Skin Lesions Uncoded

CAPA March 2022
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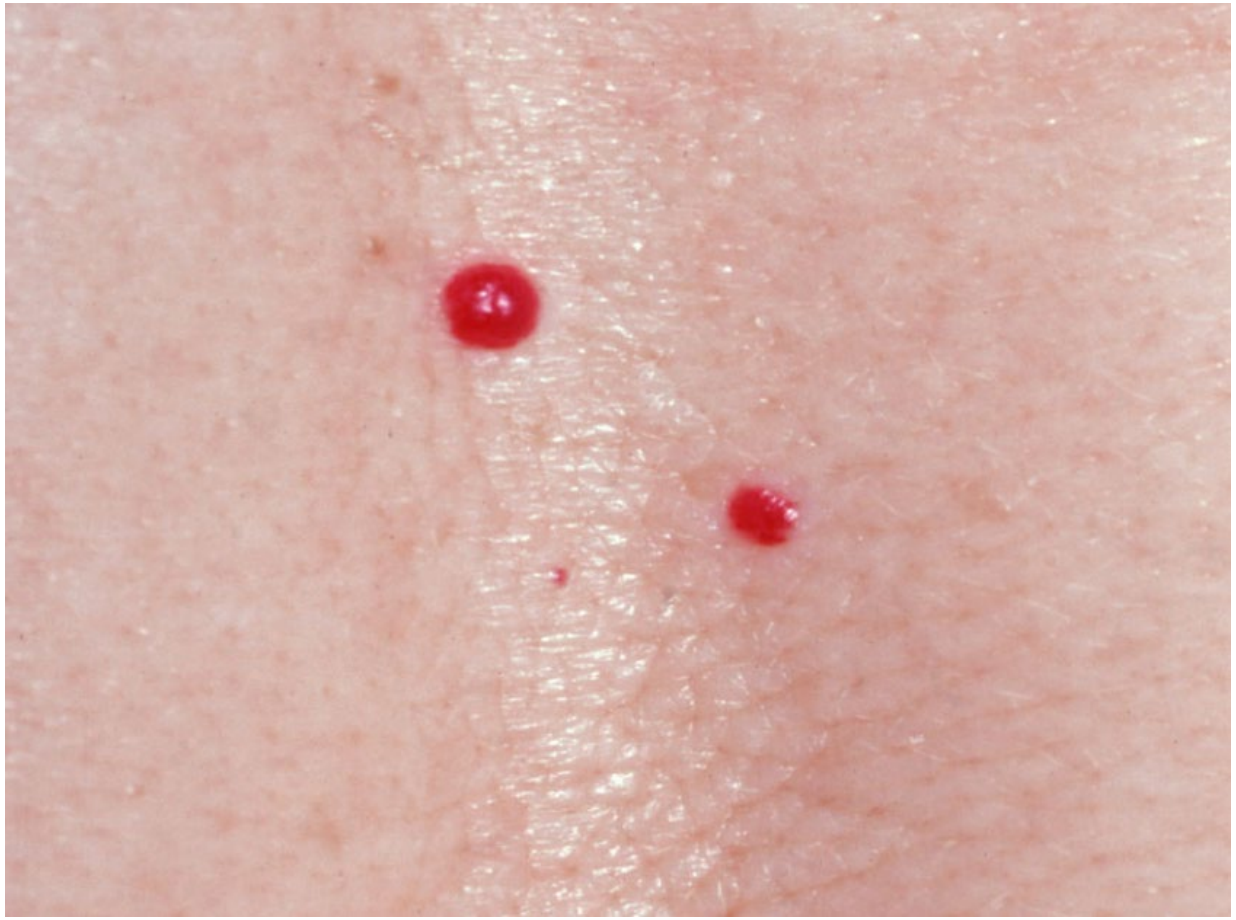
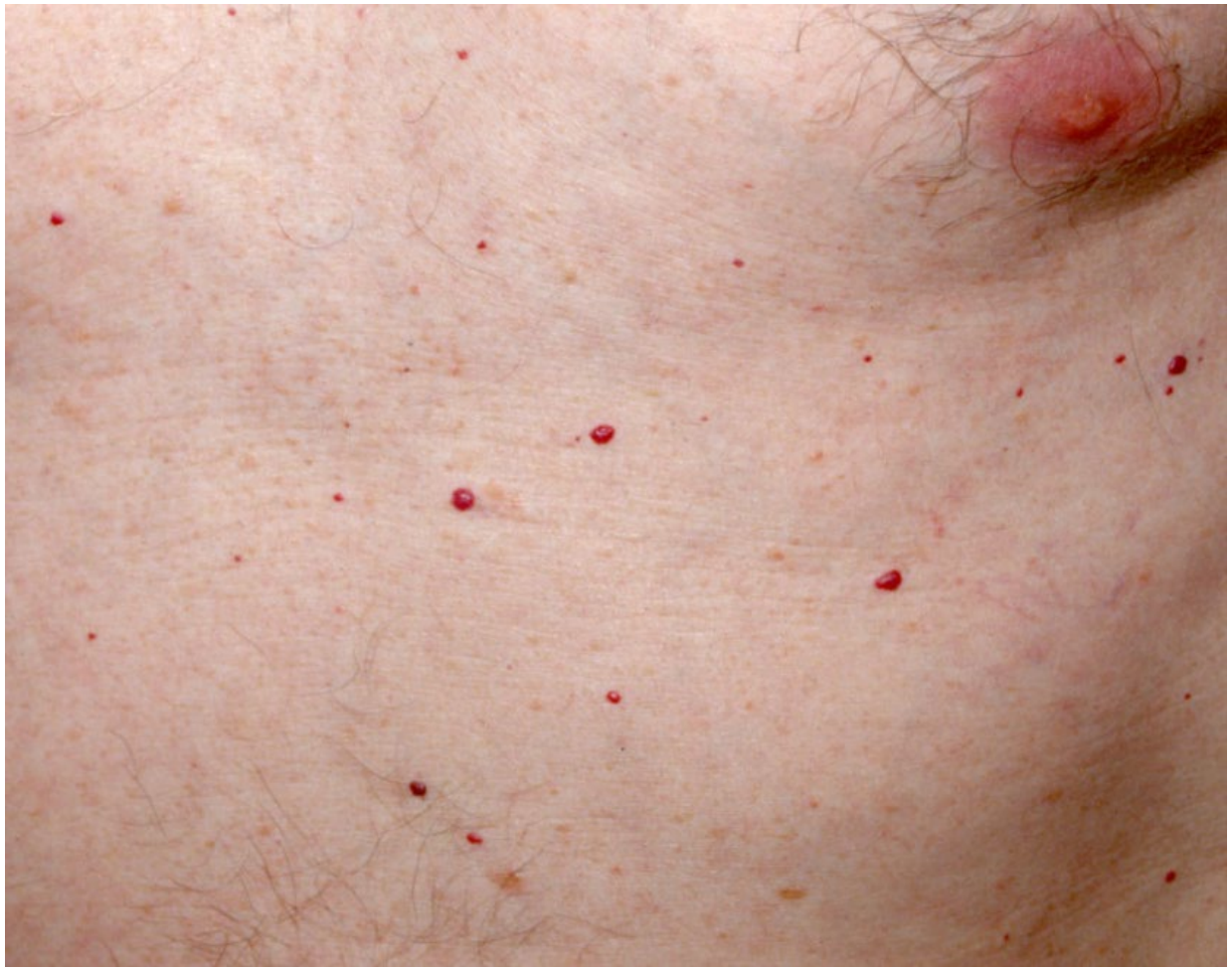
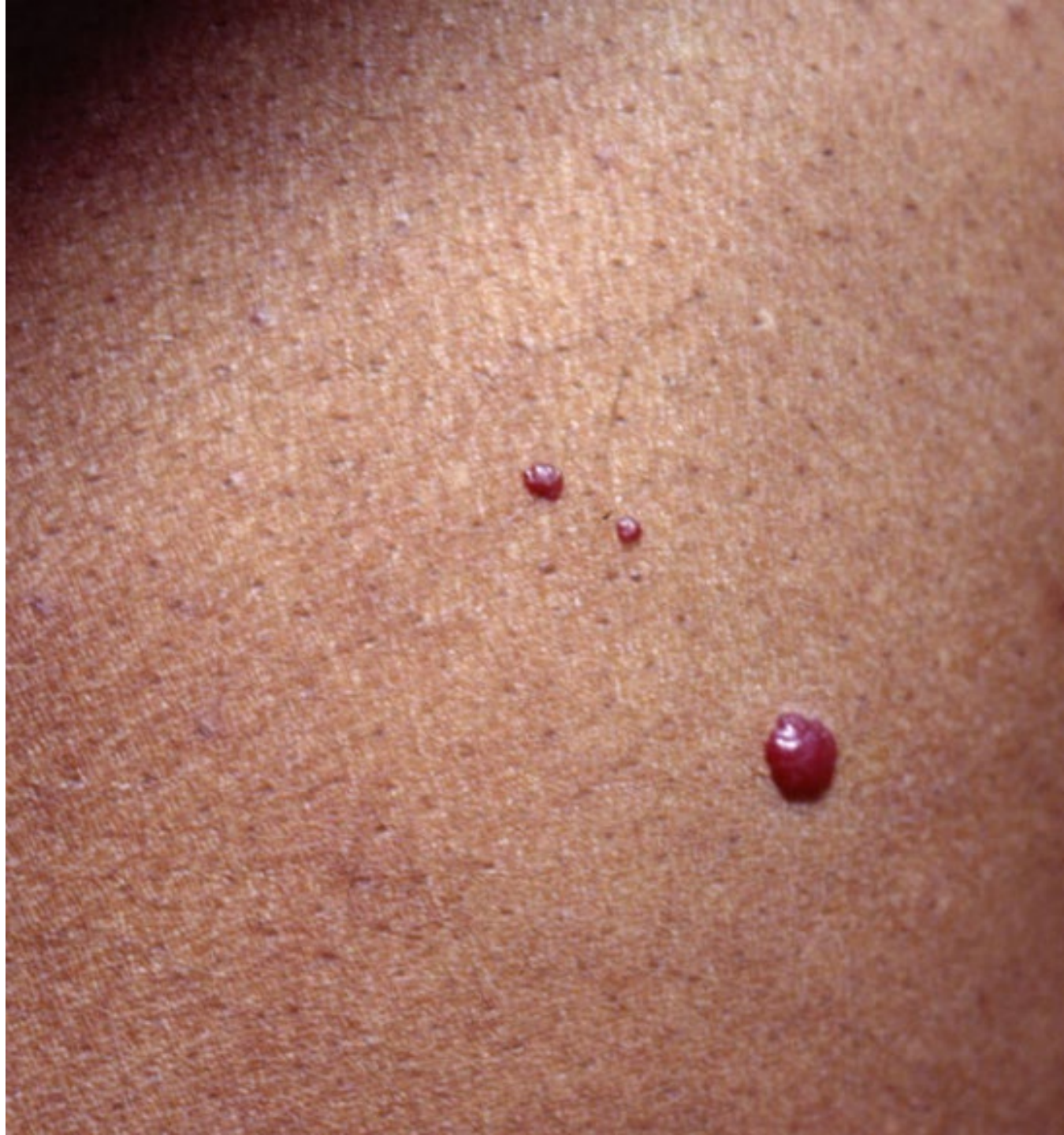
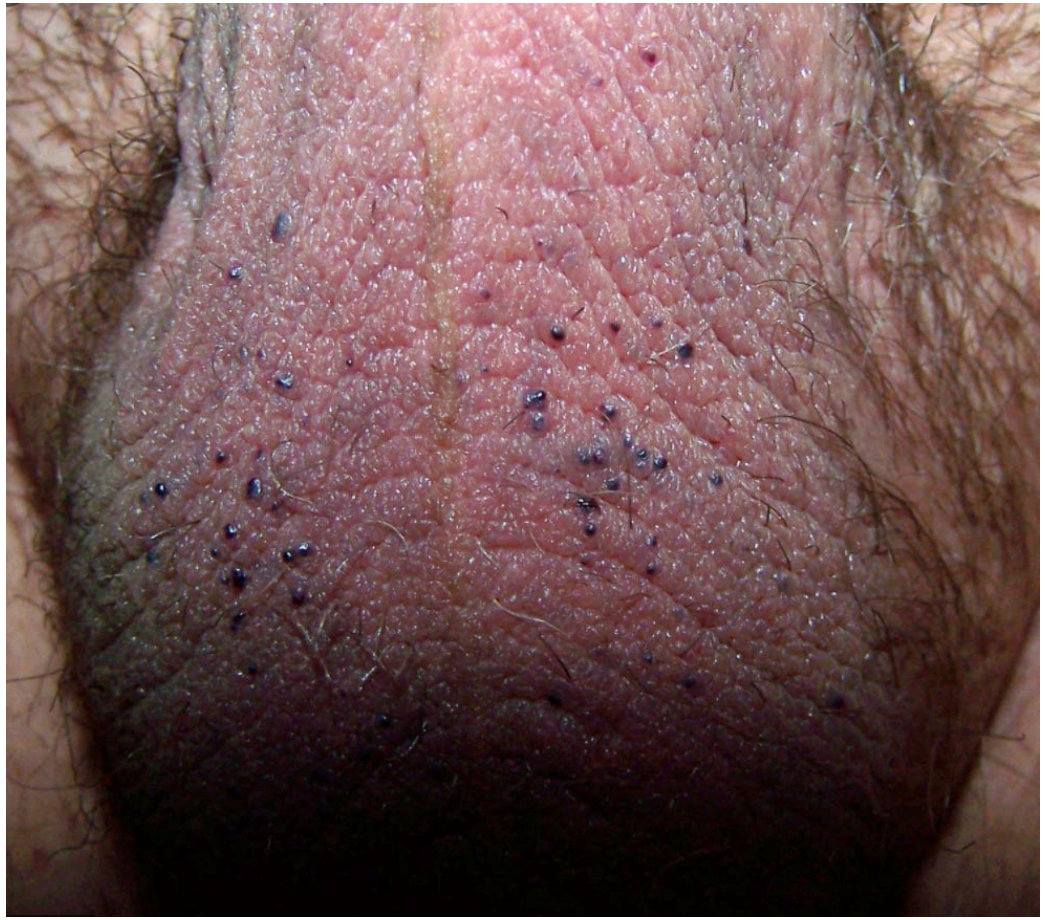




