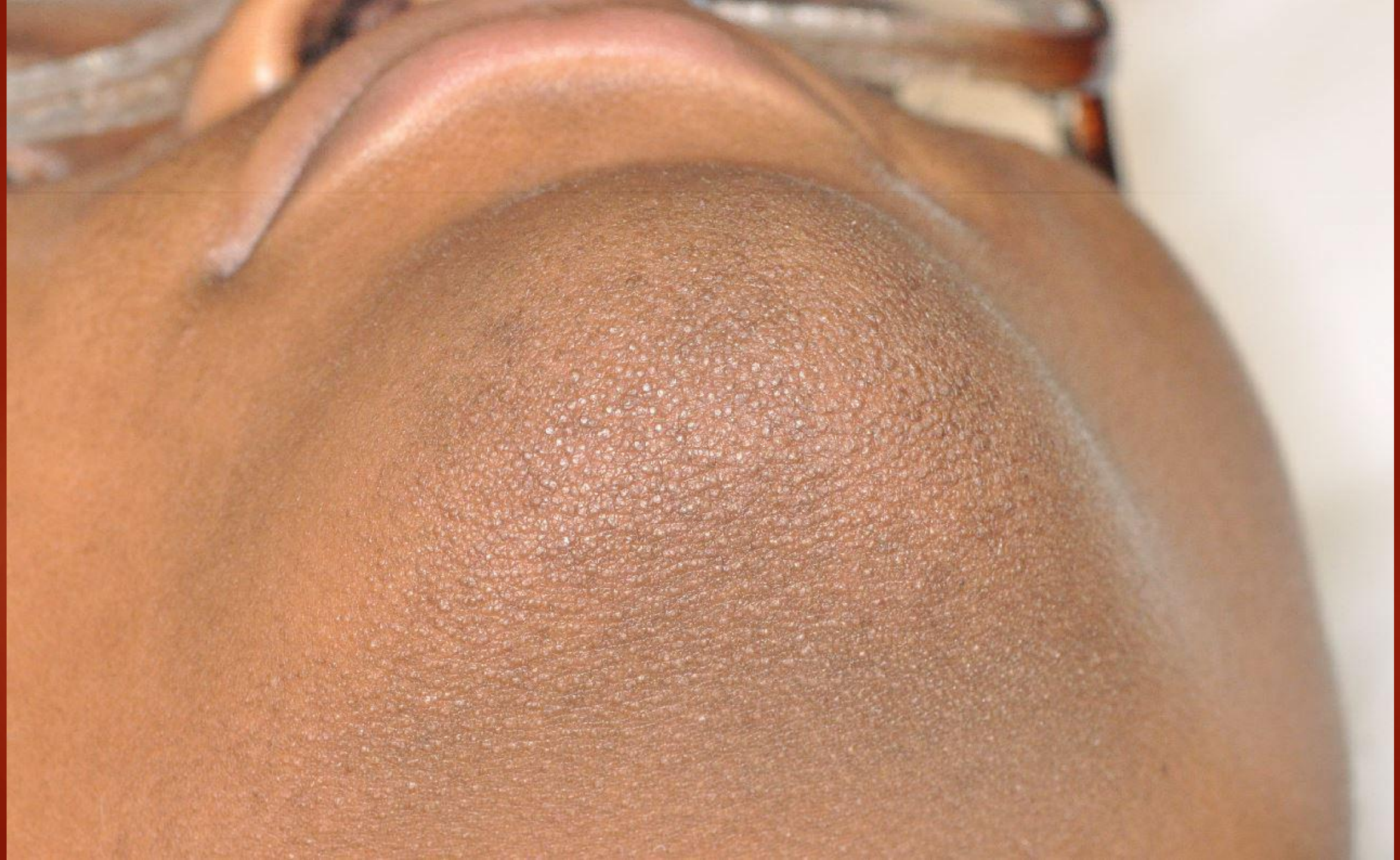





AAD
Image Courtesy Of Univ of New Mexico Dermatology

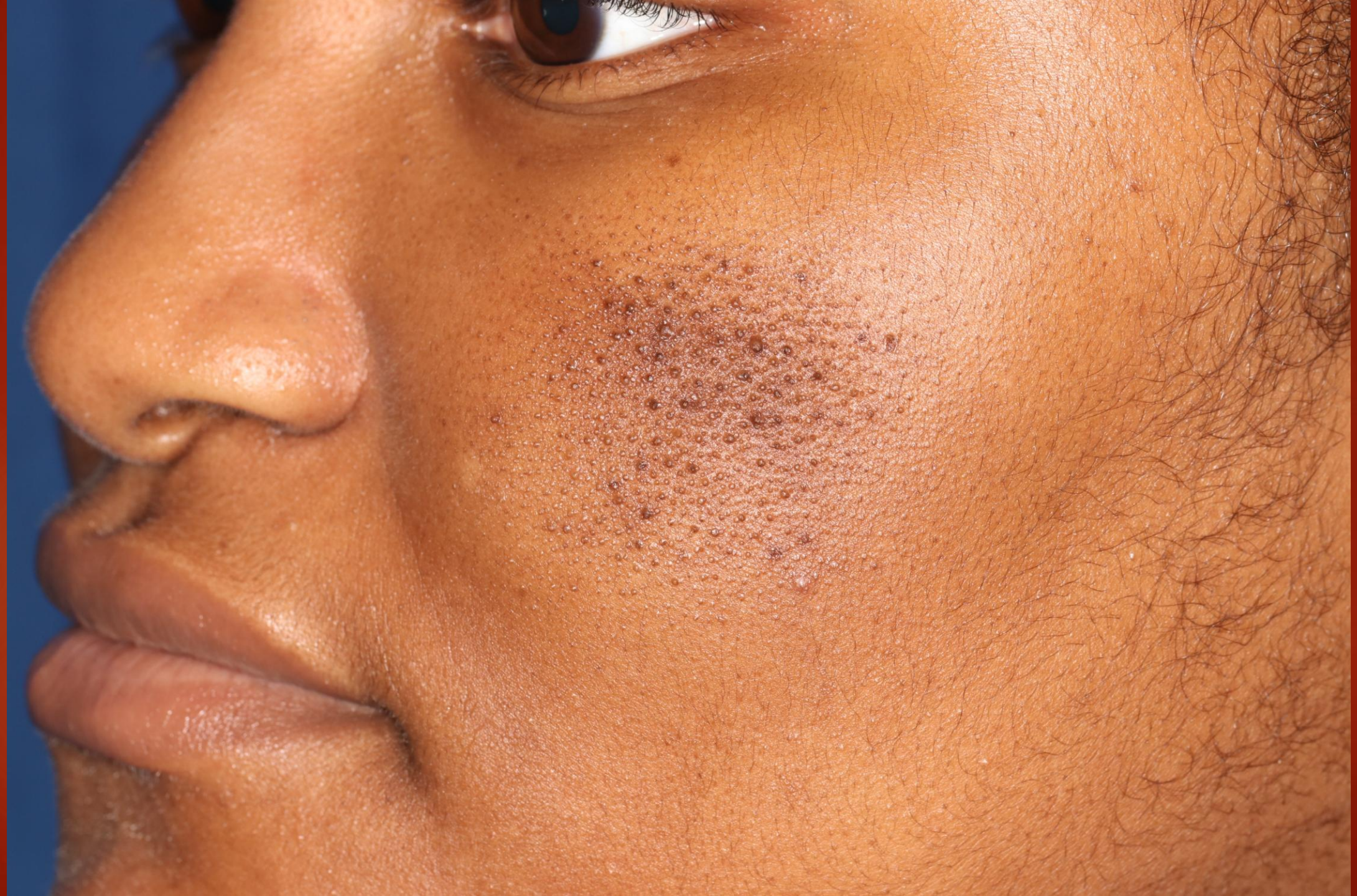


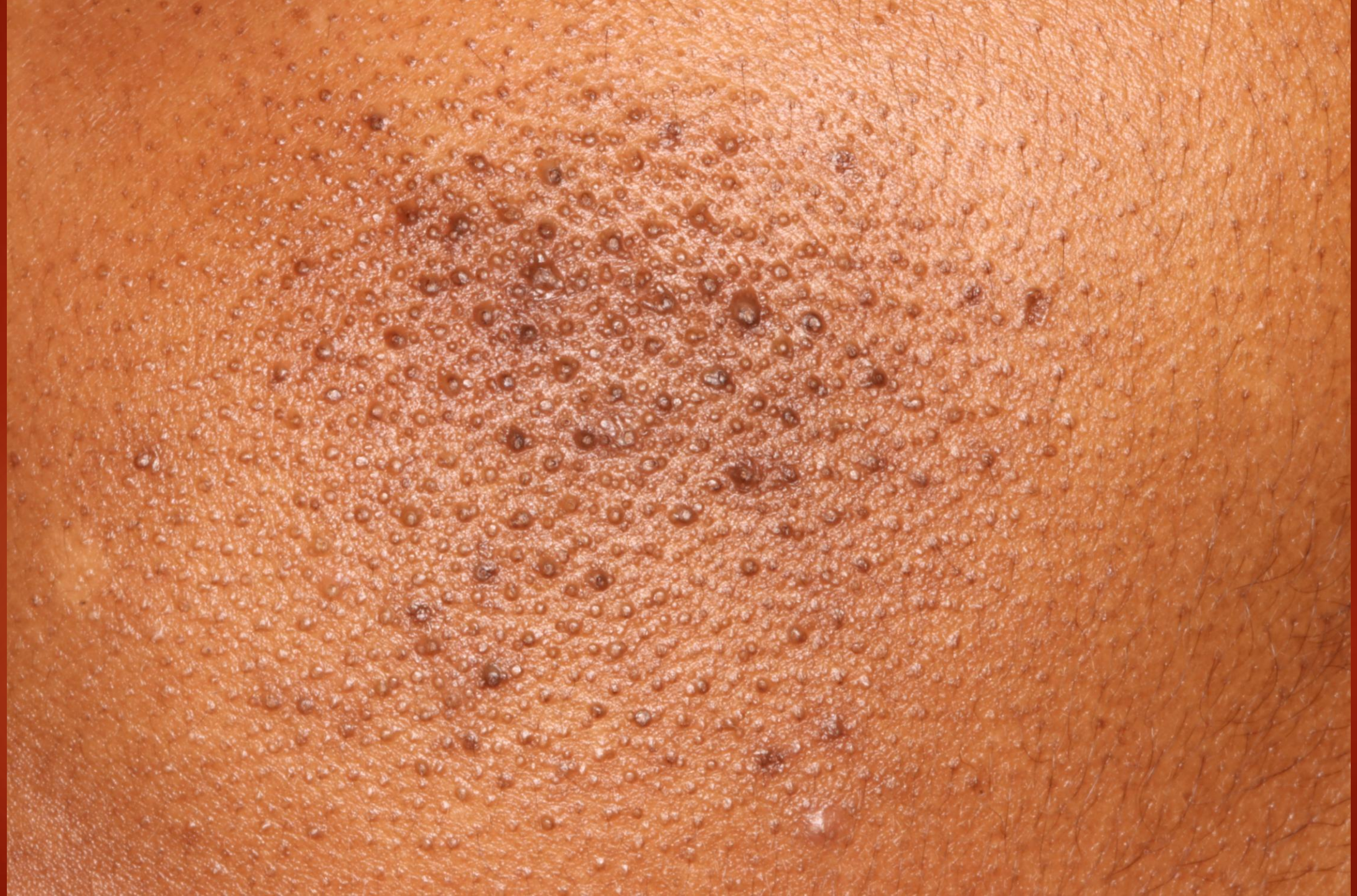




Anserine Folliculosis
Follicular Keratosis of the Chin

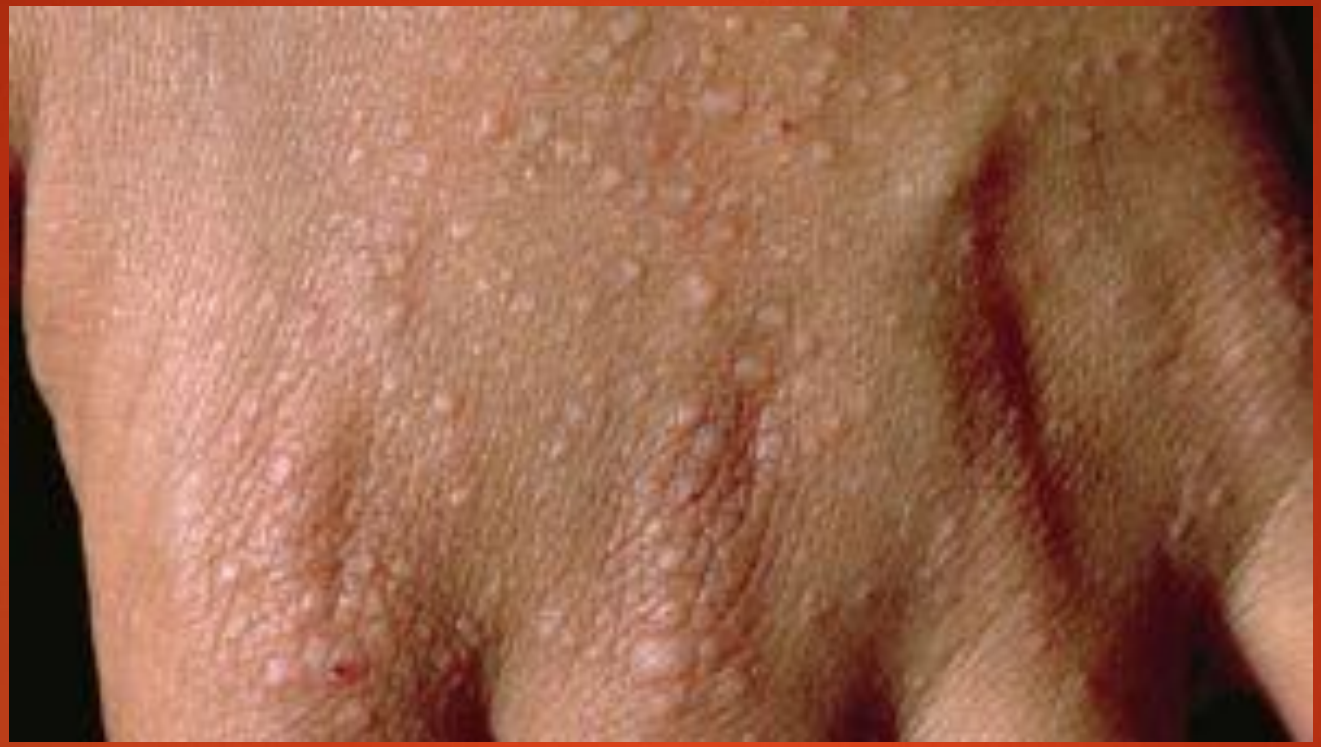
- Often people of color
- Chin, cheek, lateral neck usually where hand rests while reading or with friction
- Responds to calcipotriene





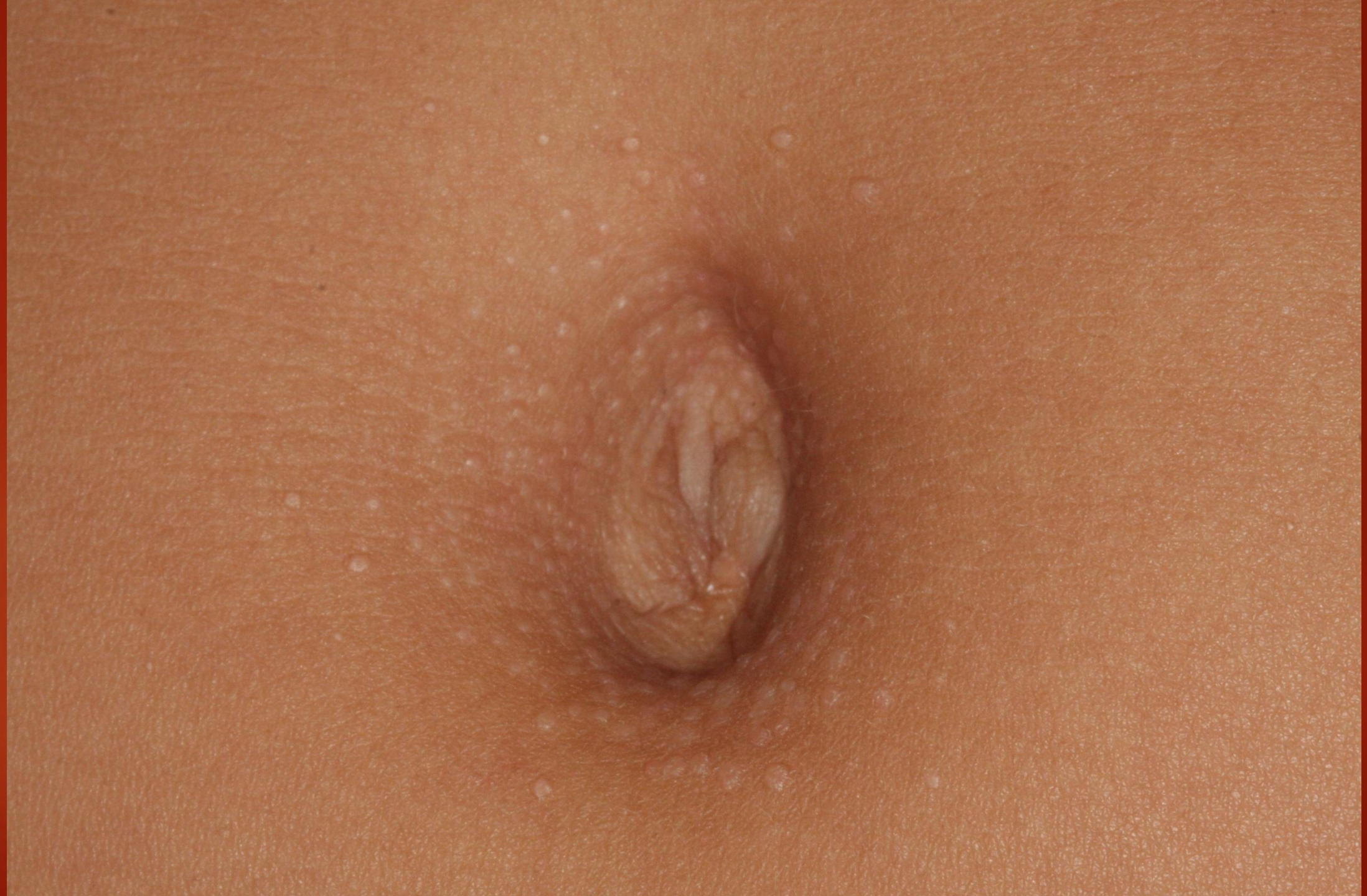
Frictional Lichenoid Dermatitis

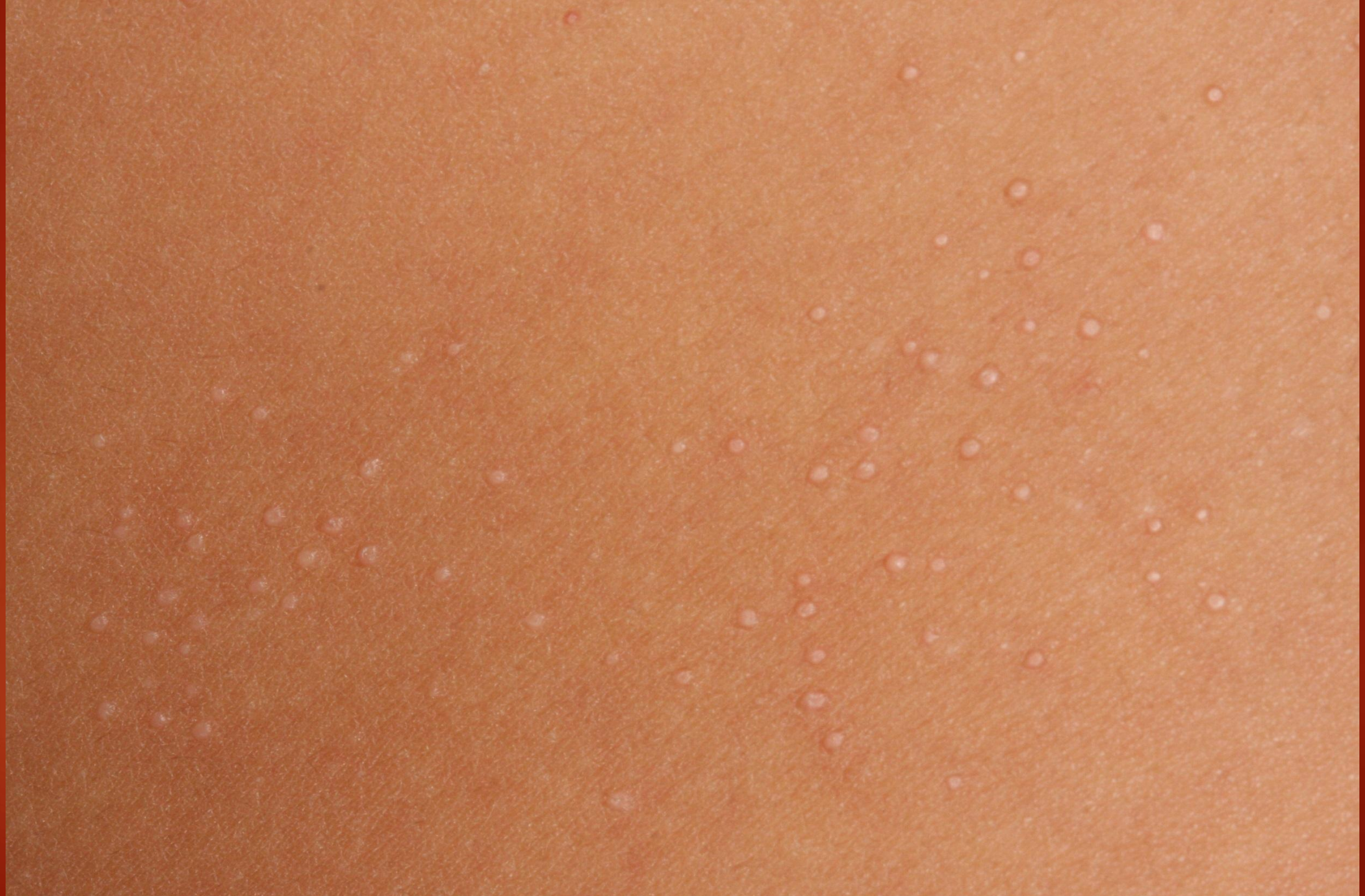
- Elbows, knees, back of hands
- Spring and summer- ? More outdoor activity and/or sunlight
- Severe to minimal itch
- 50% associated atopy