Cherry hemangioma

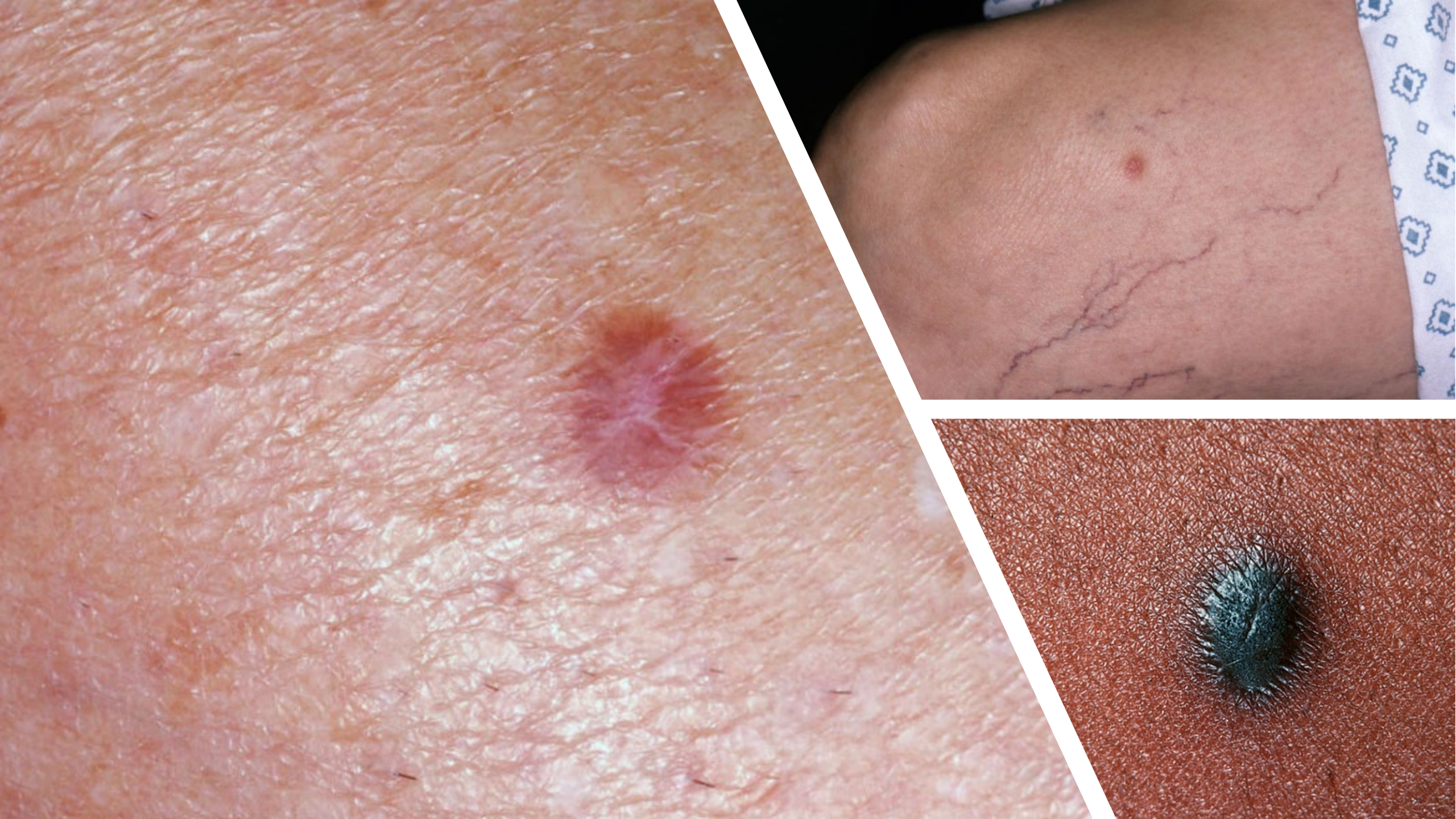
- most common type of acquired benign vascular proliferation
- composed of thin-walled, dilated capillaries
- often present in early to mid-adulthood
- increase in number and incidence with age
- Cherry hemangiomas are benign and thus do not require treatment unless irritated or bleeding (usually secondary to trauma)





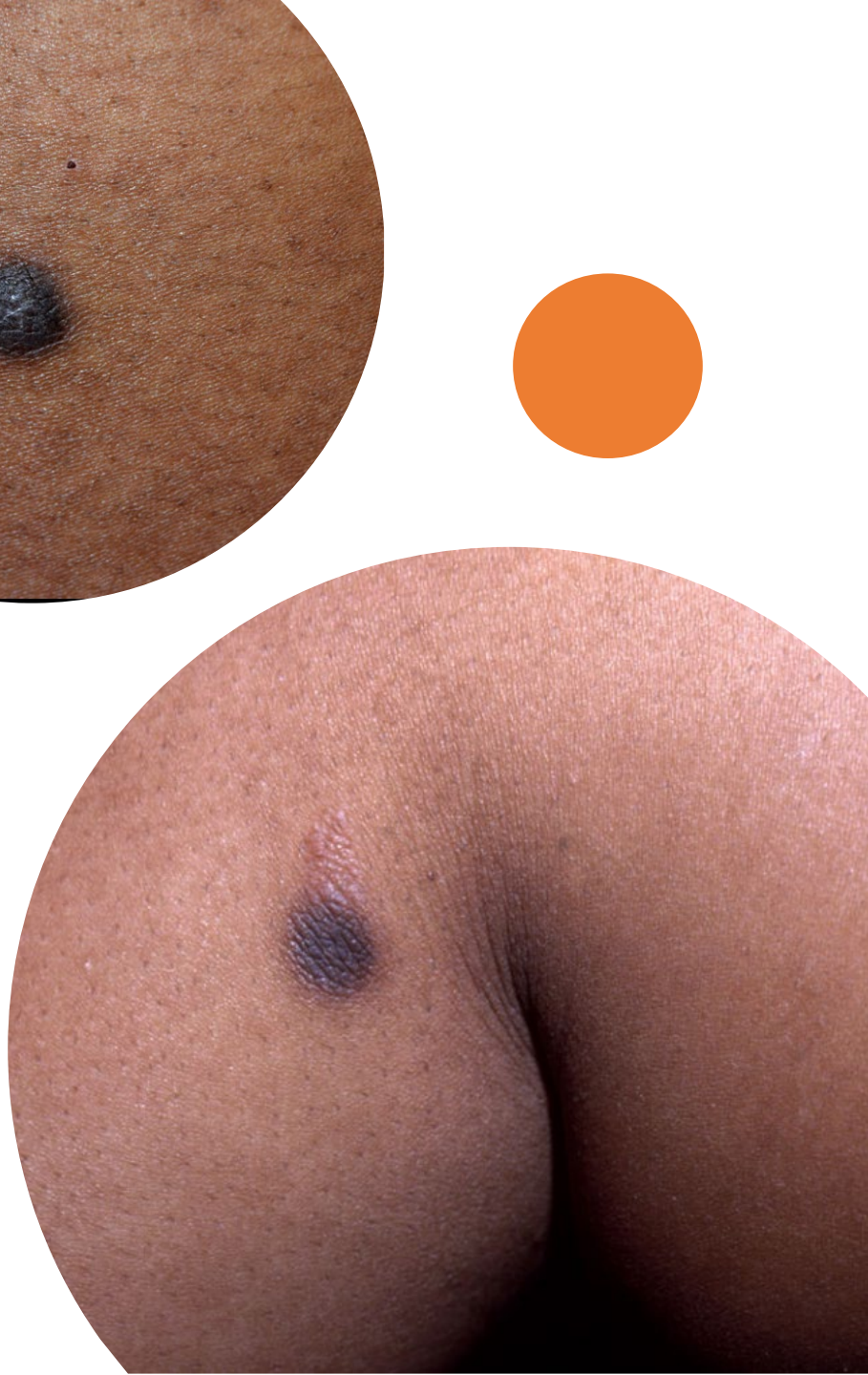
Angiokeratoma of scrotum

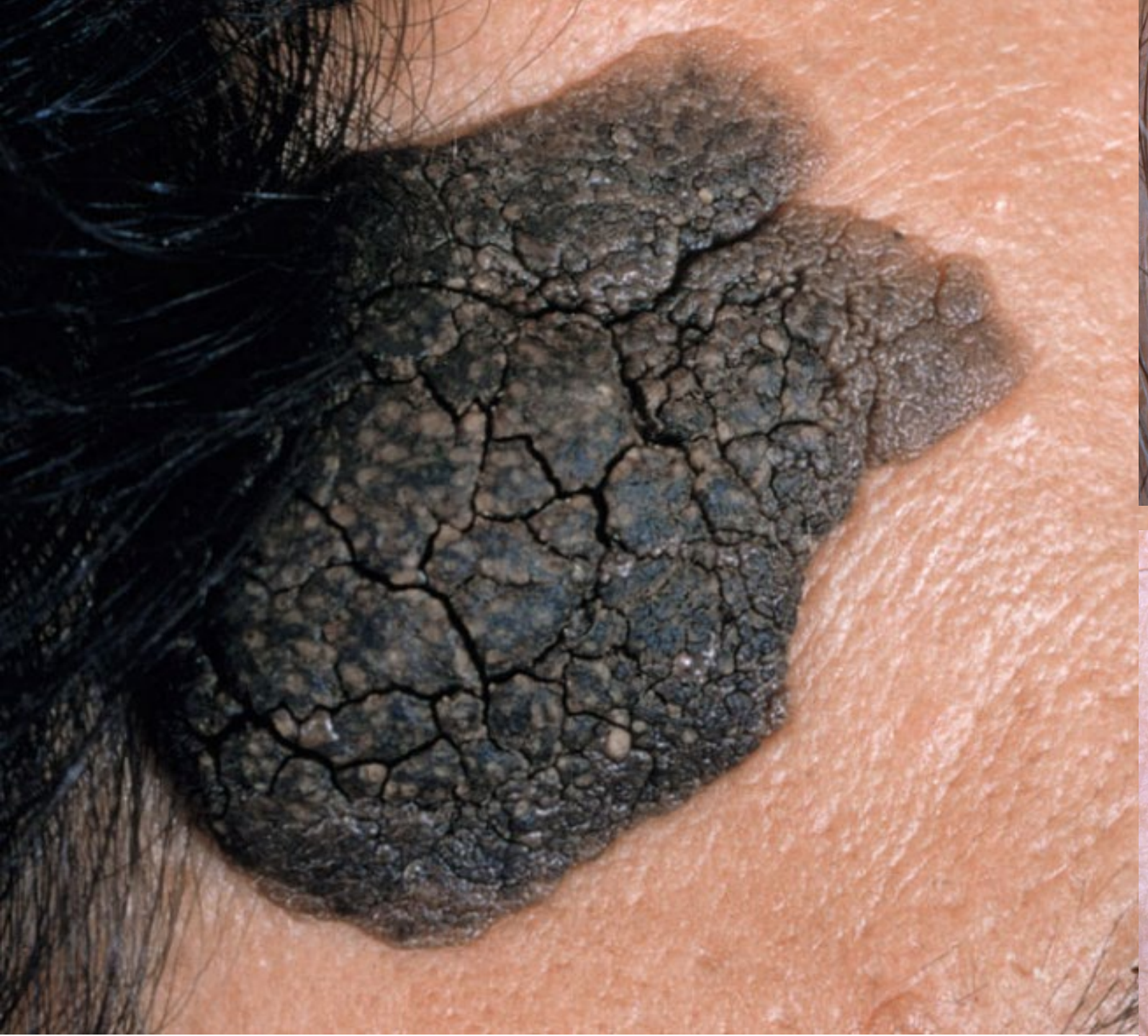
- (Fordyce angiokeratoma) are benign, often asymptomatic, 2-5 mm, warty or smooth-topped, red to violaceous papules composed of dilated dermal capillaries
- speculated that they may be caused by increased venous pressure
- lesions may bleed spontaneously or with slight trauma
- Can also be on the vulva in women
- No treatment is necessary. If treatment is desired, however, cryotherapy, electrocautery, and laser therapy have all demonstrated success in clearing the angiokeratomas.