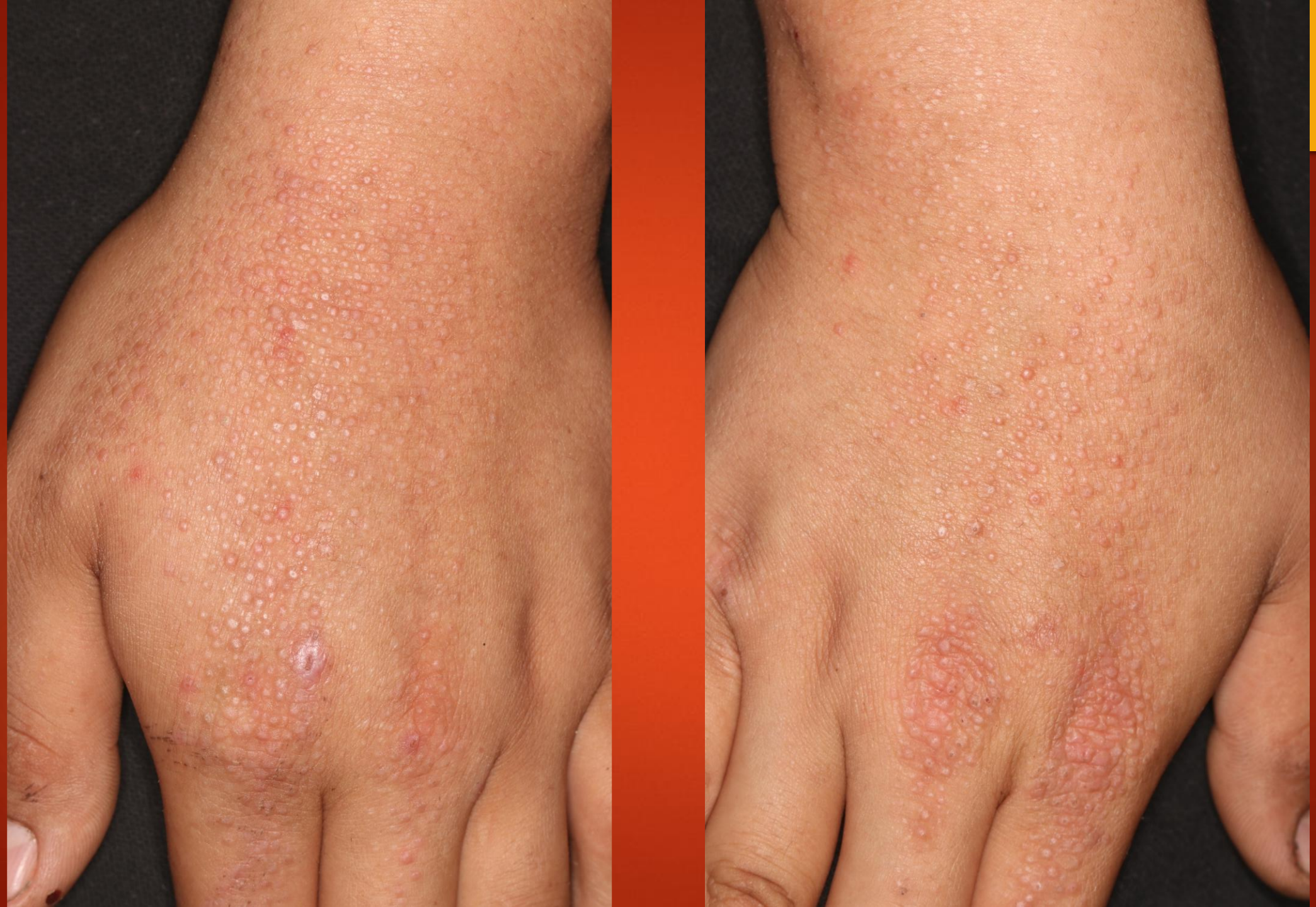


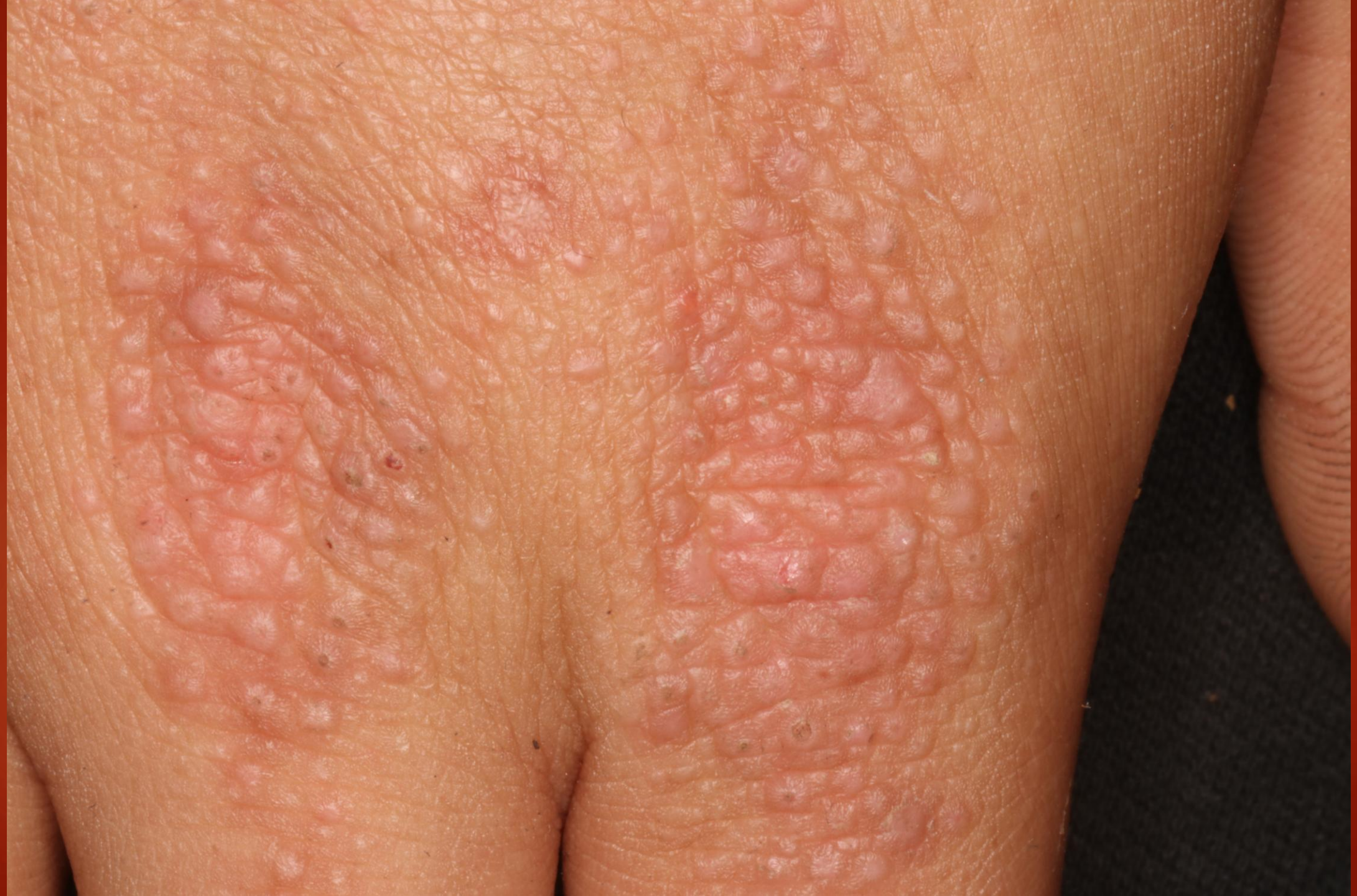
Papular Eczema

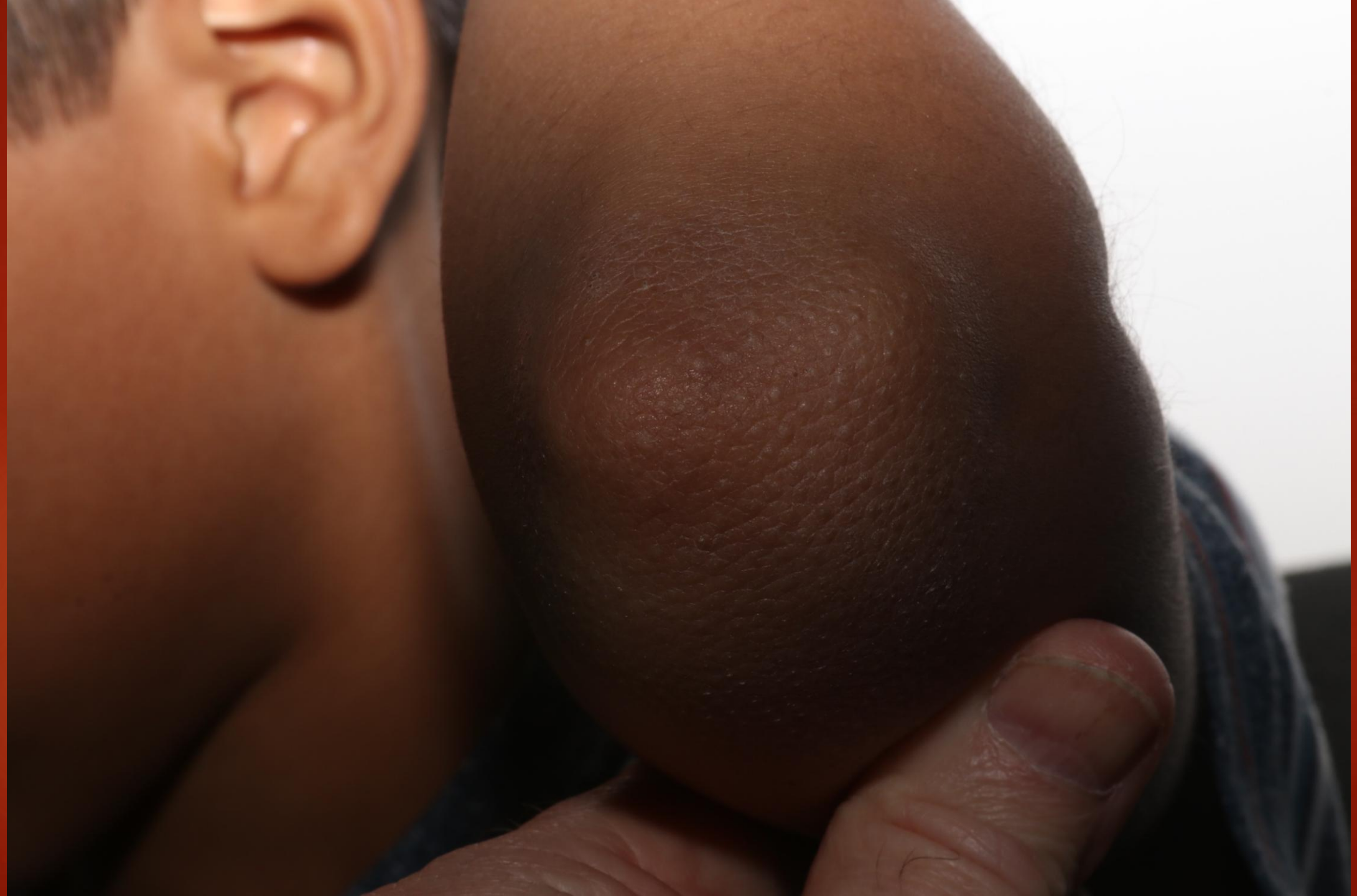
- In the setting of atopic dermatitis
- Most often people of color
- Itch
- Can be anywhere but frequently trunk, forearms, and shins (as apposed to elbows and knees)