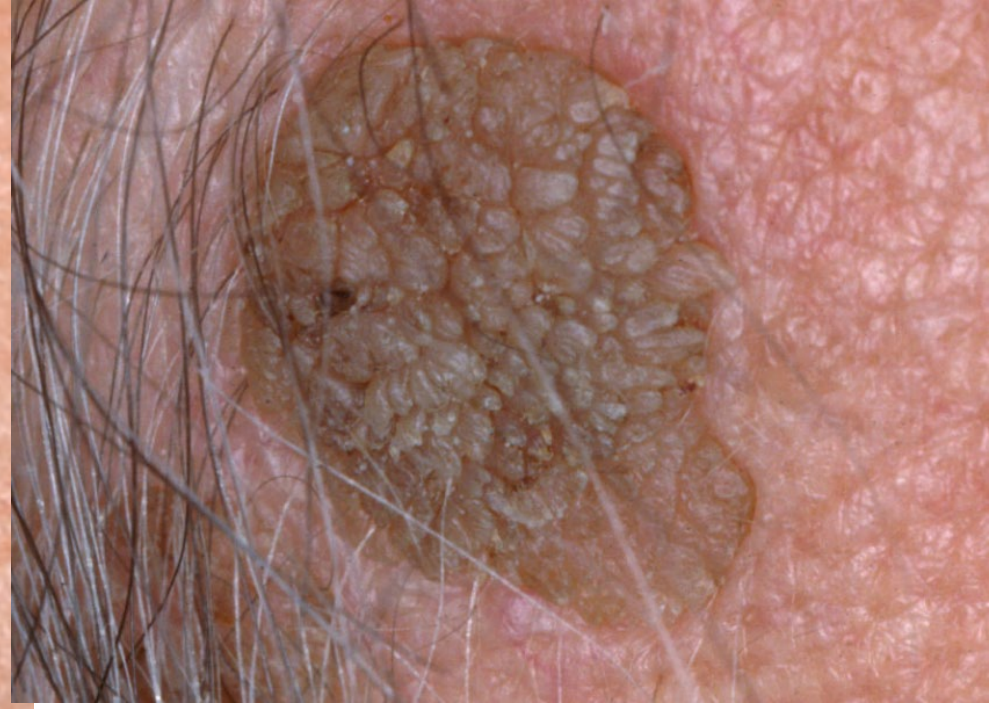


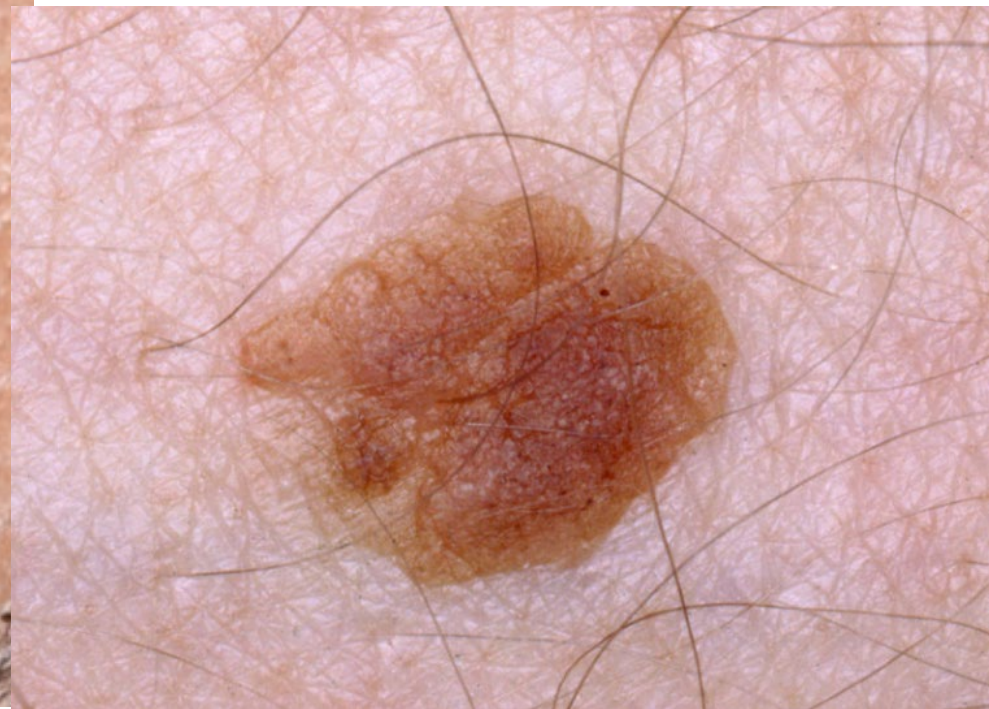
Dermatofibroma

- firm, skin-colored or slightly pigmented papules or nodules.
- They may be tender or pruritic, and they often persist for life.
- They are most common on the legs of women and usually appear in young adulthood



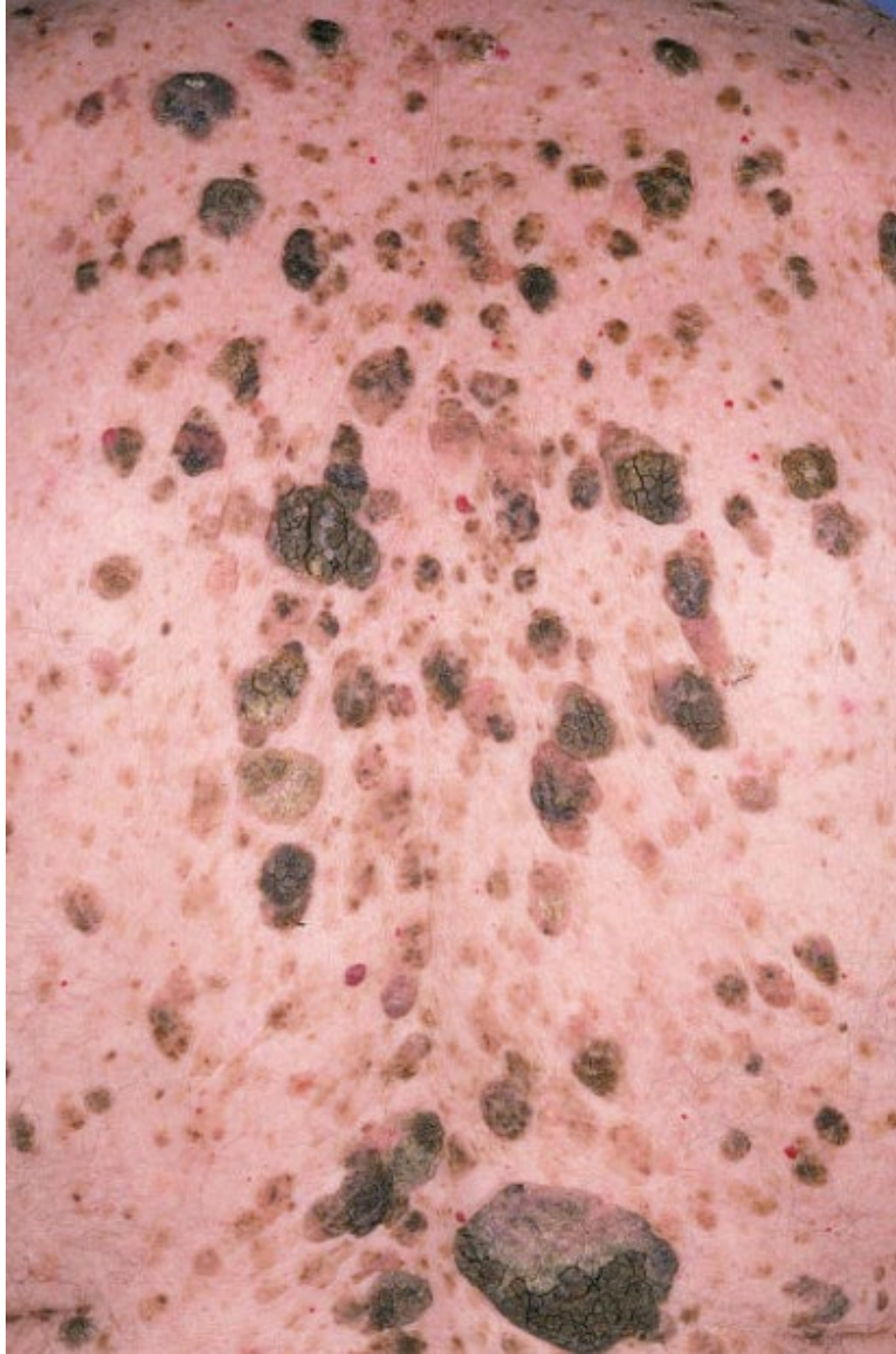


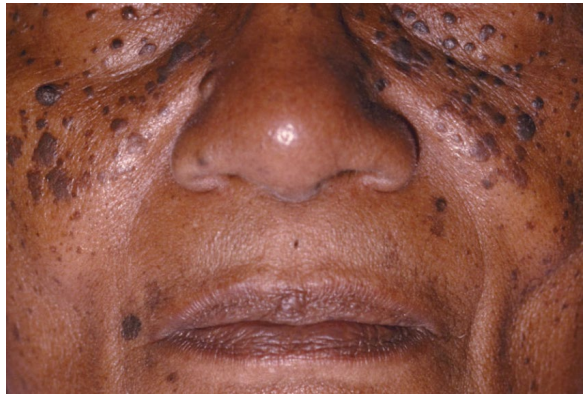


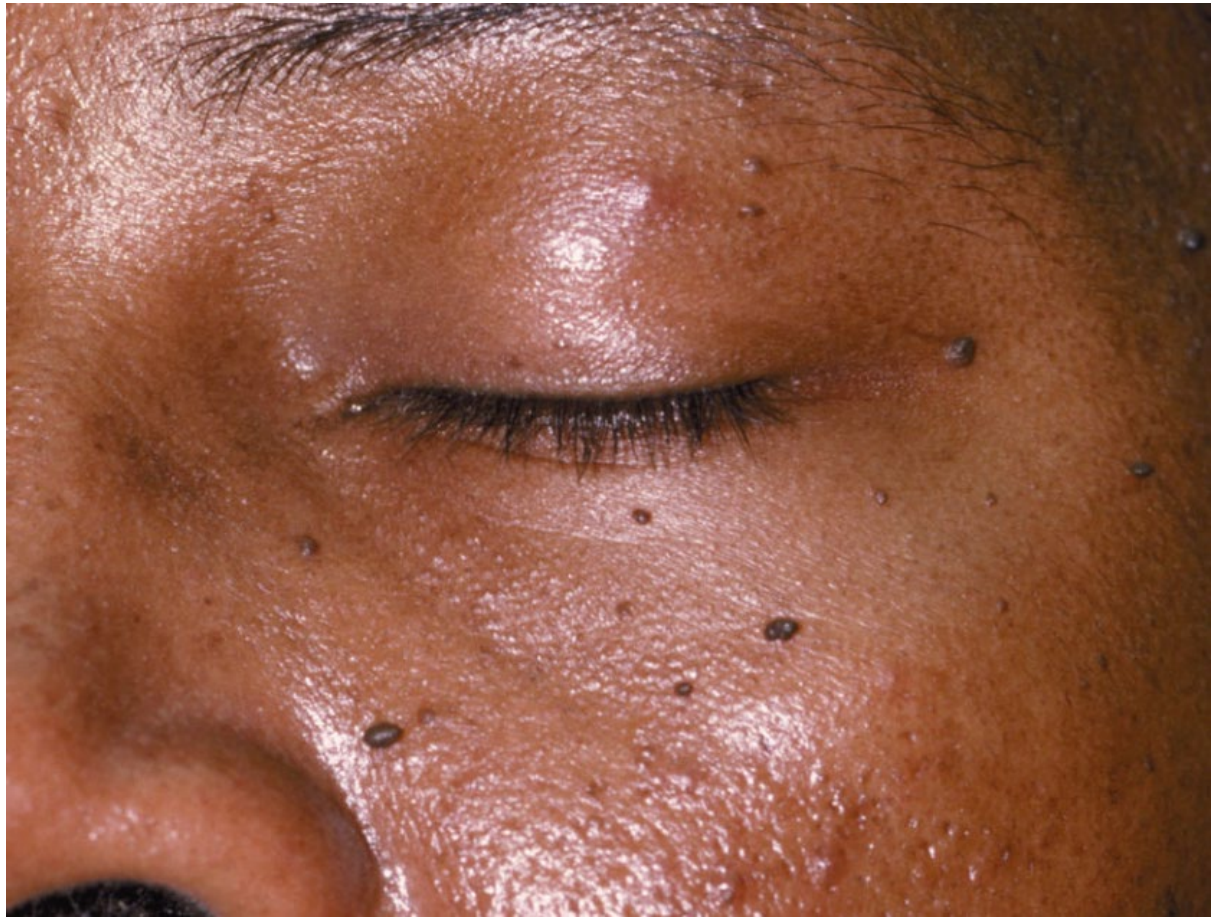


Seborrheic keratosis

- extremely common benign neoplasms of the epidermis
- typically appear on the chest and the back.
- raised, "stuck-on"-appearing papules and plaques with well-defined borders.
- there is a familial trait for the development of multiple SKs with an autosomal dominant mode of inheritance.
- SKs tend to increase in incidence and number with increasing age.
- SKs are asymptomatic, but when irritated or traumatized, they may become pruritic or painful with associated redness or bleeding.