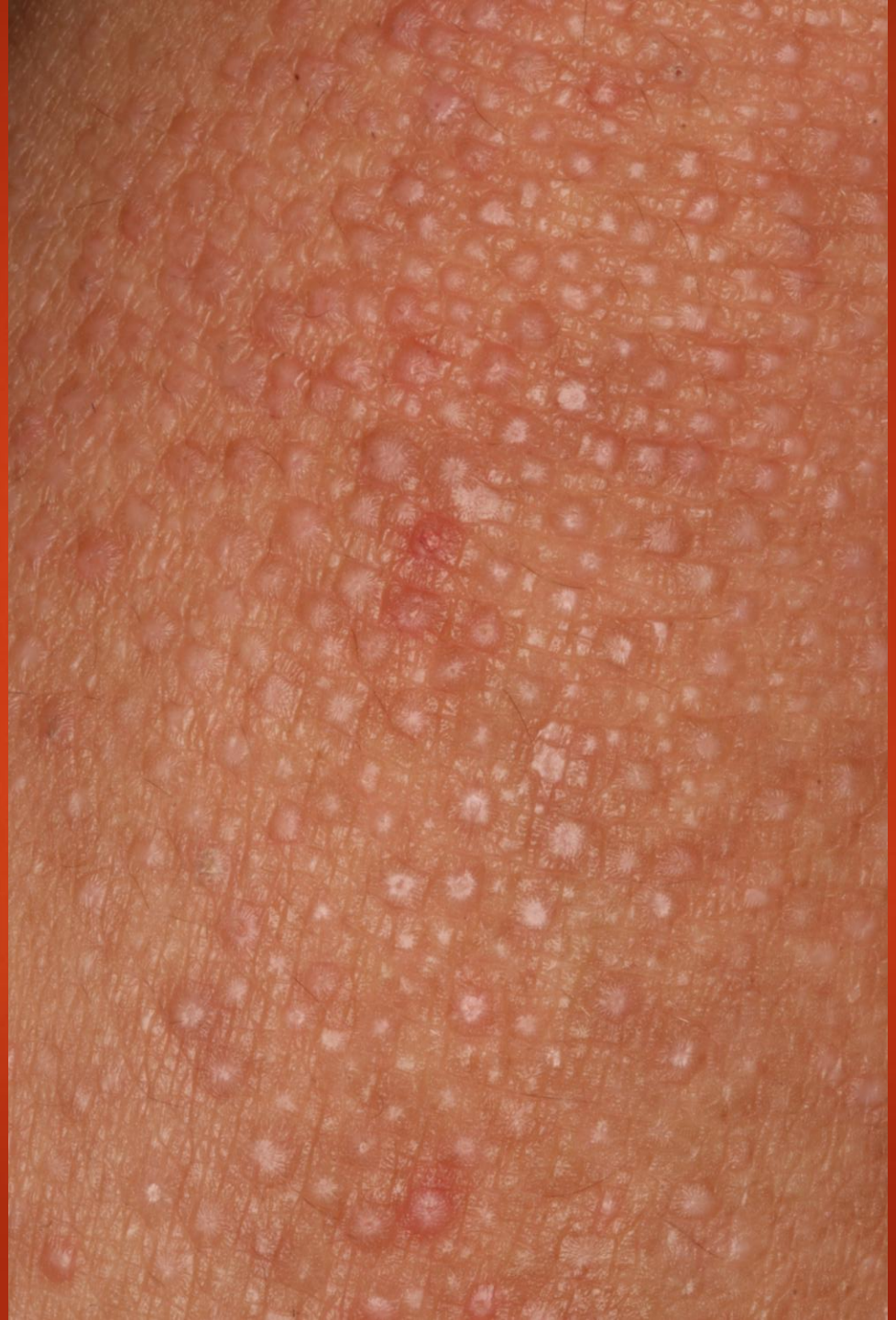


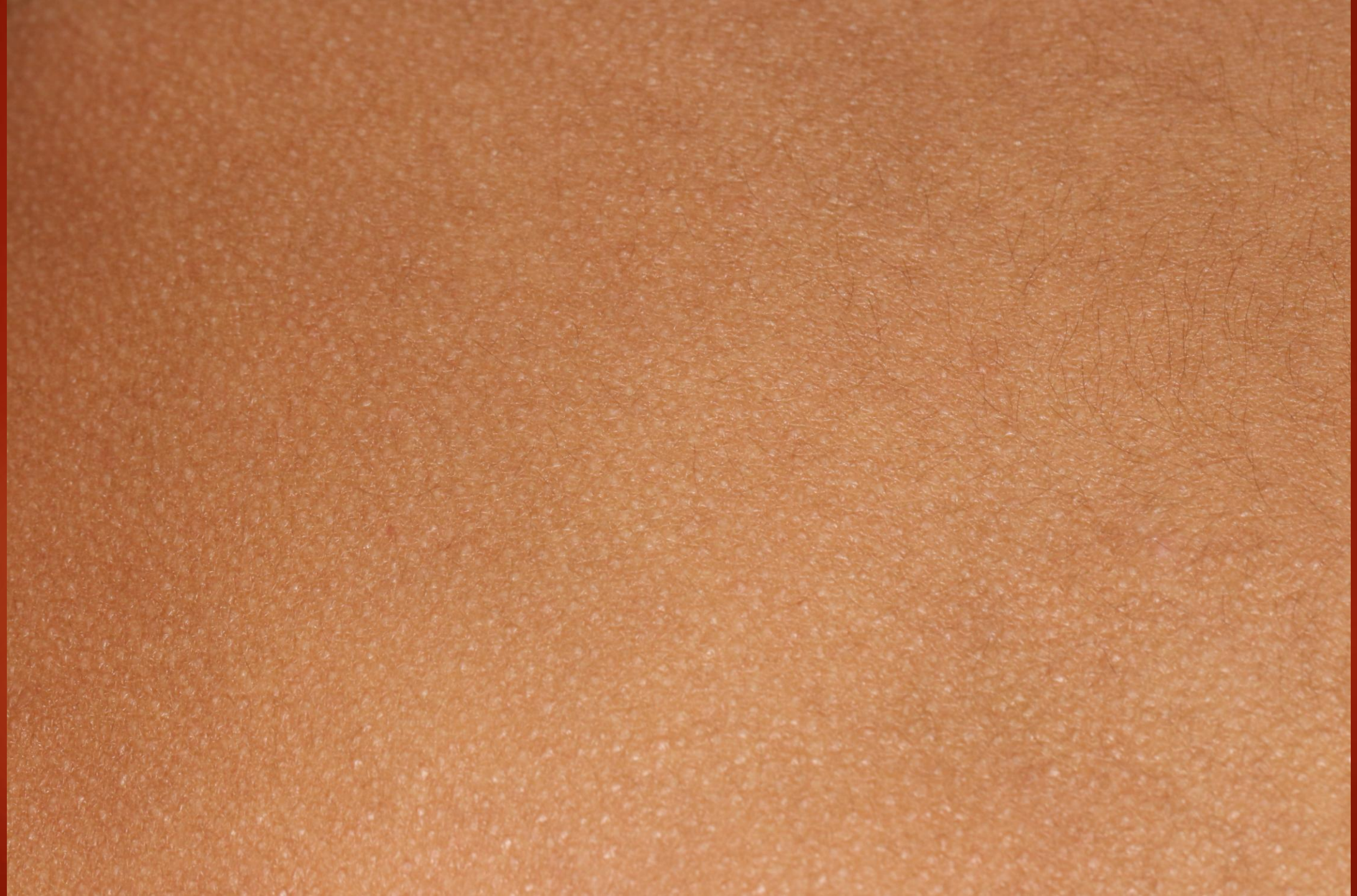


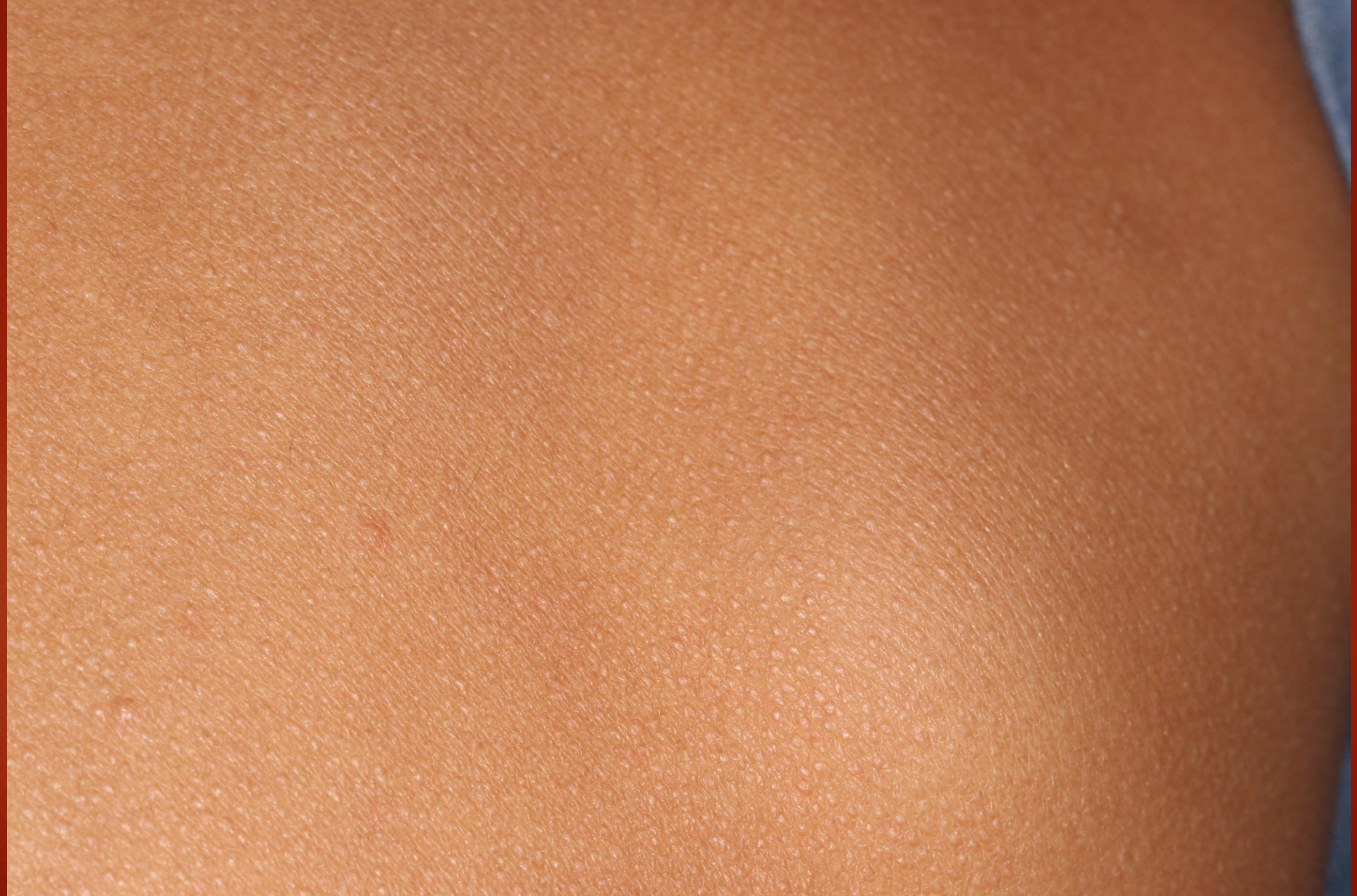


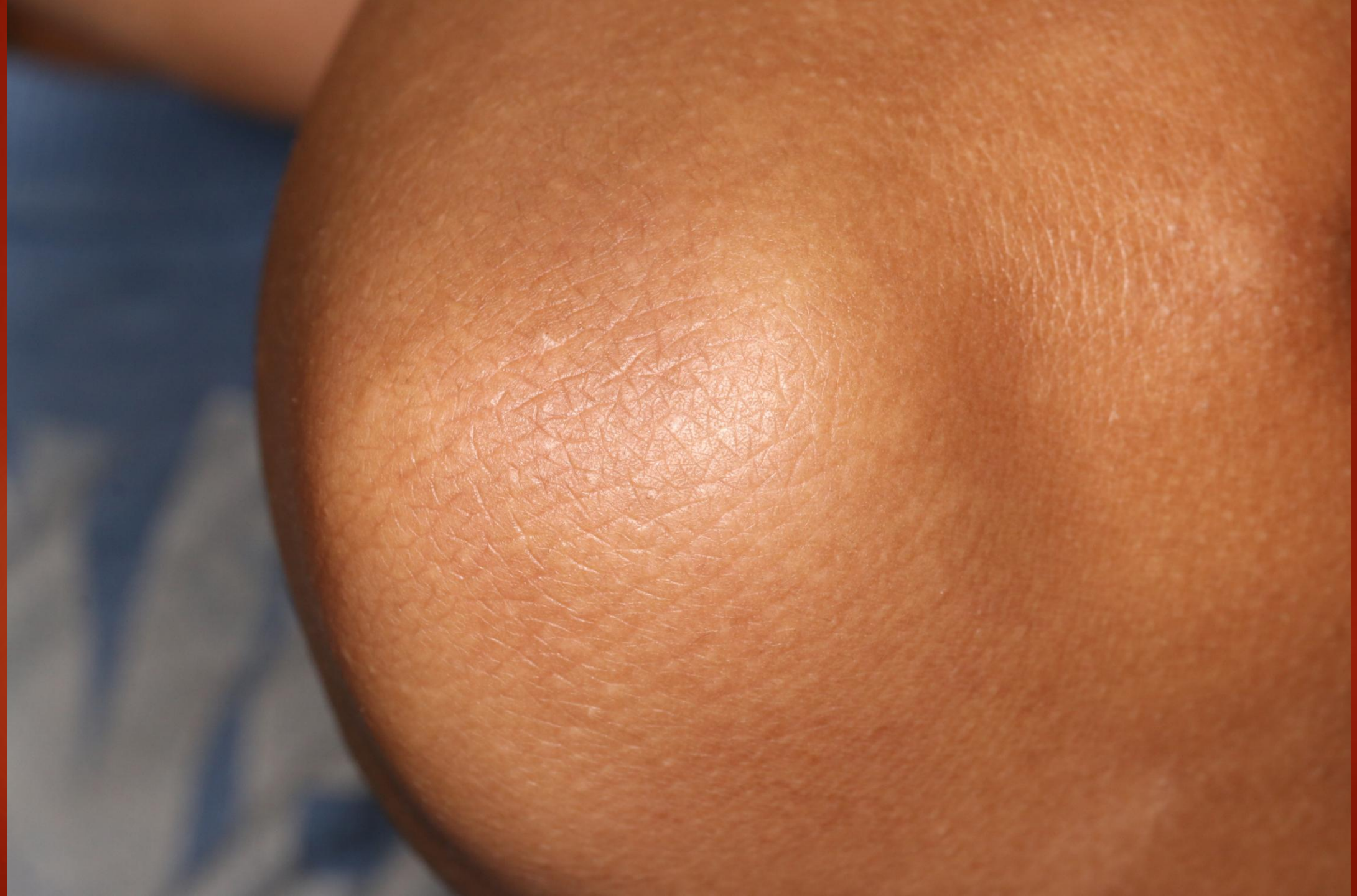












It is worth noting…

- Topical steroids and/or a calceurin inhibitors are the mainstay of treatment for all three
- Pathology will help sort out the differential diagnosis but is seldom indicated in young children
- Looking at photos on the internet, AAD photo collection, and in textbooks, I am not the only one who is confused by these diagnoses

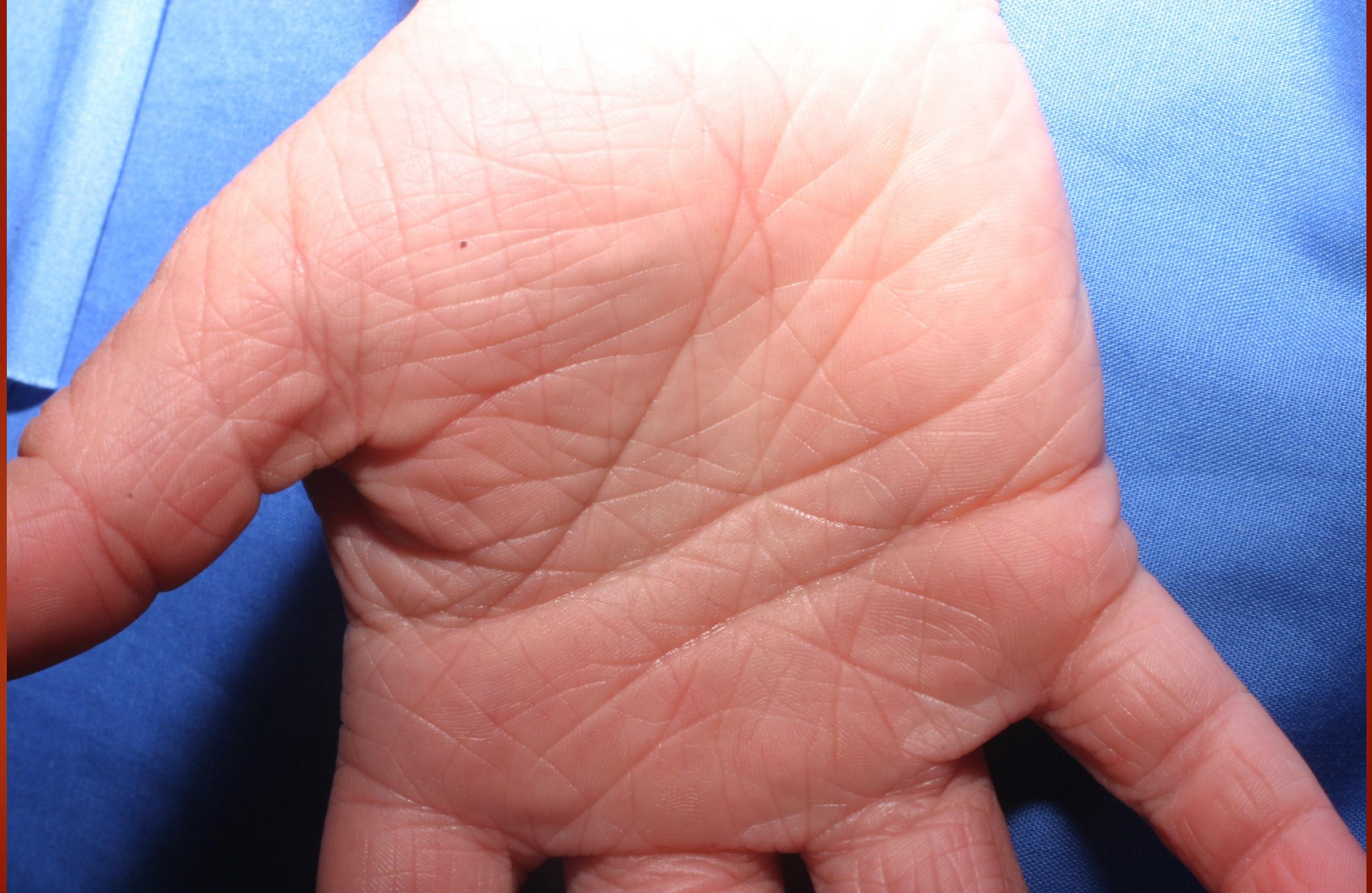
Fingertip Peeling

Bland Fingertip Peeling Differential Diagnosis

- Ichthyosis vulgaris/irritant or allergic contact dermatitis/atopic dermatitis
- Post-infectious desquamation
- Acral peeling skin syndrome
- Keratolysis exfoliativa

Bland Fingertip Peeling
History is important

- Timing, duration, exacerbants, treatments
- Hobbies, activities, washing habits, ?slime
  - "Take me through your day."
- Health history, atopic background
- Family history, atopy



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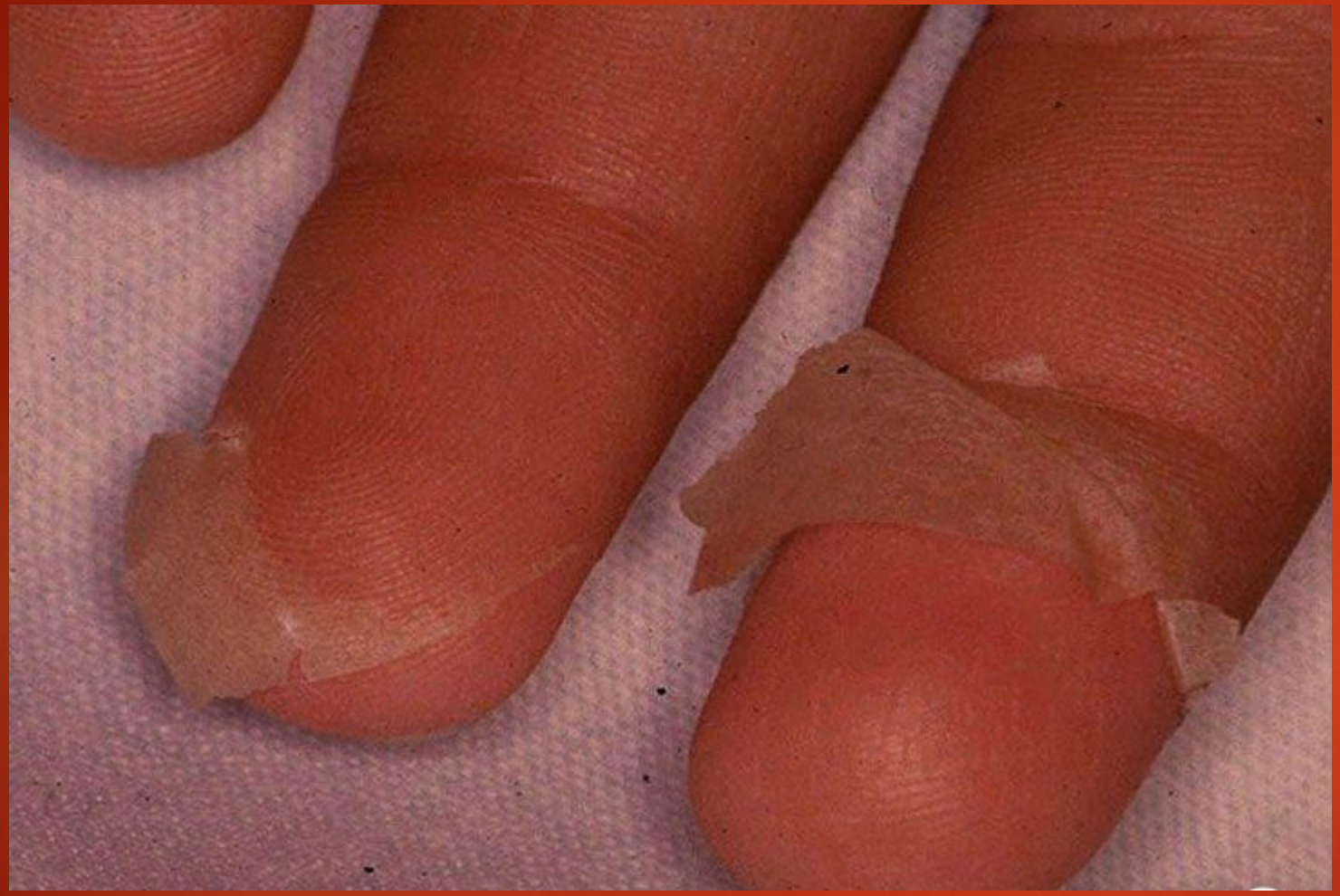
Bland Fingertip Peeling
Post-infectious desquamation

- Staph aureus- SSSS or impetigo
- Strep- scarlet fever
- Various virus infections- coxsackievirus, measles, parvovirus (papulopurpuric gloves and socks), varicella virus
  - 1-3 weeks after viral rash onset
- Kawasaki disease



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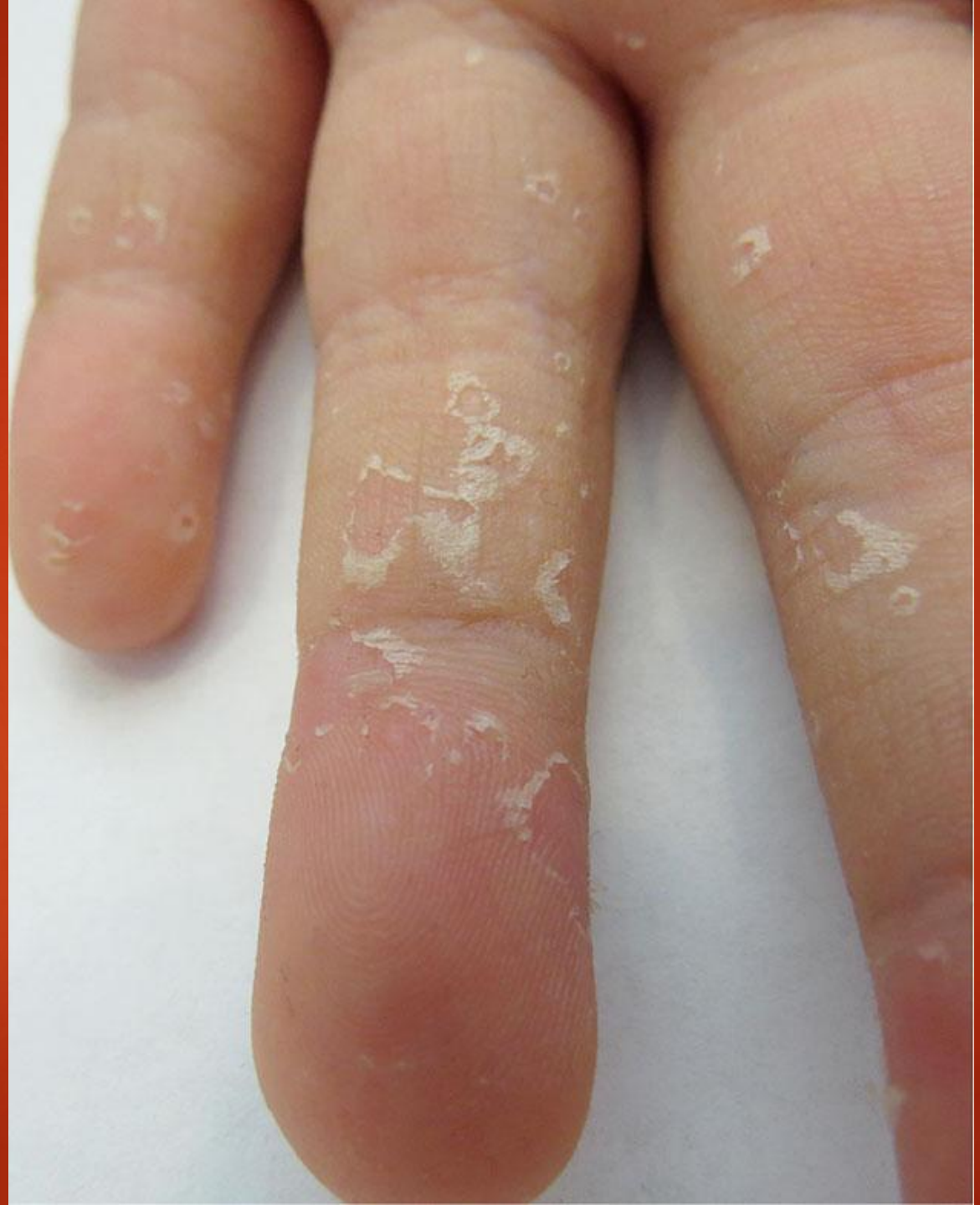
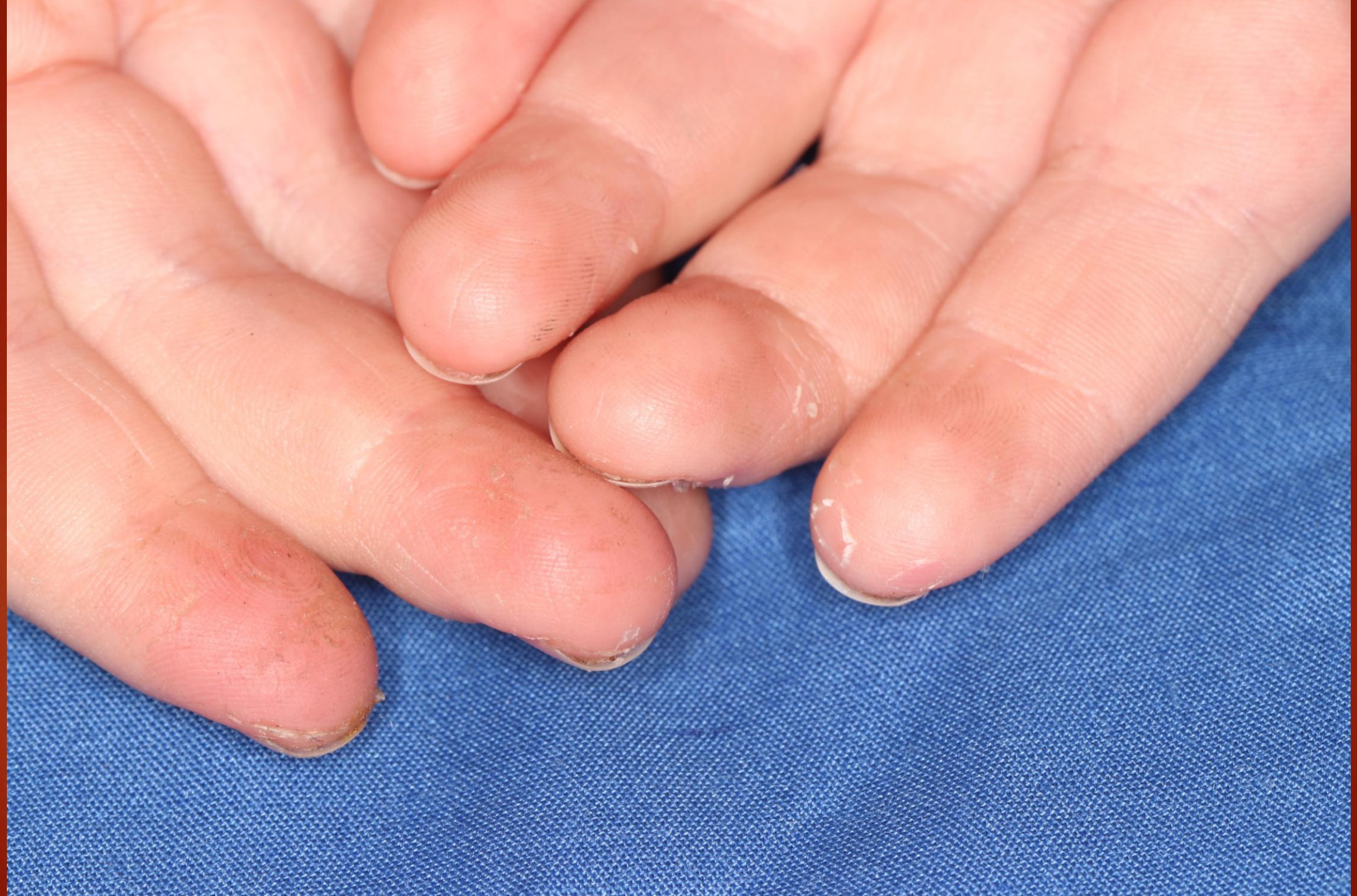
Bland Fingertip Peeling
Acral Peeling Skin Syndrome

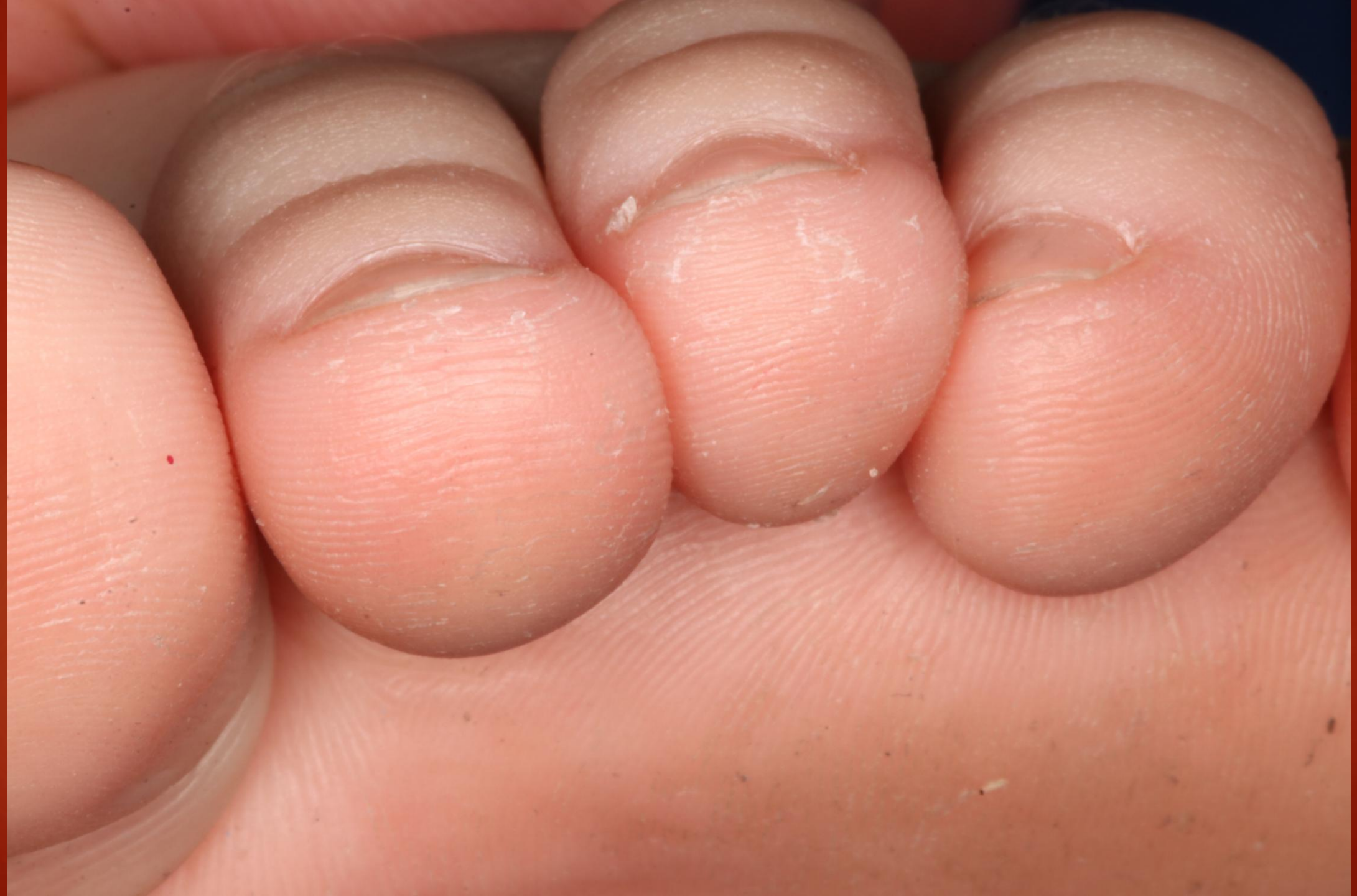
- Rare, perhaps under-recognized
- Superficial, acral, non-inflamed, nonpruritic peeling (blisters not usually seen) from birth or **from an early age**
- Worsened by water, sweating, heat, friction
- Autosomal recessive transglutaminase 5
  - 18 different loci, perhaps Northern European founder effect

Bland Fingertip Peeling
Keratolysis Exfoliativa

- "Common"
- Usually, older children and young adults
- Palm > soles
- Recurrent annular, air-filled "vesicle" leaving a collar
- Asymptomatic
- Heat, friction, moisture







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Bland Fingertip Peeling Differential Diagnosis

- Ichthyosis vulgaris/irritant or allergic contact dermatitis/atopic dermatitis
- Post-infectious desquamation
- Acral peeling skin syndrome
- Keratolysis exfoliative
- Diagnosis matters somewhat for treatment
  - Topical steroids only for inflammatory processes

Vulvovaginal Itching

Vulvovaginal Itching
Non-specific Vulvovaginitis

- "Please, let the exam show…"
  - Lichen sclerosus
  - Psoriasis/Seborrheic dermatitis
  - Allergic contact dermatitis
  - Candida
  - Strep
  - Foreign body

Vulvovaginal Itching
Non-specific Vulvovaginitis

- Thorough history and exam- mostly to get parents buy-in, but who knows what you might find
- Rule out other conditions
- Exam is normal or with nondescript inflammation
- Itch may seem out of proportion to findings
- Consider KOH, culture, seldom biopsy
- Discuss any possible inappropriate touching

Vulvovaginal Itching
Non-specific Vulvovaginitis

- Steps in treatment
  - Set the stage- we are in this for the long haul, it will wax and wane, but it will get better
  - Have a handout- education is imperative but forgettable
  - Remove any irritants/fragrances/chemical
  - Breathable cotton underwear, no tights
  - Thick emollient, diaper rash cream
  - **My opinion is that most of these girls are atopic and will benefit from a topical steroid or calcineurin-inhibitor**

Vulvovaginal Itching

General tips for vulvovaginitis

- 1. If your daughter wears diapers, change them as soon as they're wet.
- 2. Wear cotton underwear. Change underwear as needed. Always keep buttocks dry.
- 3. Do not wear underwear at night. Sleep in loose-fitting pajamas or a nightgown (without underwear) to promote air circulation.
- 4. Change out of wet bathing suits as soon as possible after swimming.

Vulvovaginal Itching

General tips for vulvovaginitis

- 5. Avoid wearing pantiliners if you have a discharge, as they irritate the vulvar area.
- 6. Avoid wearing tights, tight jeans or leggings.
- 7. Use a mild, unscented laundry soap ex. All Free and Clear. If necessary, rinse clothes twice with clean water. Do not use fabric softeners or drier sheets.
- 8. Use only white toilet paper. **Avoid commercial diaper wipes,** even those labeled as "hypoallergenic."
- 9. Teach your daughter to wipe her vulva from front to back.

Vulvovaginal Itching

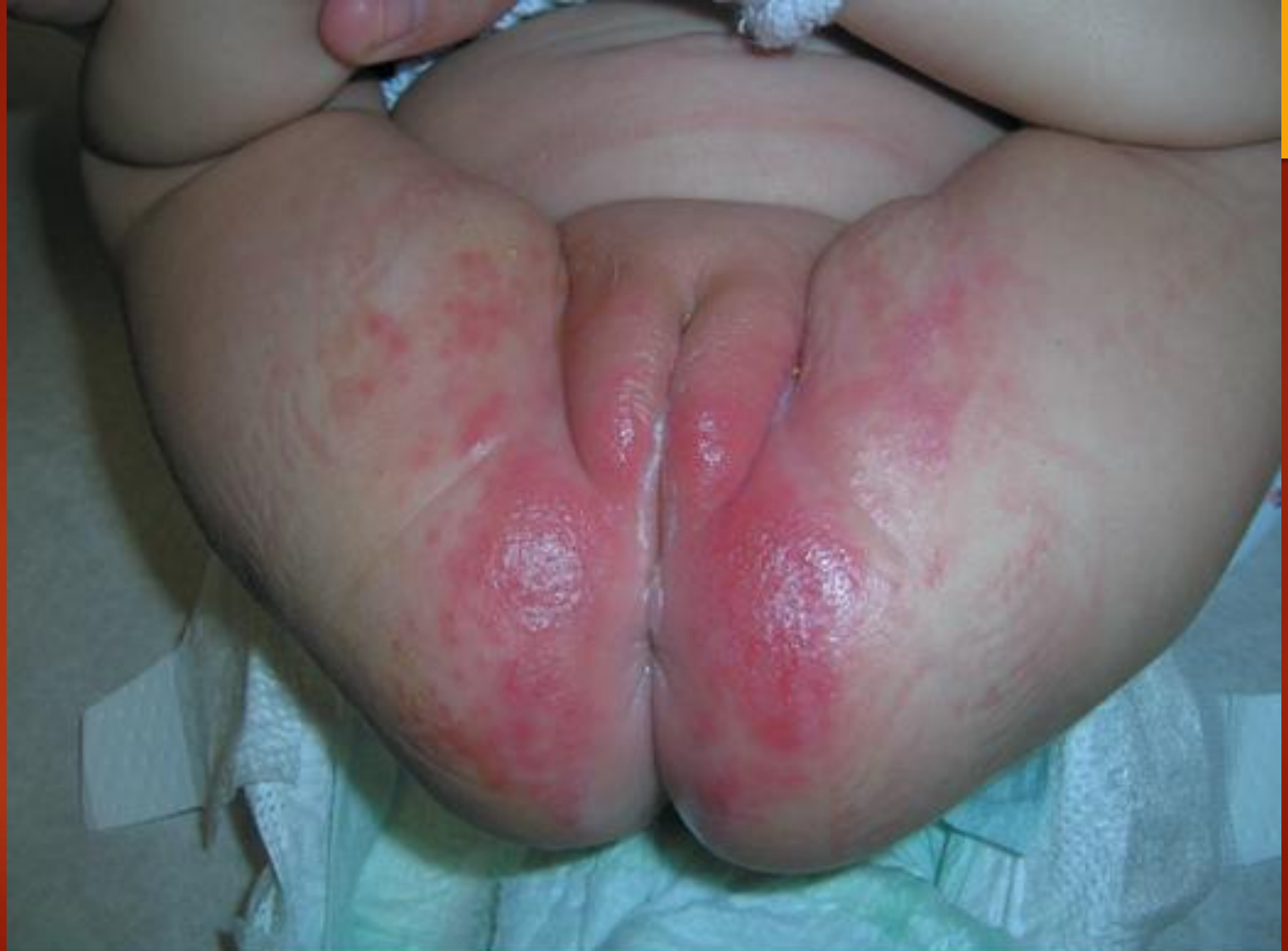
General tips for vulvovaginitis

- 10. Take a bath every day. Use gentle, moisturizing, scent-free soaps, ex. Dove Unscented. Wash hair in the shower or over the sink if possible. Otherwise, do it at the end of the bath. After the bath, pat the vulva dry. Do not rub it. Using a hair dryer set on low heat can also be an option for drying the vulva area.
- 11. Encourage your daughter to urinate with her legs apart to avoid urine backflow to the vagina. Make sure she pulls her pants or tights down below her knees. Show her how to do this.
- 12. Apply **zinc oxide**-containing barrier cream (diaper rash cream) such as Desitin, Triple Paste, A +D, or generic zinc oxide ointment 3 to 4 times a day. One **layer** can go on top of the other without wiping the previous layer. When your daughter does need to have her bottom cleaned, zinc oxide should be removed without scrubbing. The easiest technique is to **melt it away with mineral oil**.

Vulvovaginal Itching

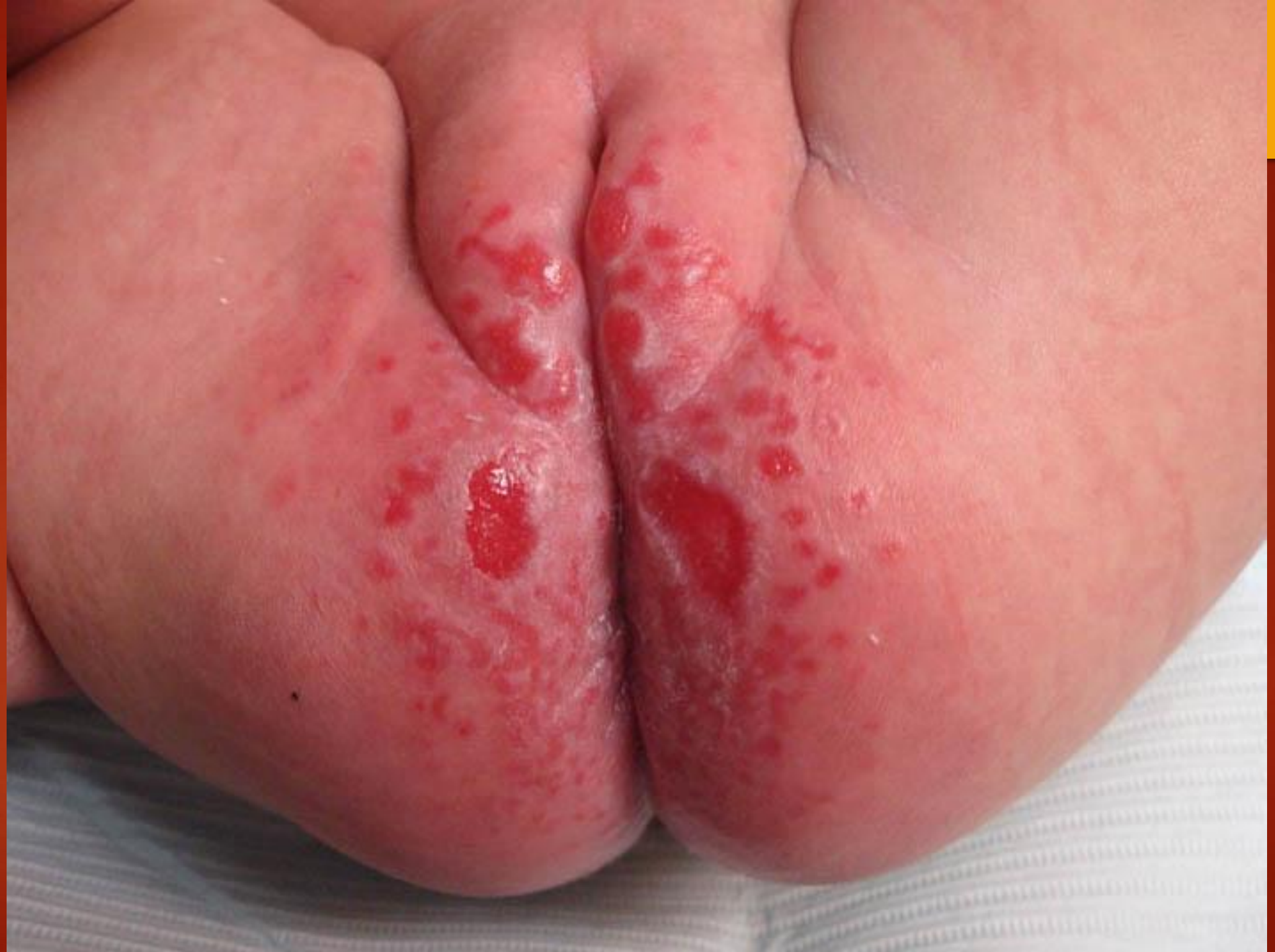
- General tips for vulvovaginitis
- 13. Dr. Pride may suggest using a mixture of **equal parts of zinc oxide, mupirocin antibacterial ointment (prescription), clotrimazole cream (over the counter), and hydrocortisone 1% cream (over the counter)** to be used twice daily. These can be mixed in a pill jar for bulk use or just in the palm of the hand for single use. Dr. Pride may suggest prescription strength anti-inflammatory ointments to control itching.
- Be aware that the condition tends to wax and wane with no apparent cause, and it will **likely come back**, even after seemingly disappearing. Some girls are more prone to this than others. Fortunately, as your daughter gets older, she should experience fewer episodes of vulvovaginitis, and it will eventually **burn out** and go away.