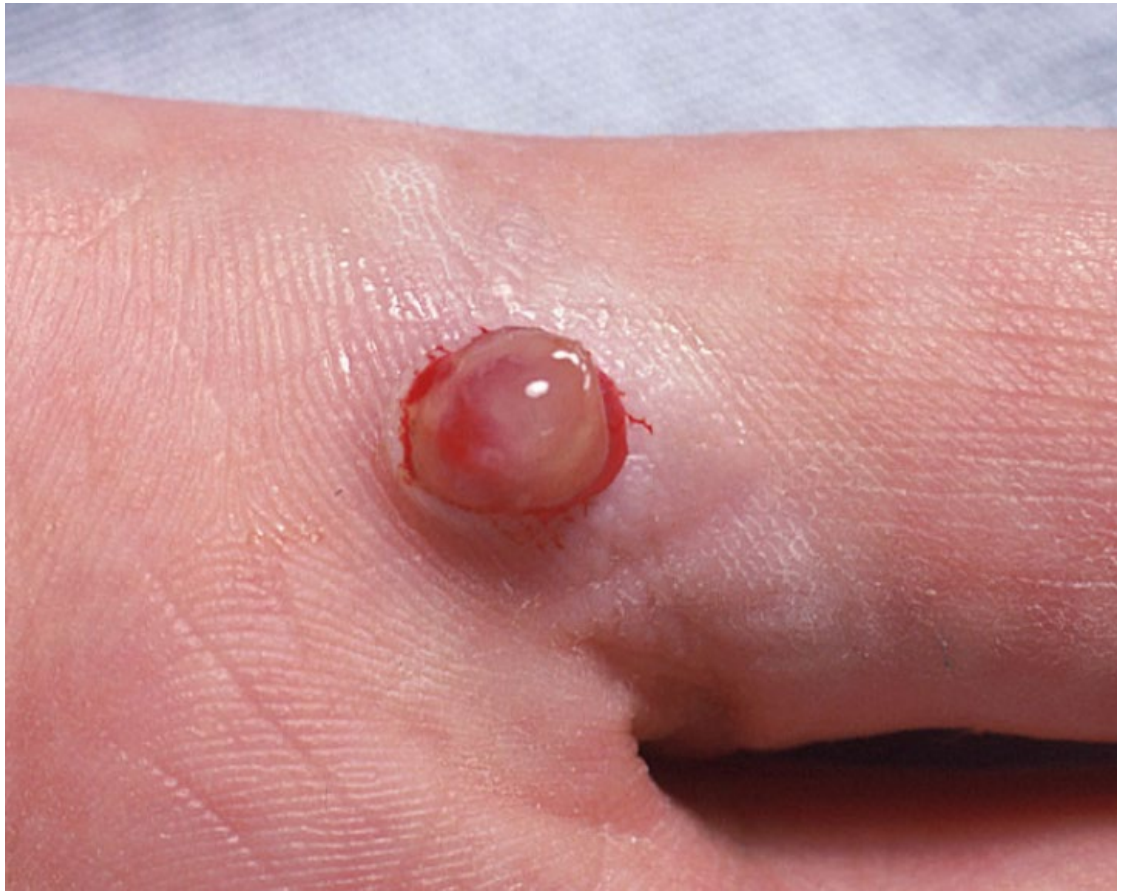


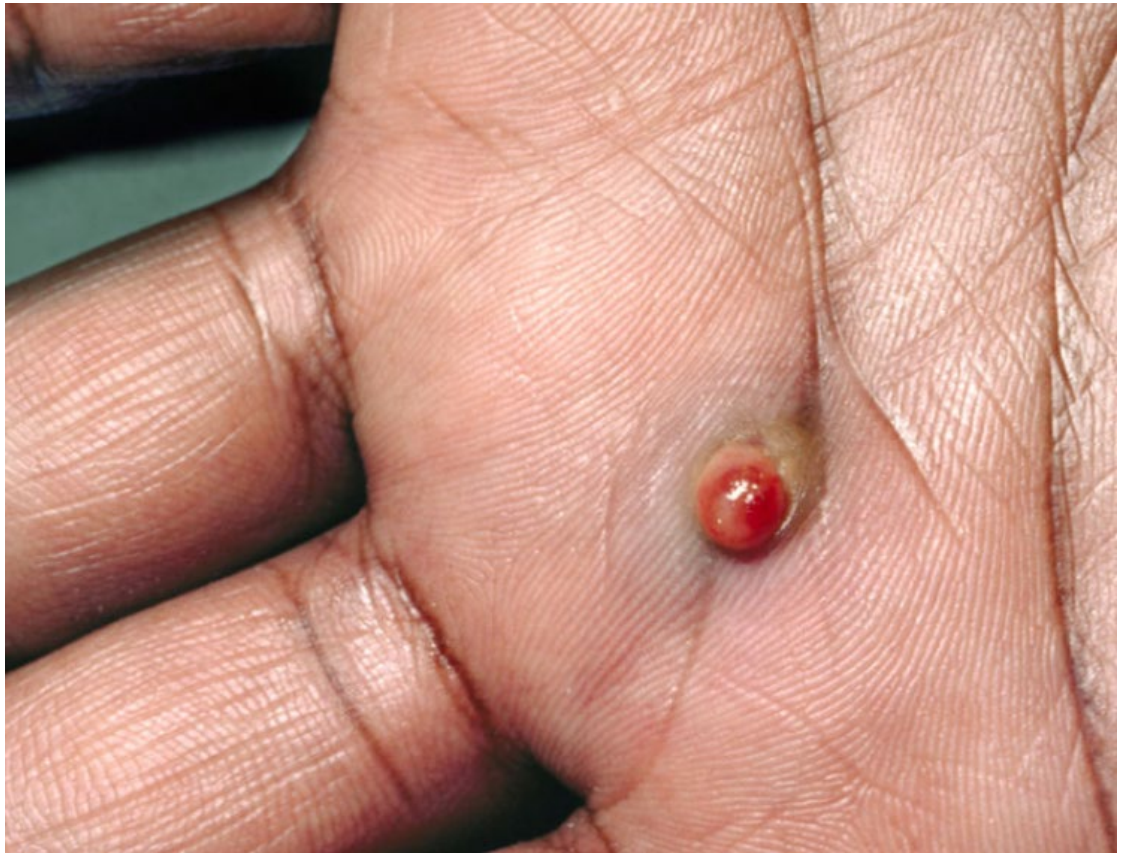




Dermatosis papulosa nigra

- term given to the papular seborrheic keratoses (most often seen as dark brown 1-3 mm papules) on the face of individuals with darker skin phototypes



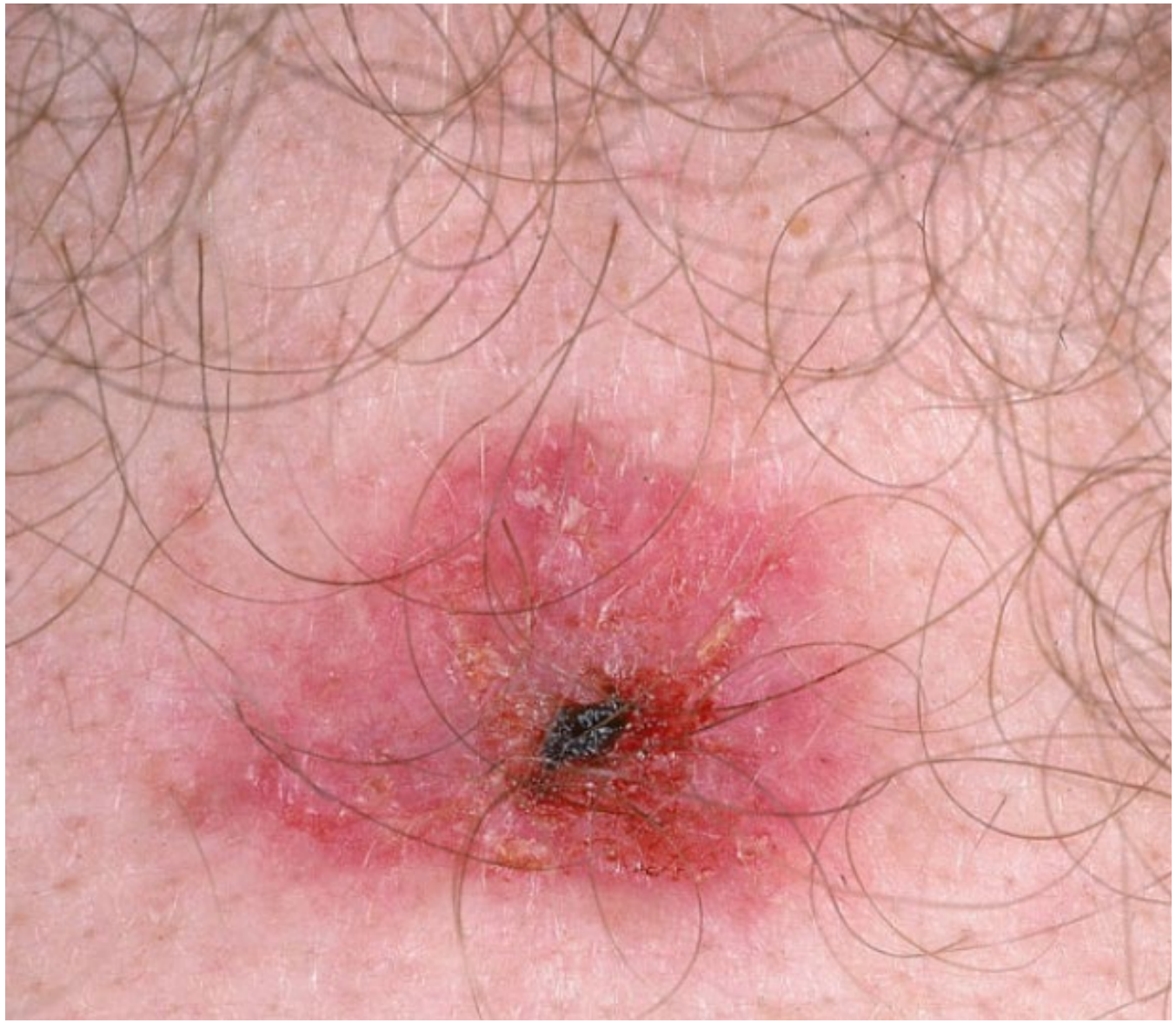


Pyogenic granuloma

- Rapidly growing, benign vascular proliferations of the skin and mucous membranes
- No predisposing factors
- Nearly 5% of pregnant women develop the lesion
- Friable, bright red papule or nodule that bleeds spontaneously or after trauma