Diaper Dermatitis



Diaper Dermatitis Conditions To Rule Out

- Candida
- Strep/Staph
- Seborrheic dermatitis
- Psoriasis
- Allergic contact dermatitis
- Zinc deficiency
- Langerhans cell histiocytosis
- Inflammatory bowel disease
- Hemangioma

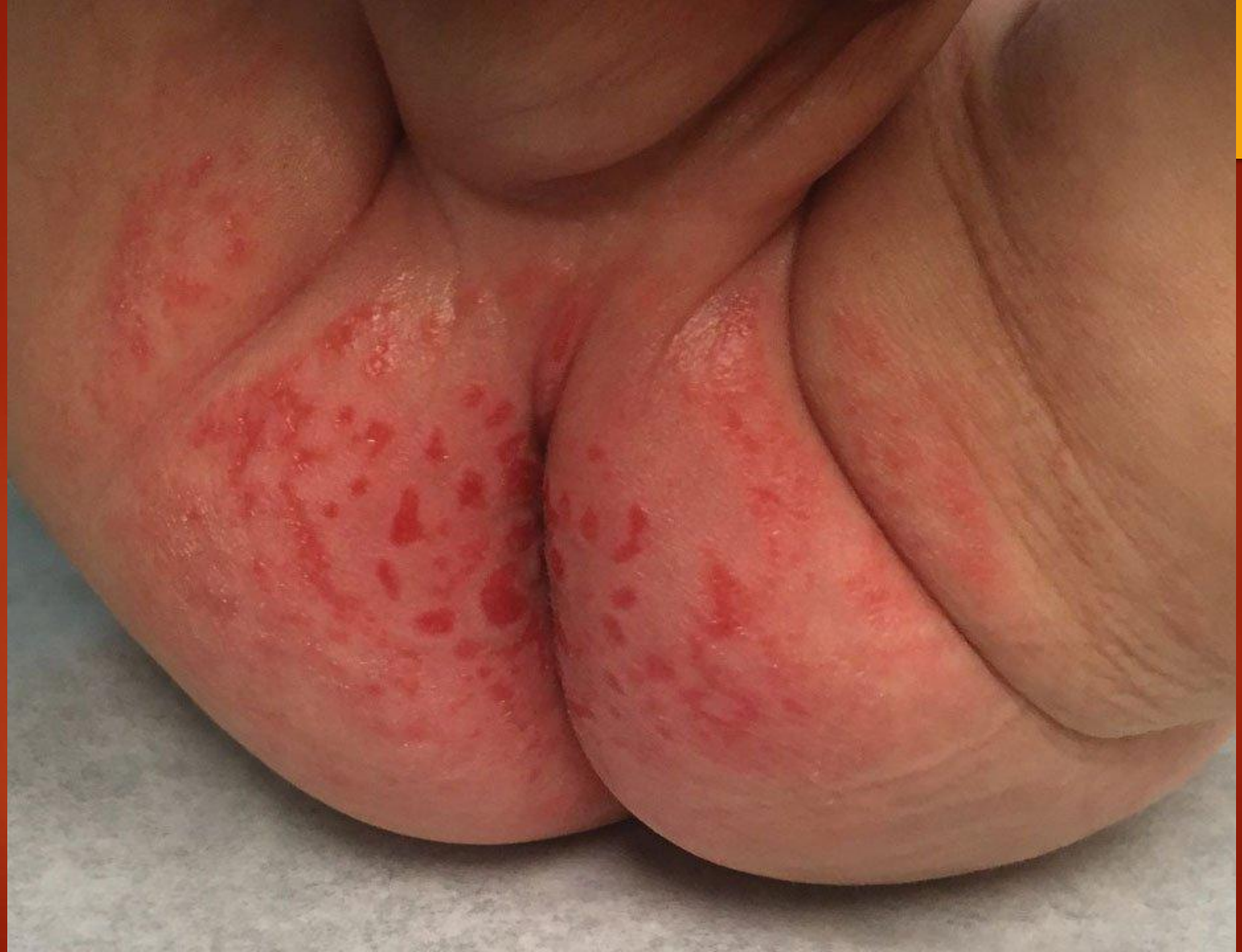


Diaper Dermatitis
The Challenge

- These are some of the most stressed-out parents that we see
- They have already tried many products without success prior to the visit- “We tried that”
- We must listen to their journey and thoroughly examine the child, so our time is up before we even address treatment
- Have a handout that repeats instructions (Society for Pediatric Dermatology)

Diaper Dermatitis General Instructions

- Stop everything and let's start over from scratch
- Out of diaper when possible
- **NO commercial diaper wipes** until the problems clears
- Lots of zinc oxide-based cream many times per day, **layer** one on top of the other
- **Remove gently with mineral oil**, no scrubbing
- Add in mix of clotrimazole, mupirocin, HCC



Calcium/Sodium PVM/MA Copolymers, Corn Starch, White Petrolatum, Phenoxyethanol, Isopropyl Isobutyl Butylparabens, Sodium Carboxymethylcellulos, and Zinc Oxide.

Diaper Dermatitis Digging Deeper

- Work with Pediatrics or Pediatric GI to slow stooling
- Sodium Carboxymethylcellulose dressing
  - Areza Medical available on Amazon
- Cyanoacrylates- Liquid Bandage, Curad Spray, New-Skin
- Silicone creams/sprays- 3M Cavilon Spray

Diaper Area Barrier Films

$11.98 for 16 packets

$20.76 for 10 tubes

- Benzethonium chloride 0.2% as antiseptic
- Nitrocellose forms a protective film
- I thought that Liquid Skin was more difficult to apply, and the film was less flexible

Diaper Area Barrier Films

$6.79 for 40 mL

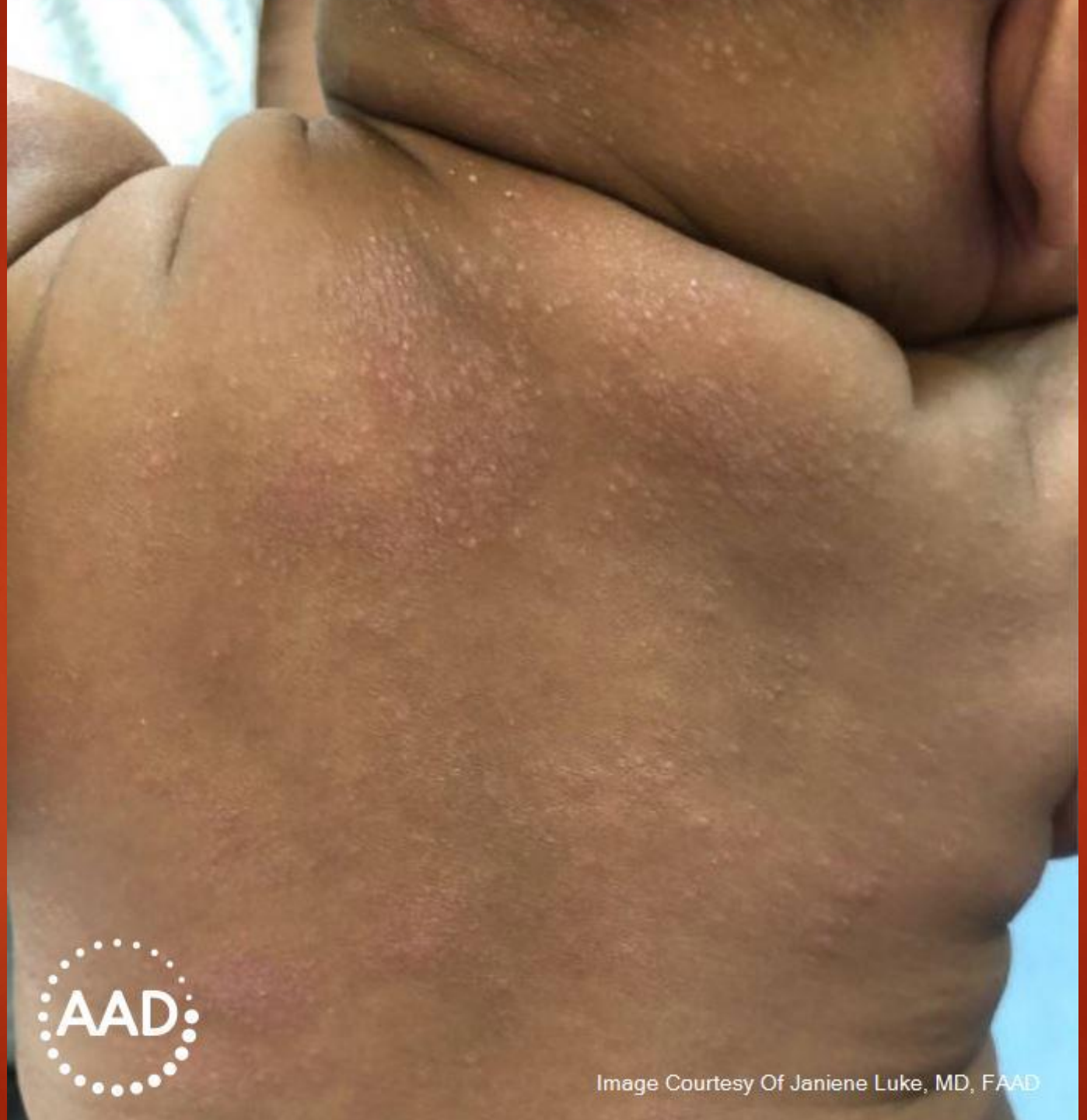
- Benzethonium chloride 0.2% as antiseptic
- Amyl acetate, butyl acetate, camphor, ethyl acetate, nitrocellulose
- Very easy to use spray
- "Slight stinging sensation when applied to an open wound…usually minor and temporary"

Diaper Area Barrier Films

$14.50 for 28 mL

- Hexamethyldisiloxane, isooctane, acrylate terpolymer, polyphenylmethylsiloxane
- Very easy to use spray
- No topical antibiotic to act as a sensitizer
- No sting on application

Food Allergies


AAD
Image Courtesy Of Janiene Luke, MD, FAAD

“I’m not interested in treating the eczema. I want to find the root cause.”

- What is the incidence of proven food allergies in children with eczema?

- What is the incidence of these allergies causing or exacerbating the eczema?

“I’m not interested in treating the eczema. I want to find the root cause.”

- What is the incidence of proven food allergies in children with eczema?
  - 15-40% across all severities
  - 30-40% in moderate-to-severe
  - >50% very early onset and severe
- What is the incidence of these allergies causing or exacerbating the eczema?

Figures generated by OpenEvidence AI literature review

“I’m not interested in treating the eczema. I want to find the root cause.”

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  - 15-40% across all severities
  - 30-40% in moderate-to-severe
  - >50% very early onset and severe
- What is the incidence of these allergies causing or exacerbating the eczema?
  - About 6-10%

Figures generated by OpenEvidence AI literature review

“I’m not interested in treating the eczema. I want to find the root cause.”

- What is the incidence of a positive RAST test in an infant with atopic dermatitis?
  - It depends- severity, early onset, specialty clinic population
  - 80-90% moderate-to-severe in specialty clinic
  - 50-60% in population-based cohorts
  - Sensitivity high, specificity low
  - Egg, cow’s milk, peanut most common

Figures generated by OpenEvidence AI literature review

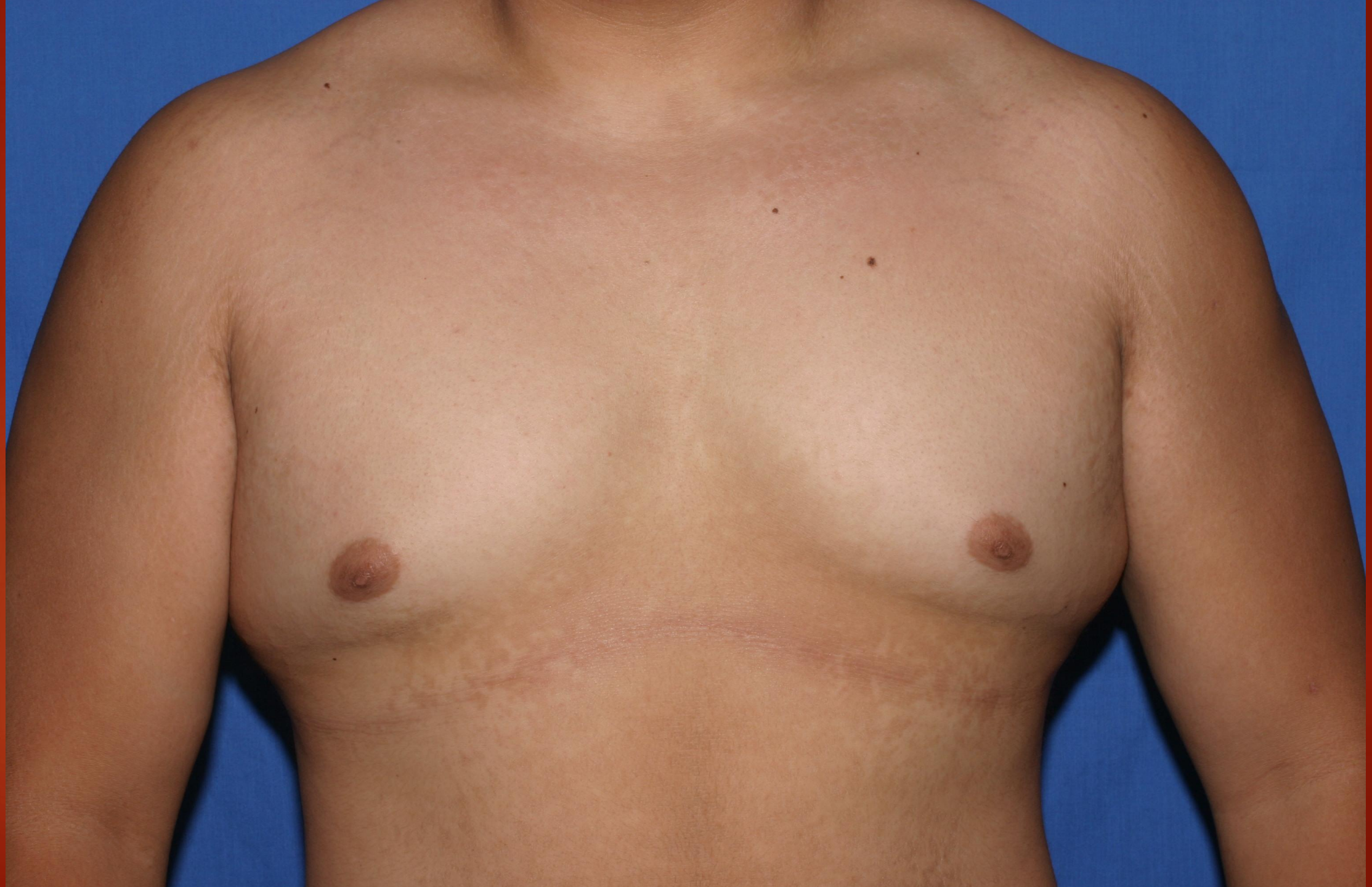
“I’m not interested in treating the eczema. I want to find the root cause.”

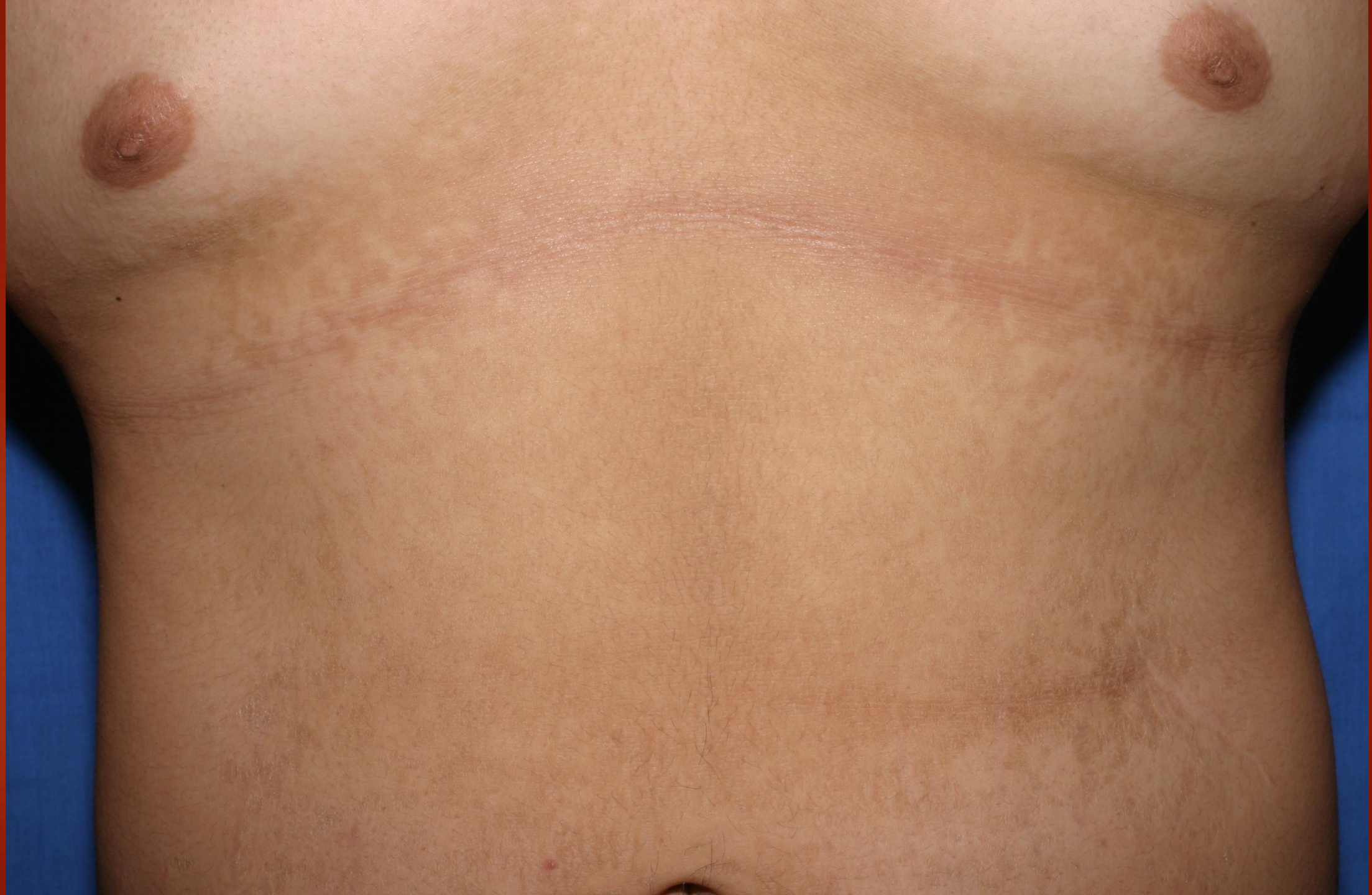
- What are the hazards of an elimination diet?
  - Malnutrition
  - Hypersensitization
  - Enhanced anaphylaxis risk
  - Reduced quality of life
  - Delay in instituting more beneficial treatments

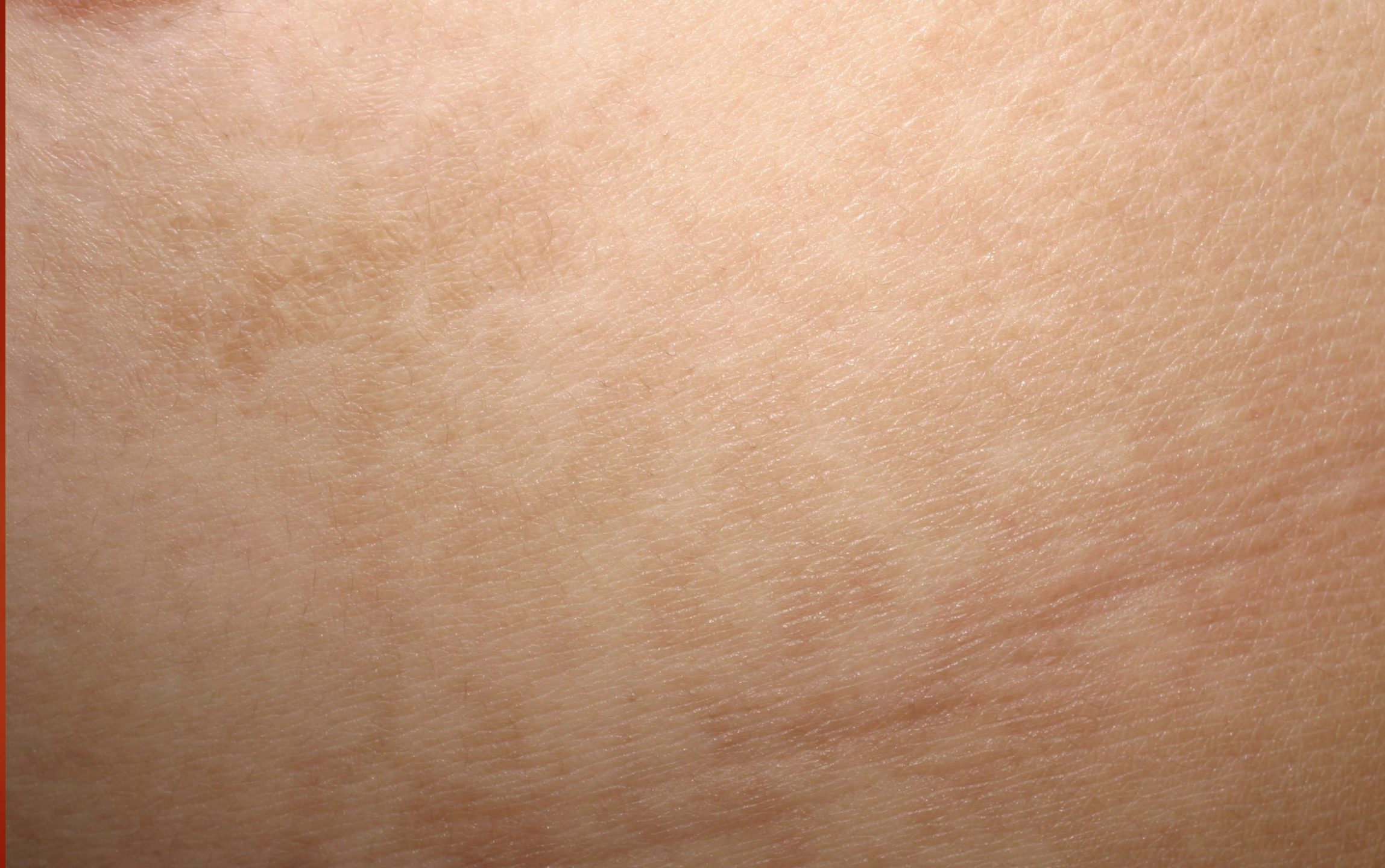
“I’m not interested in treating the eczema. I want to find the root cause.”

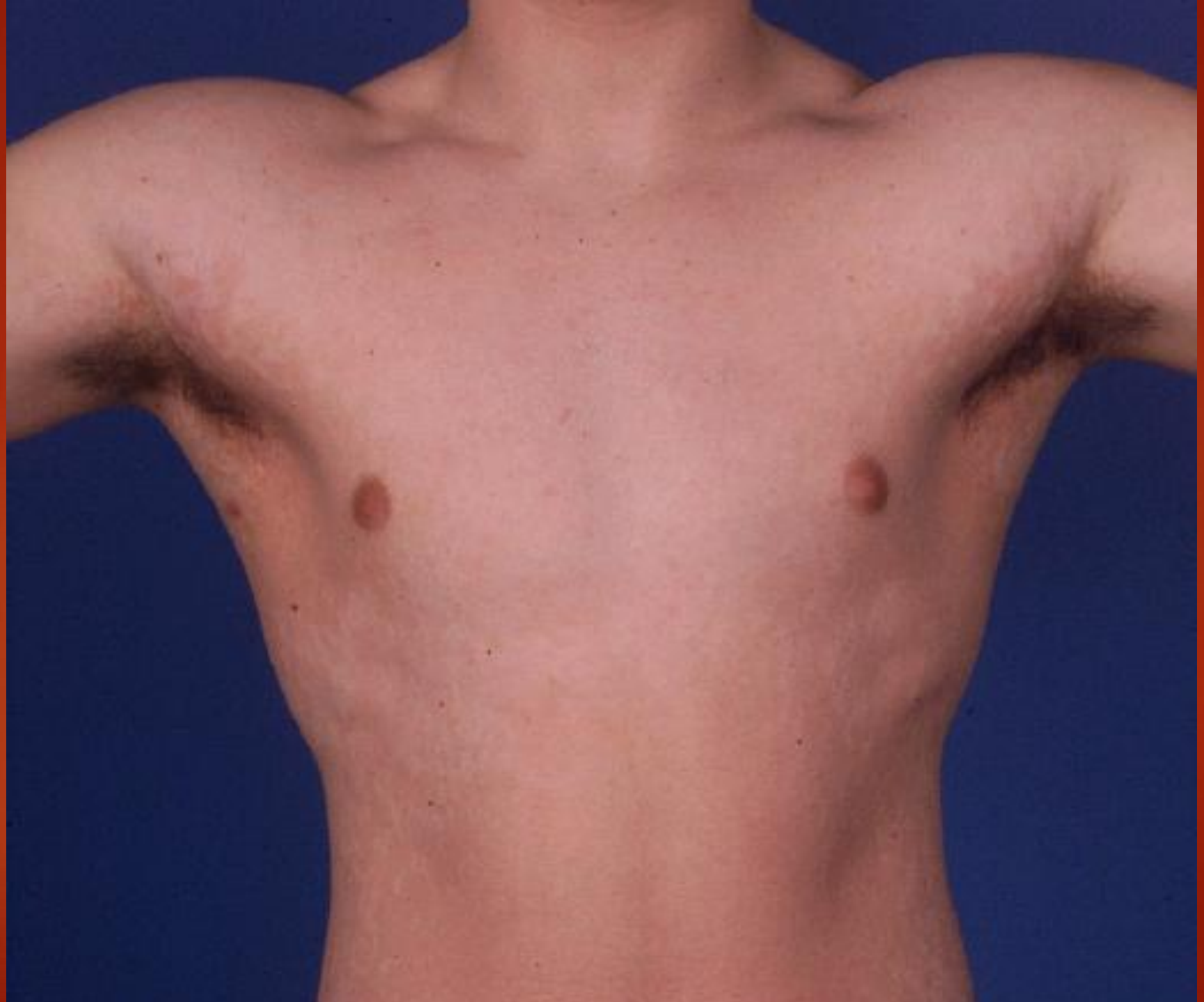
- How do I handle the inquiry?
  - “What is your sense as to possible triggers?”
  - Low probability of cause and effect (perhaps 3-4% chance)
  - Lots of false positives with testing. “This drives some parents crazy.” “Some of the most frustrated parents I take care of are those that have been trying food avoidance.”
  - Some risks to dietary avoidance but, even without testing, can consider avoidance of cow’s milk, egg, peanut, soy as a trial
  - “Let’s see how it goes with standard topical therapy. It is unlikely food allergy is playing a role if that works.”