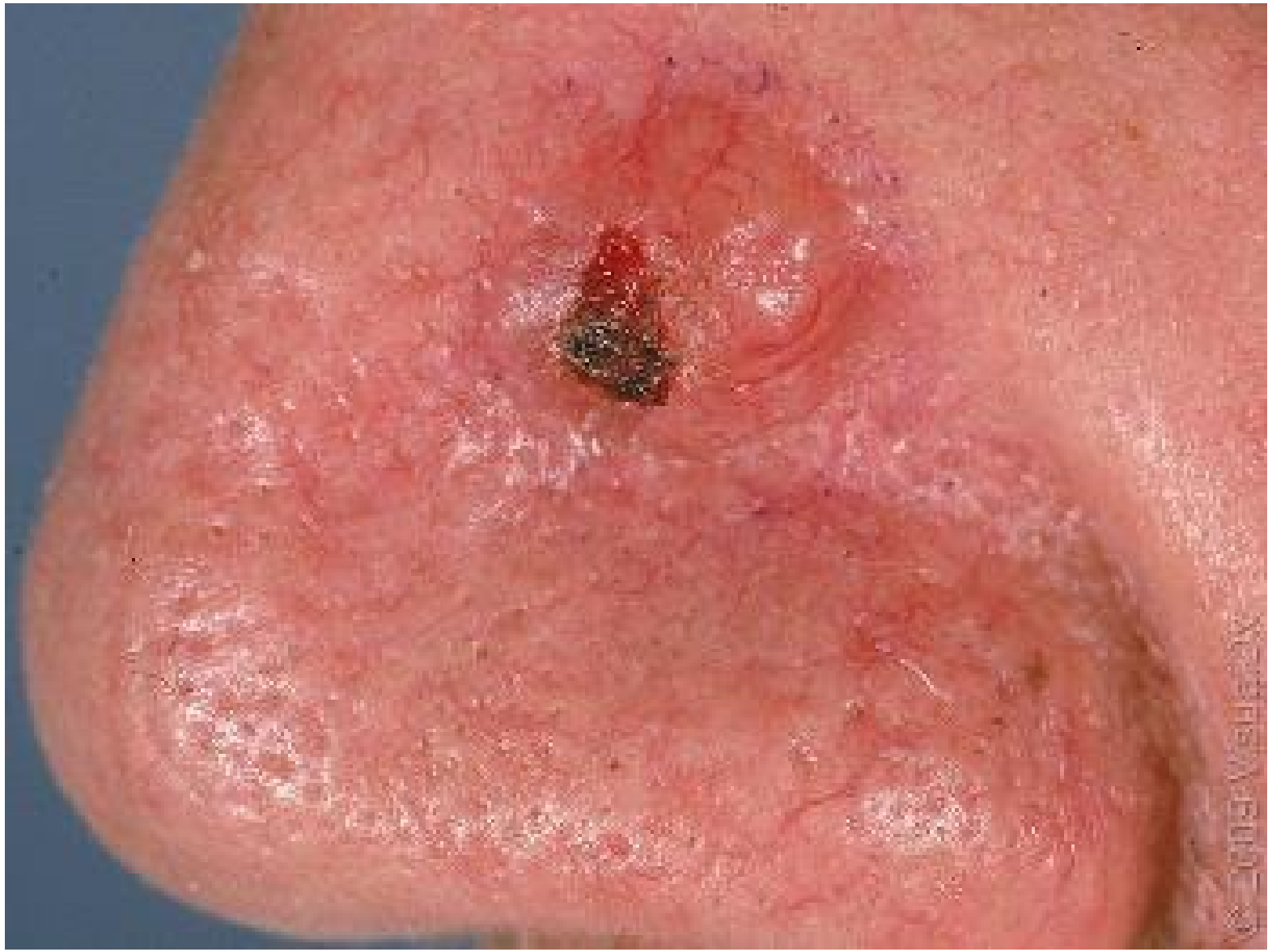
Basal Cell Carcinoma

- most common type of skin cancer
- Typically in sites of intermittent sun exposure
- Pearly papules with rolled borders and telangiectasia



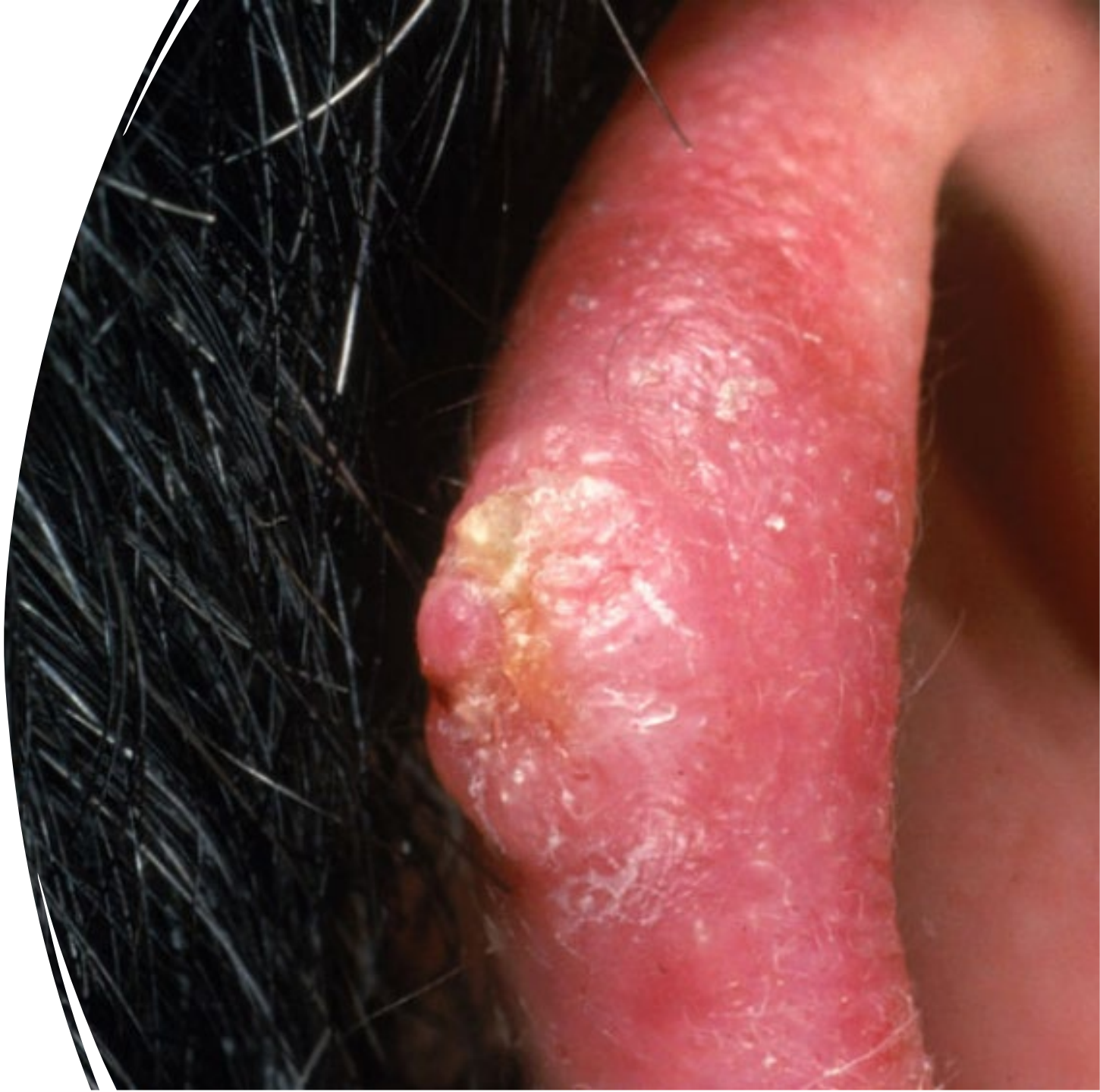
Basal Cell Carcinoma

- many subtypes of BCC, including superficial, nodular, pigmented, and infiltrating
- risk factors for BCCs include environmental exposure (ie, ionizing radiation, indoor tanning, chemicals such as arsenic, psoralen plus UVA, and coal tar), phenotype (freckling, red hair, fair skin that always burns and never tans), immunosuppression such as organ transplantation
- almost never fatal, local tissue destruction and disfiguration occur