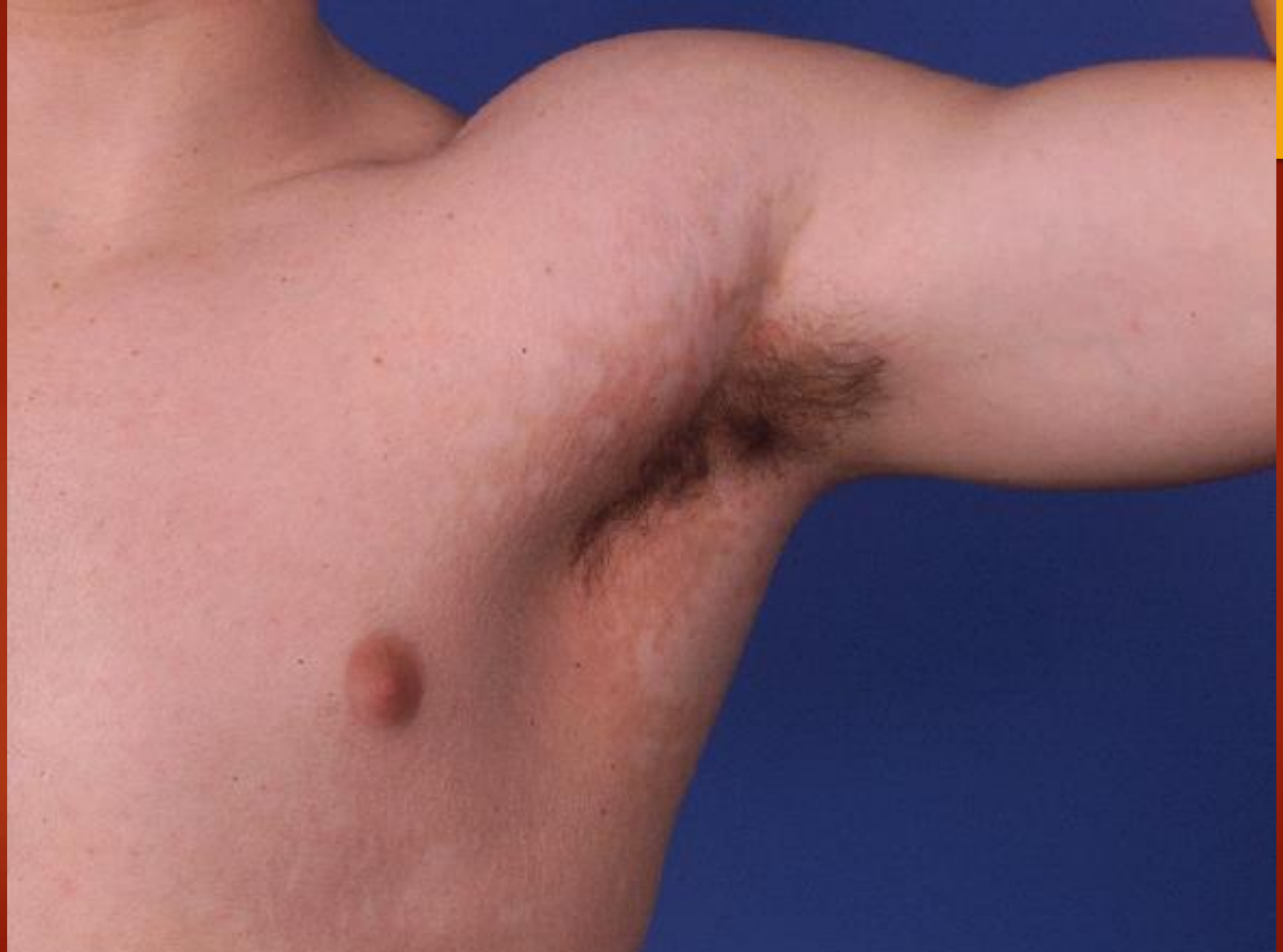
Tinea Versicolor Won't Go Away

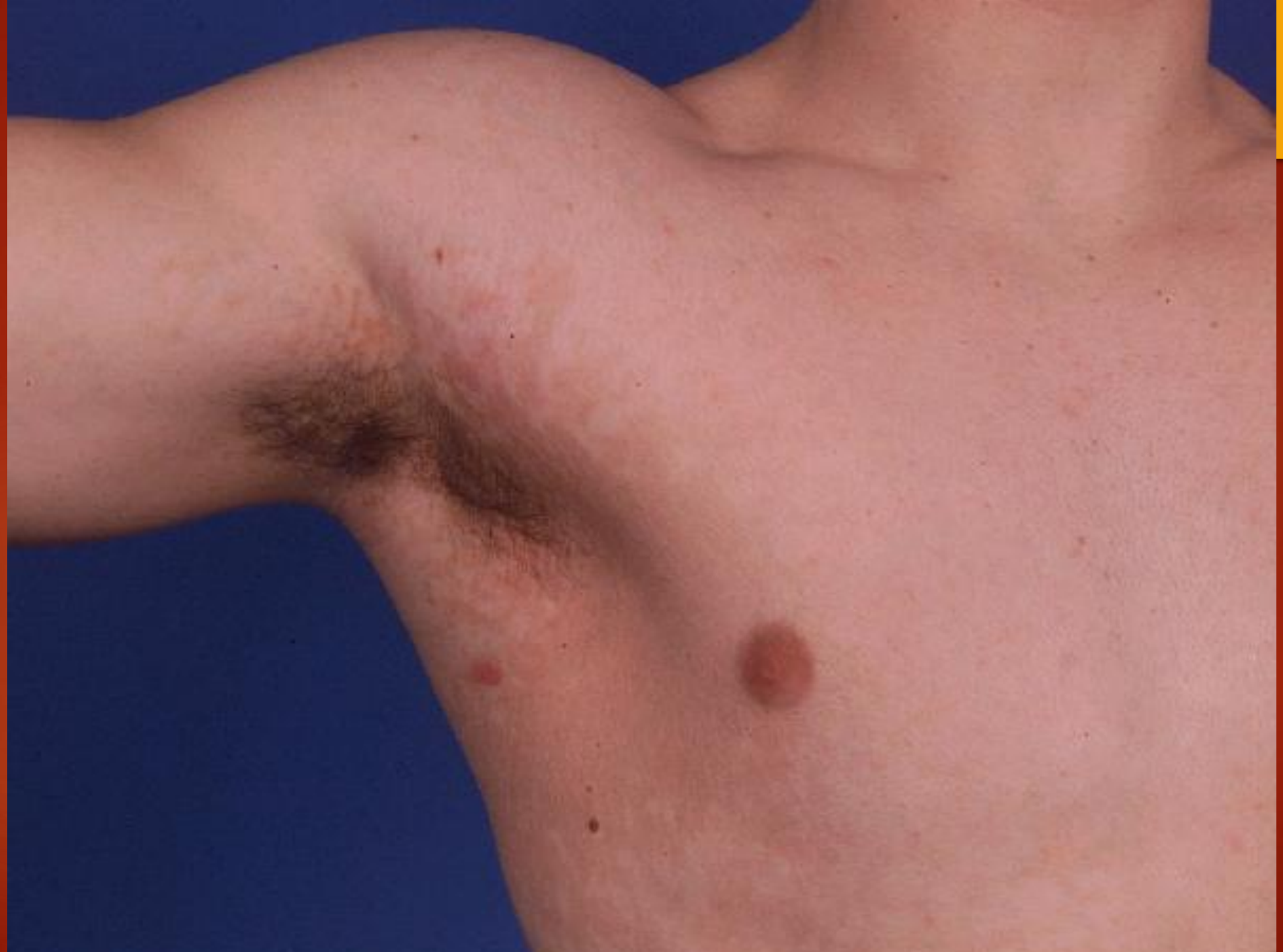






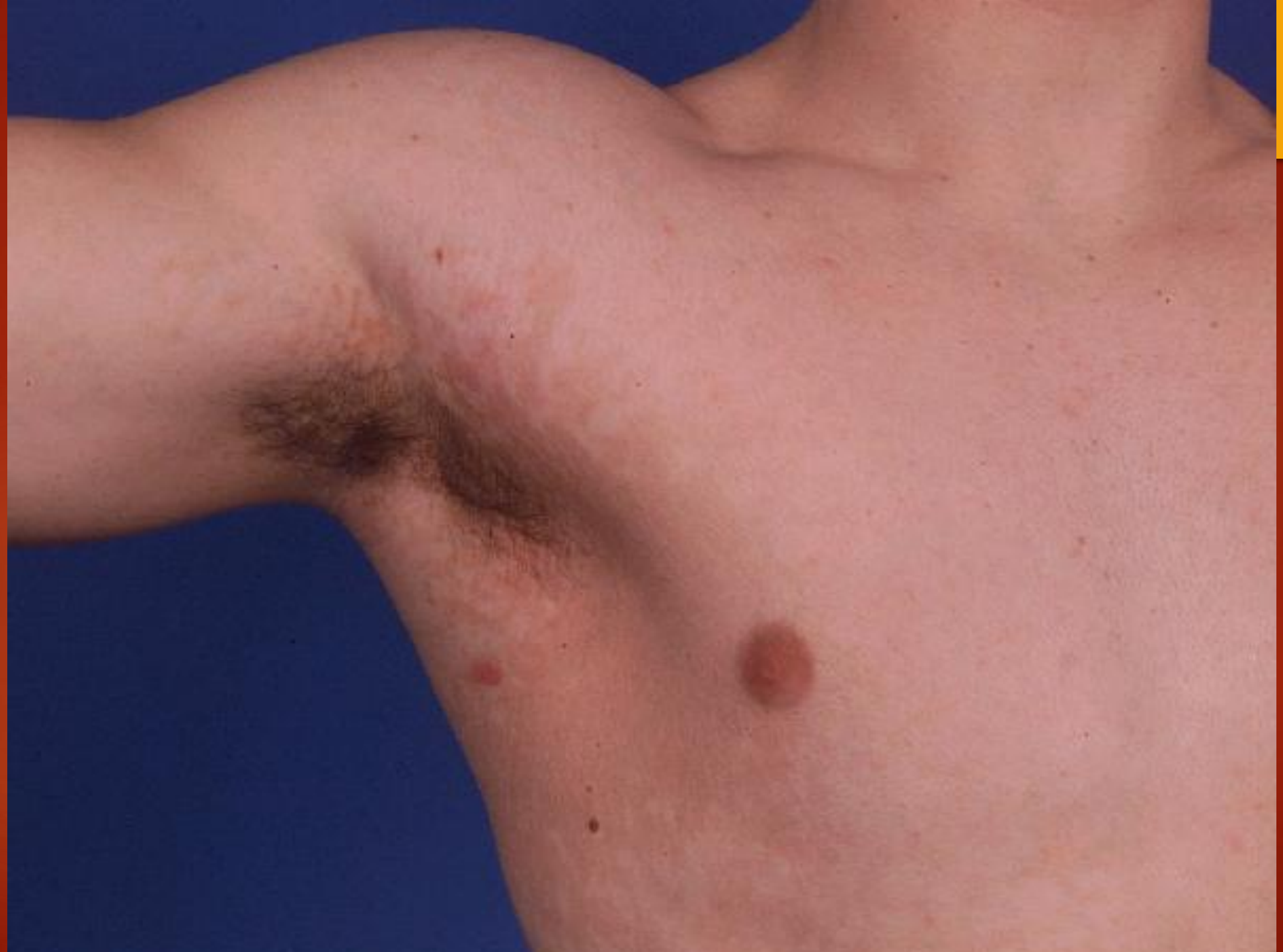


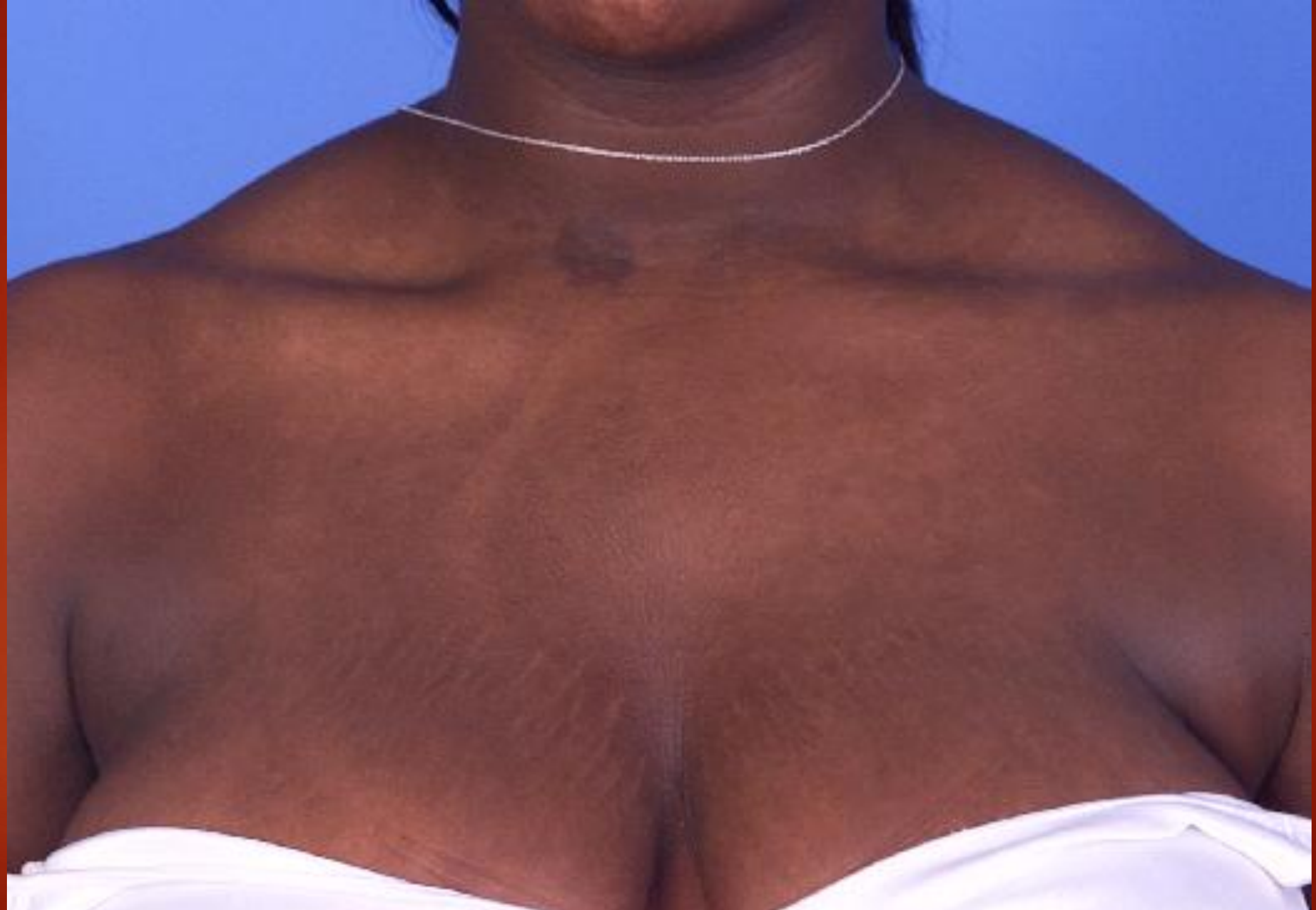


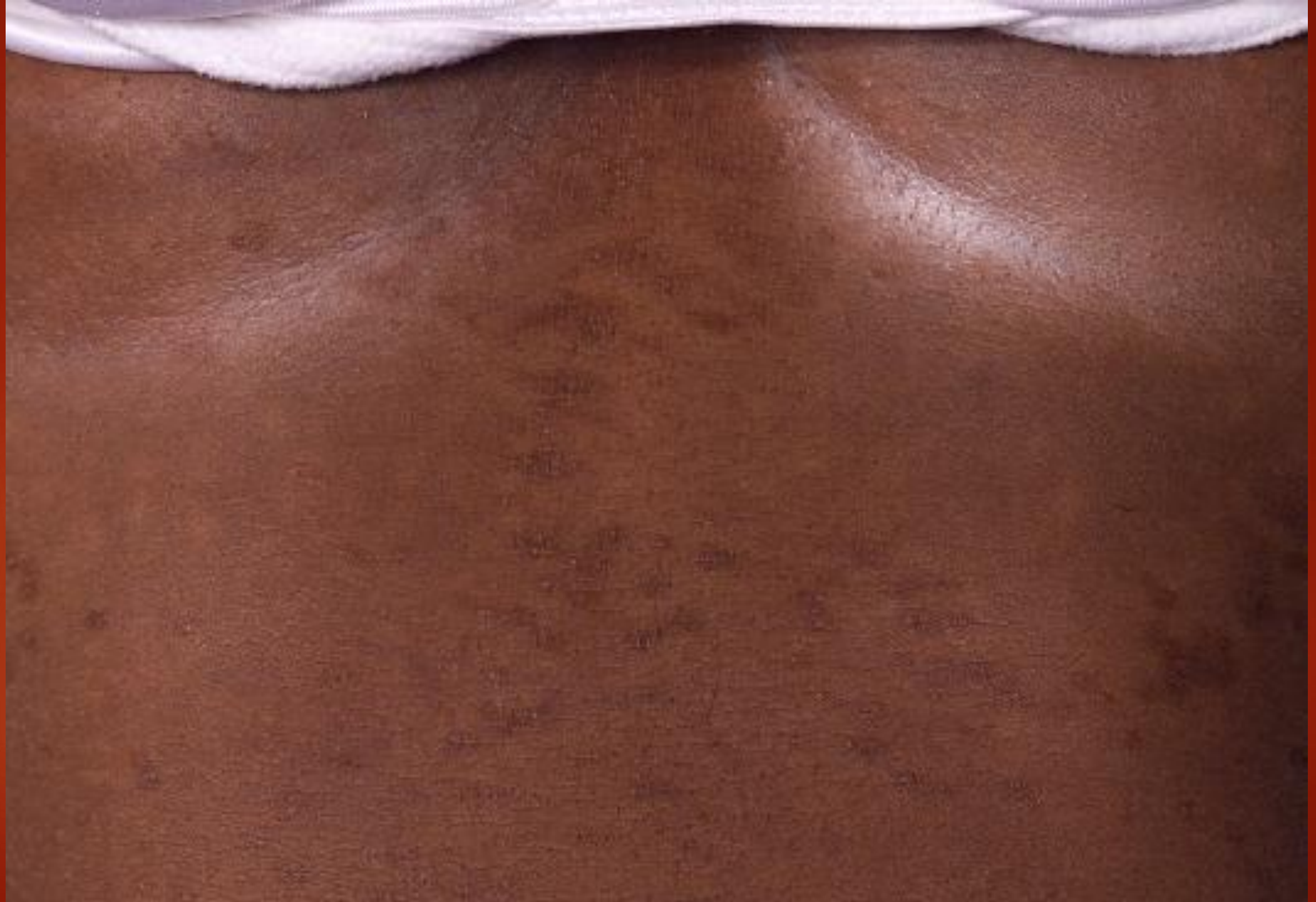


A Tinea Versicolor-like Rash

- Skin, right axilla, shave biopsy: Compact orthokeratosis and mild hypergranulosis, suggestive of a form of ichthyosis.
  Comment:
  There is no evidence of epidermodysplasia verruciformis or mycosis fungoides. The features suggest a form of ichthyosis
- "The epidermis shows only a slight irregular acanthosis. The surface is slightly **papillated**."





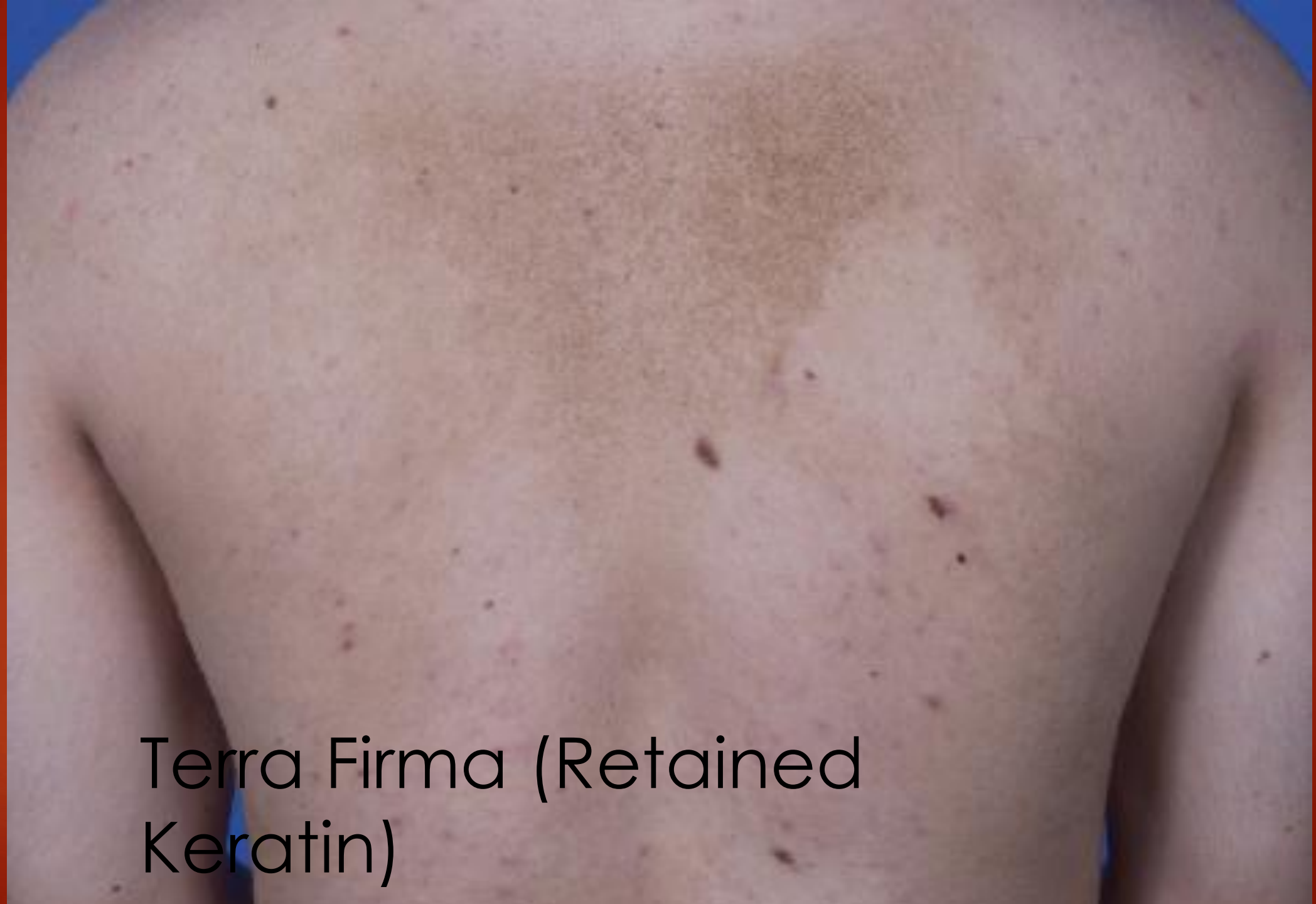


Confluent and Reticulated Papillomatosis (Gougerot and Carteaud)

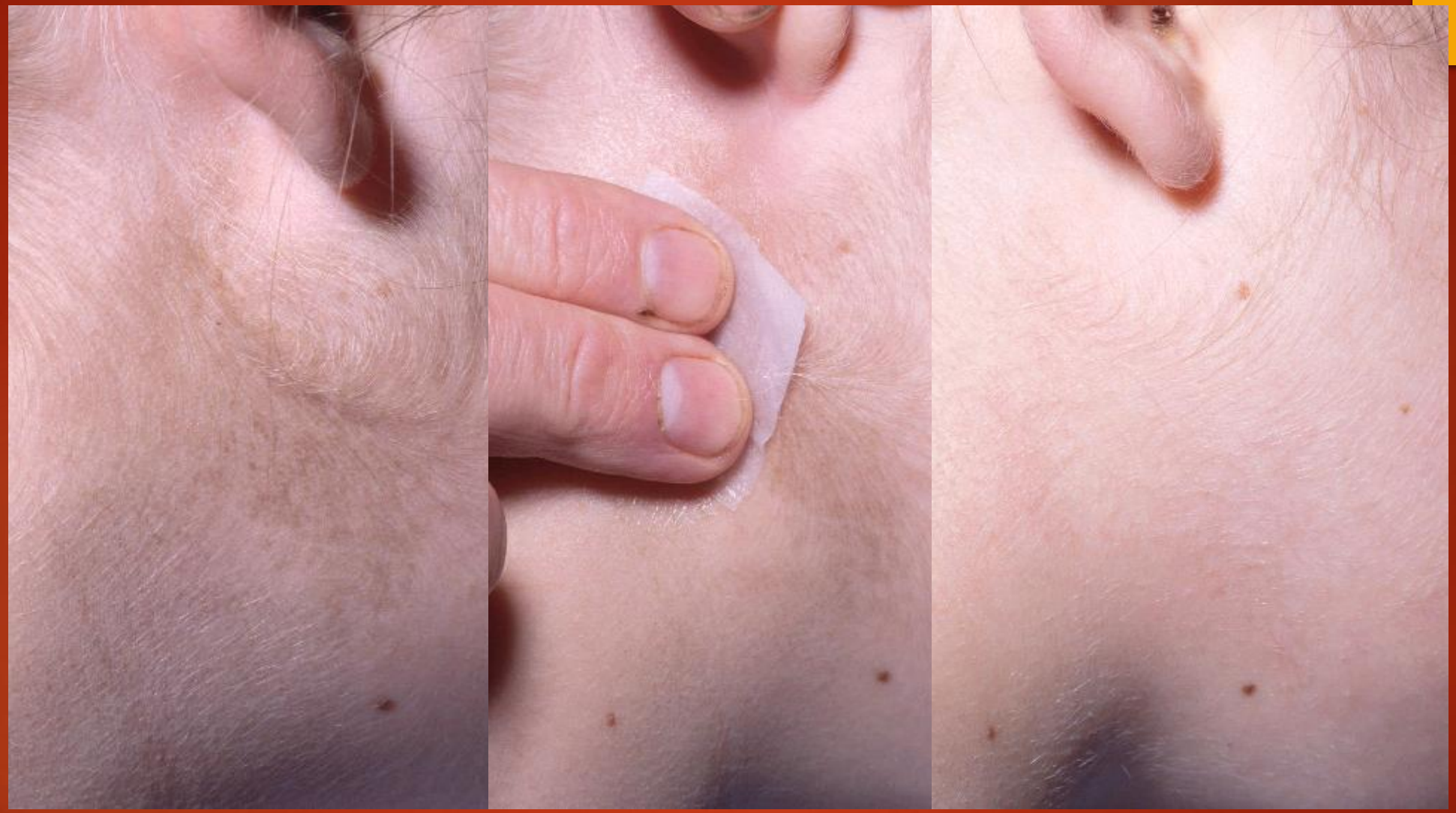
- Mostly teenagers and young adults
- About twice as many females as males
- Increased incidence in African skin
- Asymptomatic, small, slightly verrucous, hyperpigmented patches
  - Coalesce into a confluent plaque in middle of chest and back
  - Reticulated plaque in the axillae and flanks

Confluent and Reticulated Papillomatosis (Gougerot and Carteaud)

- Pathophysiology unknown
- Most theories point to some abnormality in keratinization, ? nonspecific reaction to multiple stimuli such as bacterial or yeast on the skin
- Diagnosis usually done clinically but may need pathology to confirm



Terra Firma (Retained Keratin)



Acanthosis Nigricans

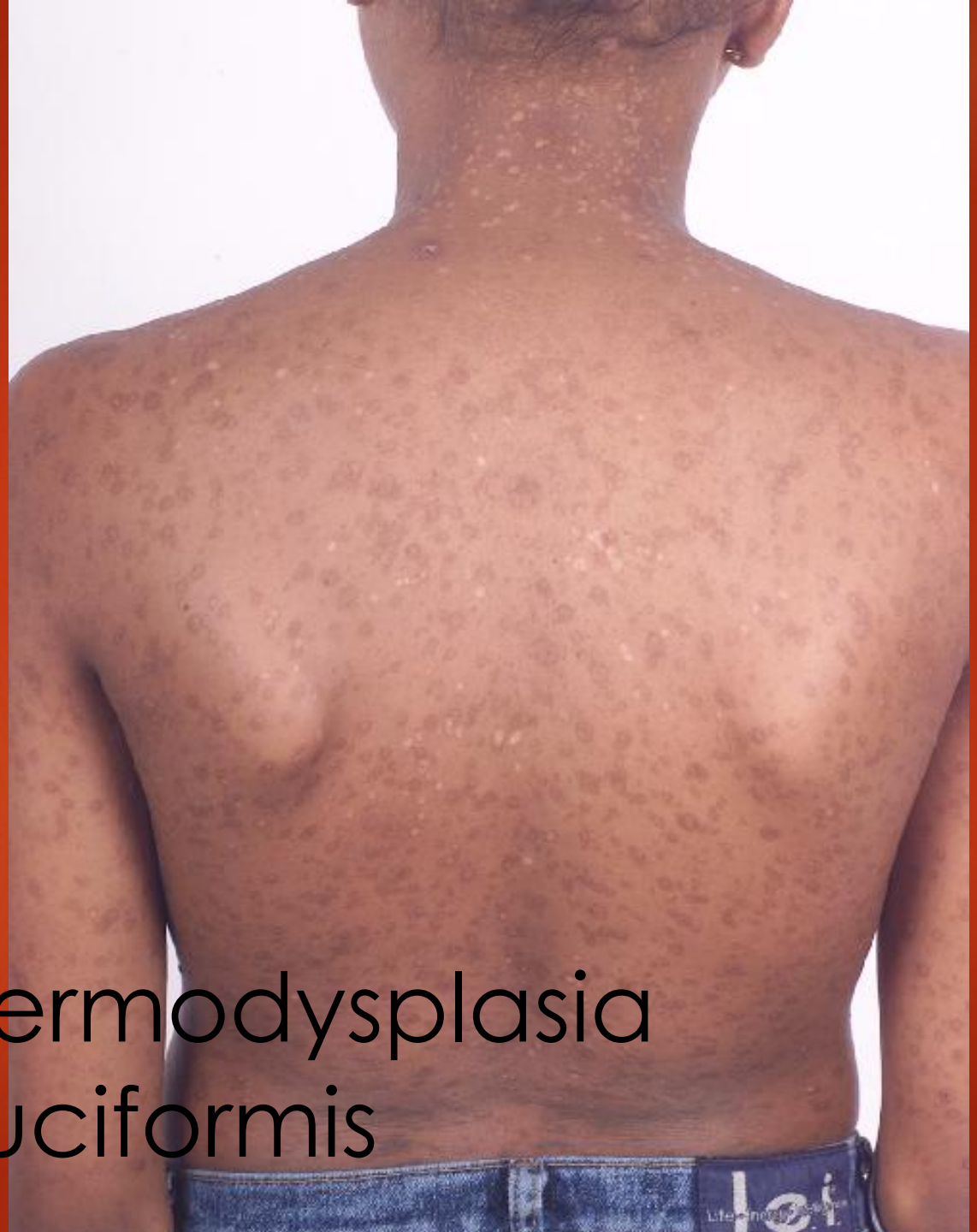
Confluent and Reticulated Papillomatosis and Tinea Versicolor

- Report of three siblings with CARP
- Two with confirmed tinea versicolor

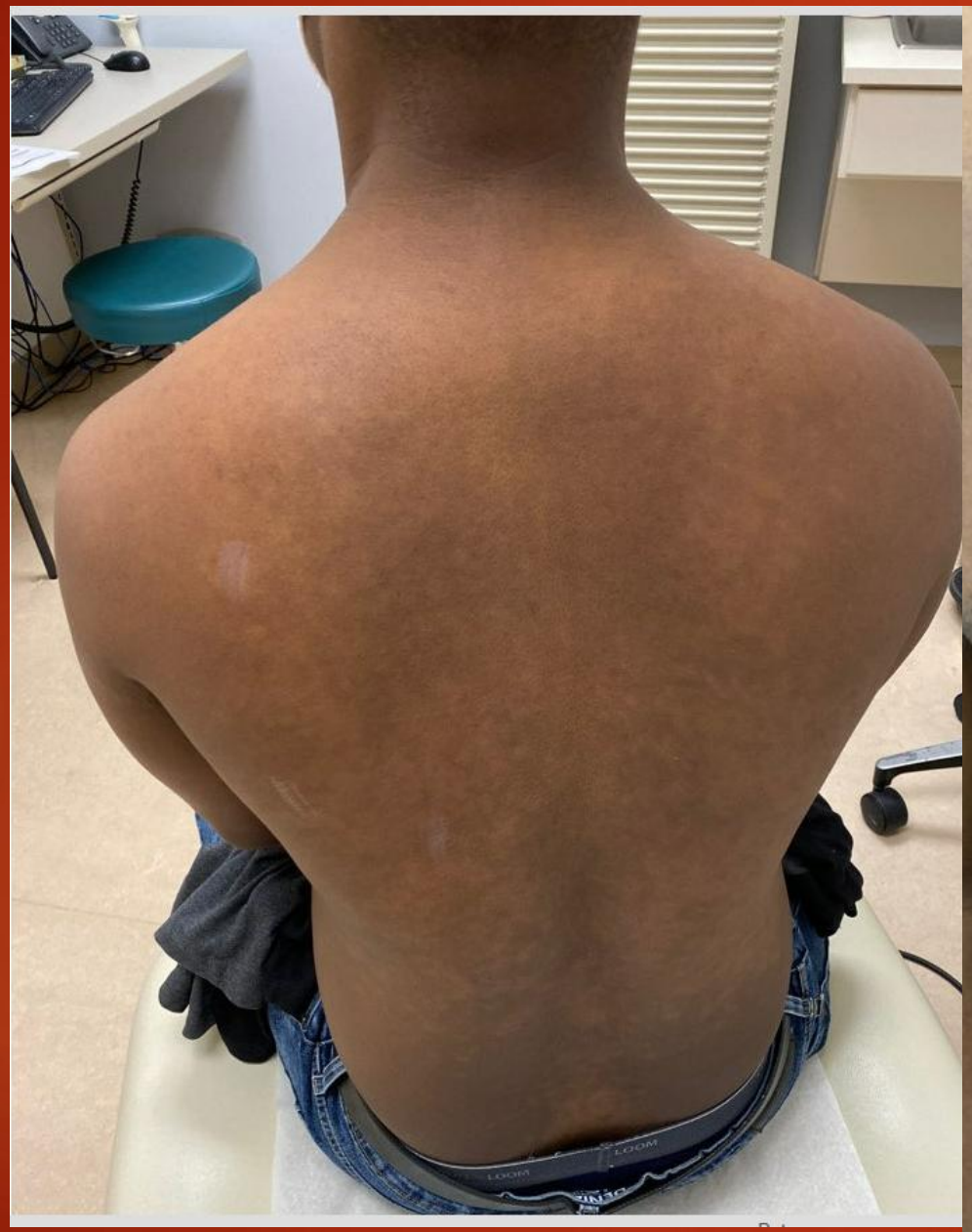
Stein JA, Shin HT, Wu Chang, M. Confluent and reticulated papillomatosis associated with tinea versicolor in three siblings. *Pediatr Dermatol* 2005;22:331-3

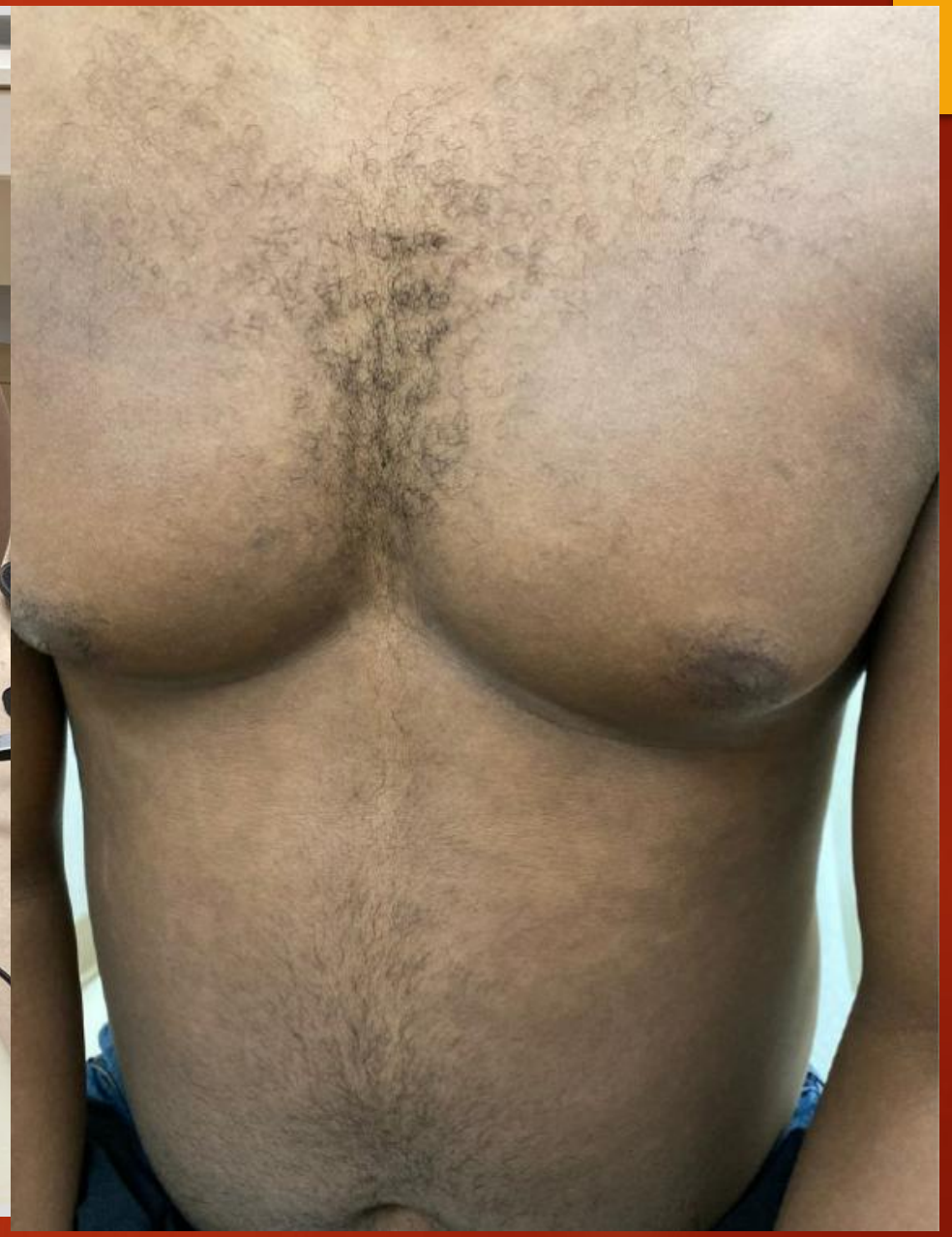
- Well-recognized association between CARP and acanthosis nigricans

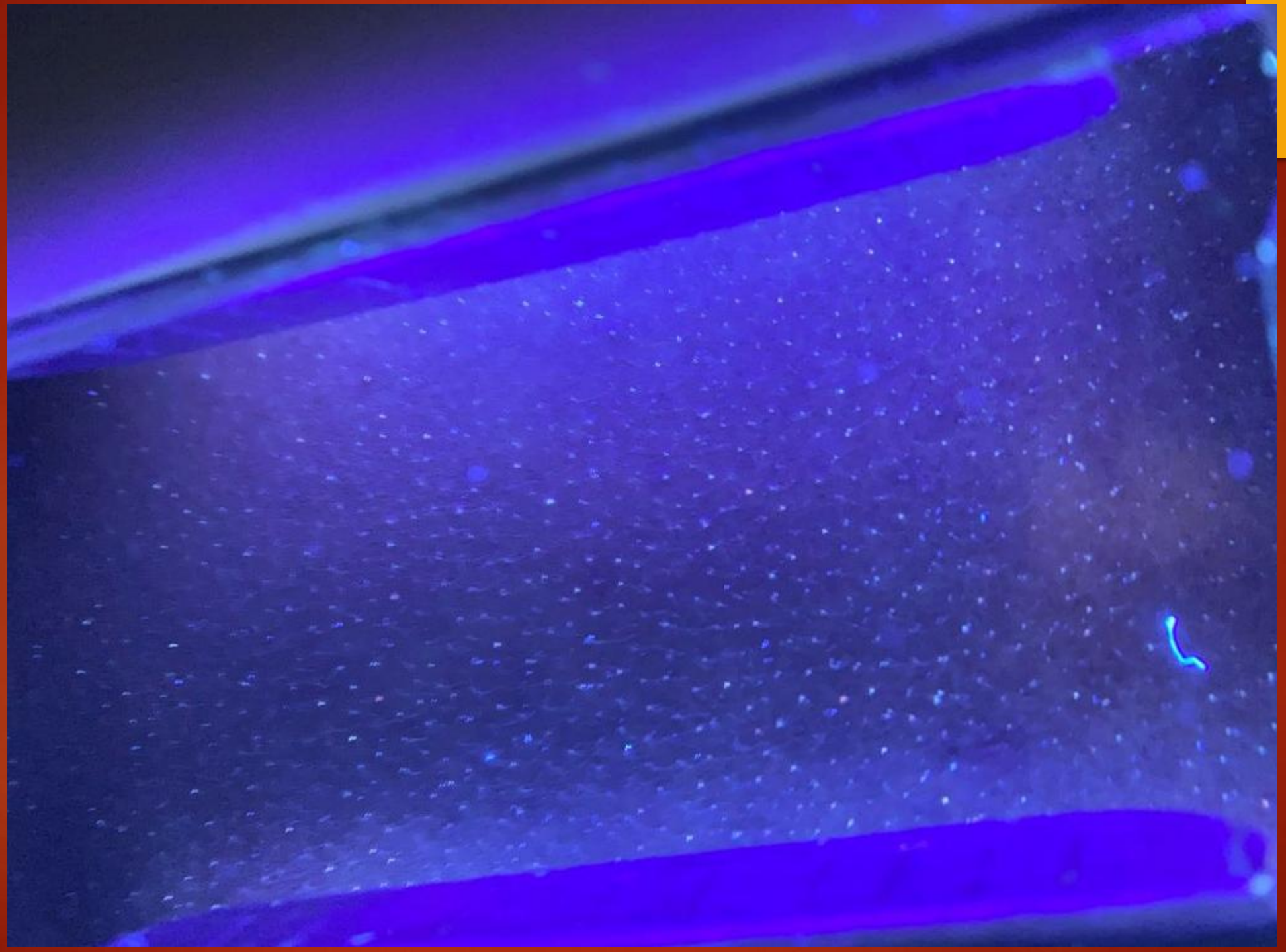
Lesson:
Tinea versicolor that doesn't respond to treatment and has a negative KOH is confluent and reticulated papillomatosis



Epidermodysplasia Verruciformis





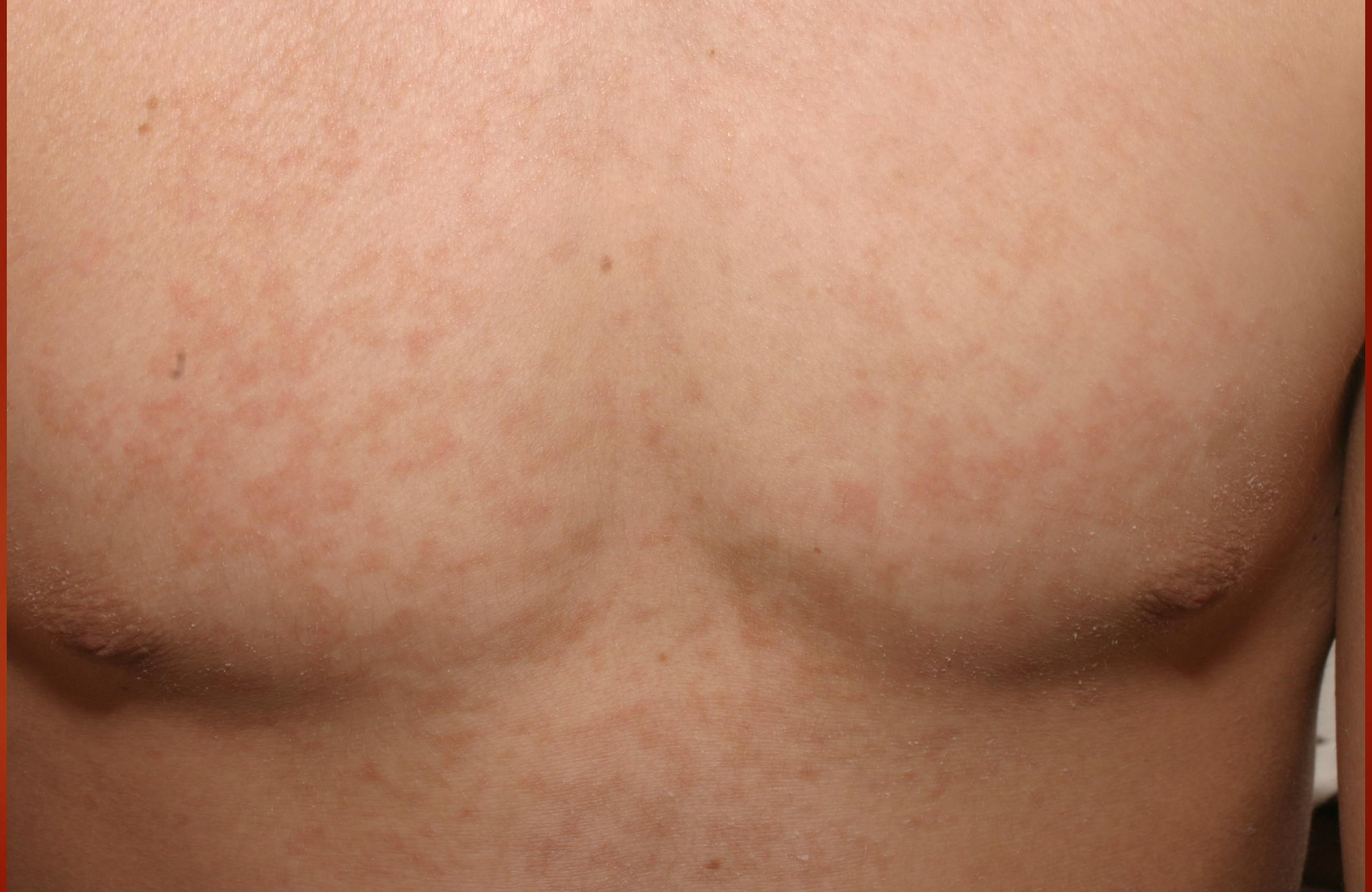


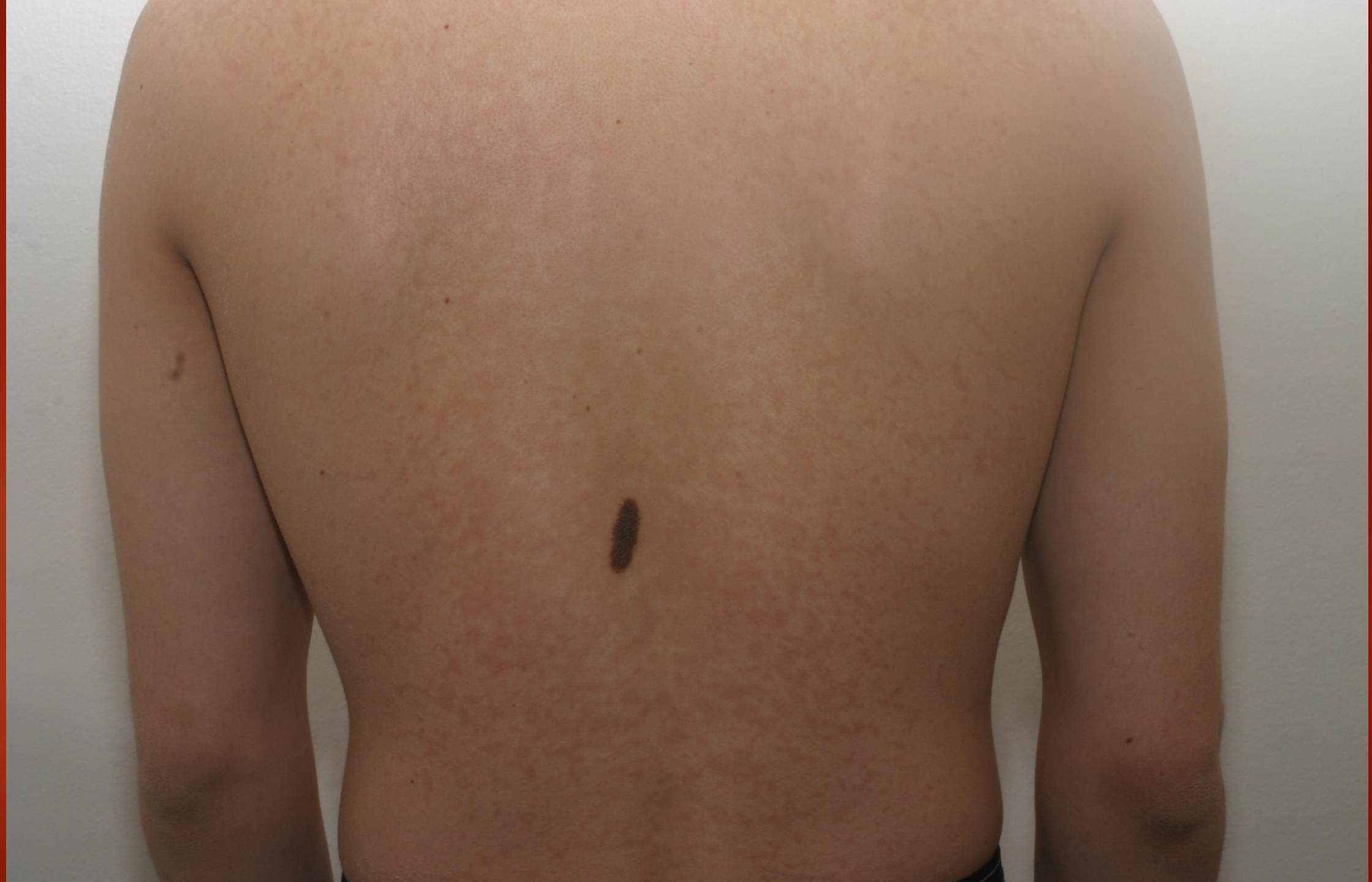
Progressive Macular Hypomelanosis

- Hypopigmented, ill-defined, non-scaling, asymptomatic macules on the back and abdomen
- No history or preceding inflammatory process
- Subtle decrease in pigment on pathology but basically looks like normal skin
- Likely under-reported and under-recognized

Progressive Macular Hypomelanosis

- Cause is unknown
  - ? Related to *Cutibacterium acnes*, fluorescence is seen with Wood's light
- Treatment
  - Oral or topical antibiotics against *C. acnes*
  - nbUVB or UVA plus antibiotic therapy





Topics to Cover

- “Lots of tiny bumps” (Lichenoid papules)
- “Peeling fingers” (Nonspecific finger peeling)
- “Vaginal itching” (Vulvovaginial pruritus in preschool girls)
- “Diaper rash” (Diaper rash)
- “Allergy testing” (Eczema with a parent convinced there is a food allergy
- “Fungus rash won’t go away” (Tinea versicolor mimics)