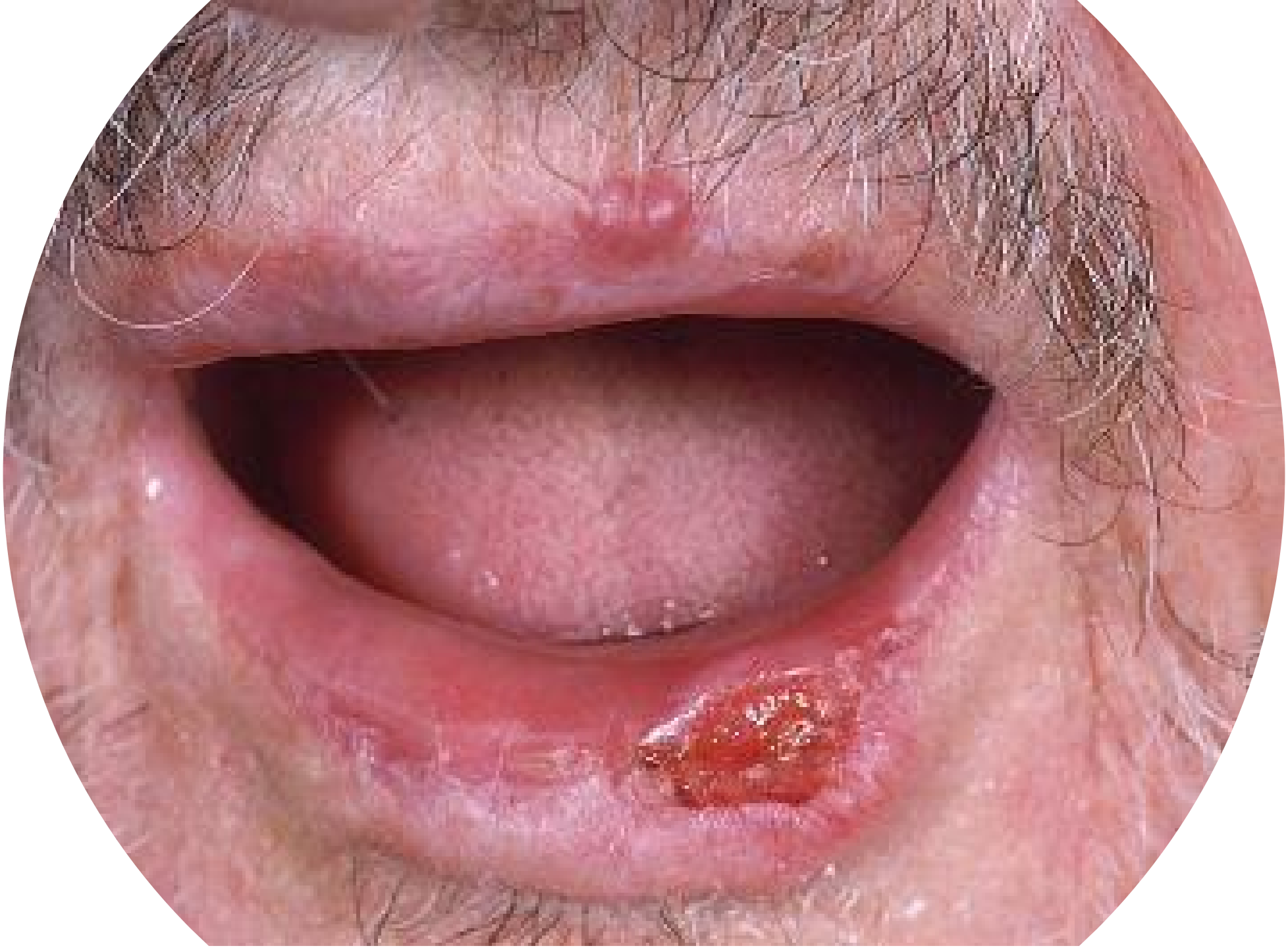
Squamous cell carcinoma

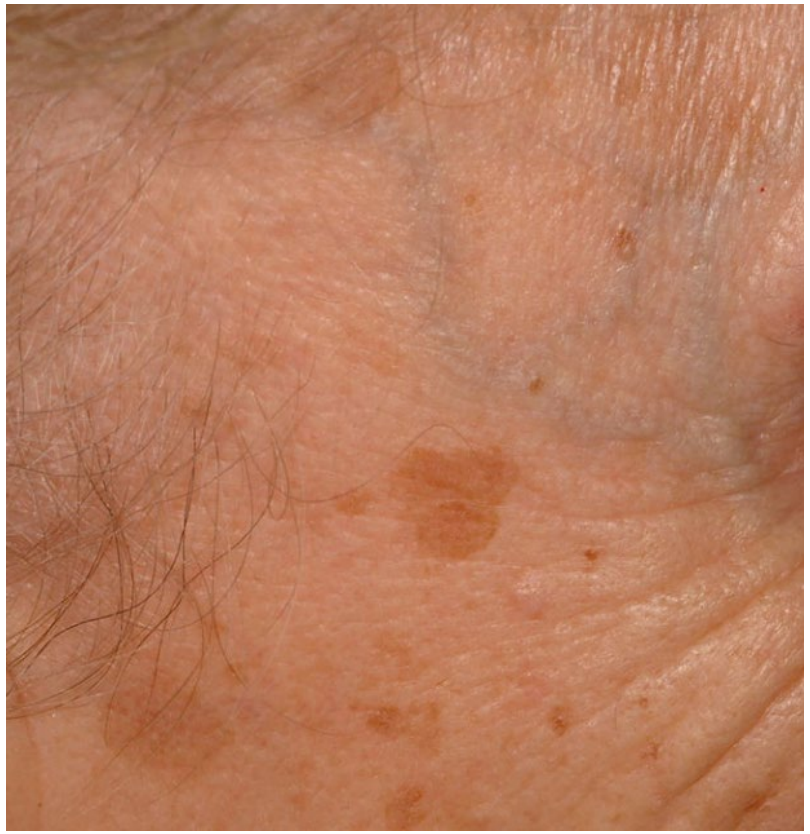
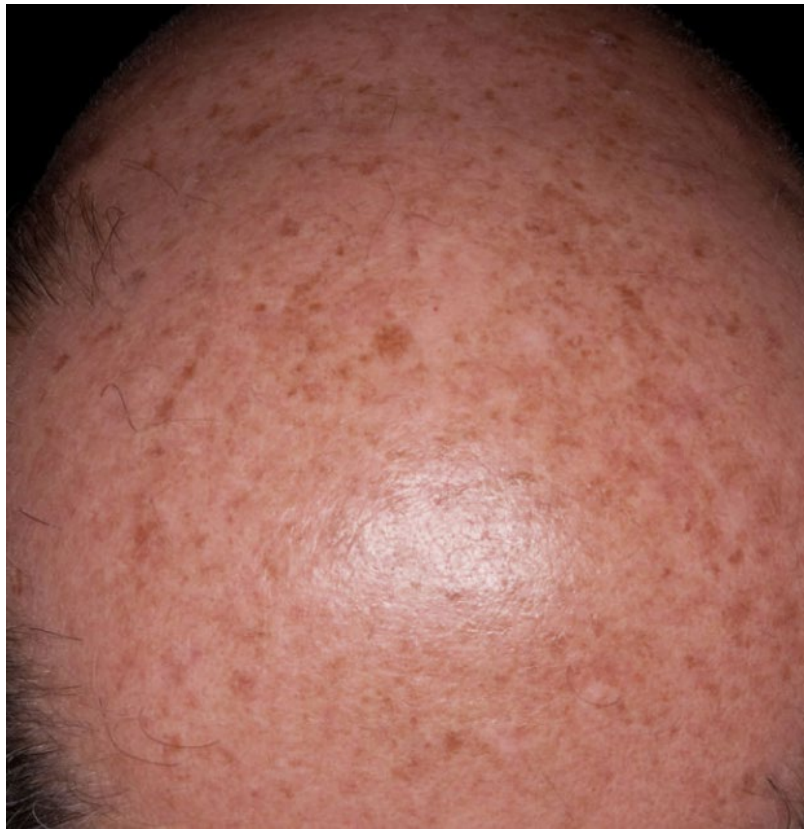
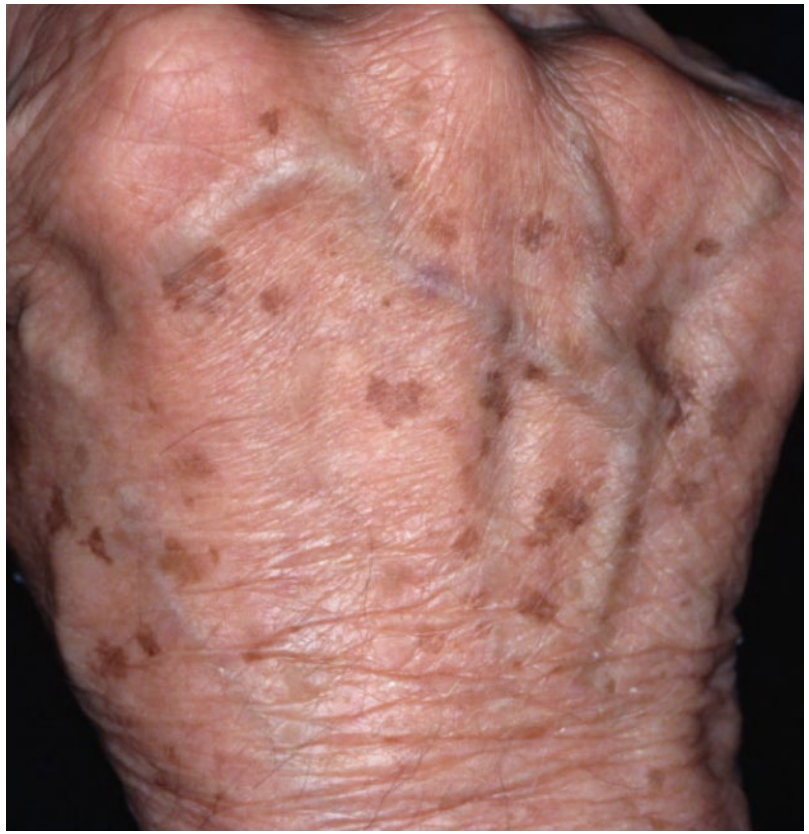
- Commonly on chronically sun exposed skin, dorsal hands, lower lips, ears
- Scaly, hyperkeratotic papule



Squamous Cell Carcinoma

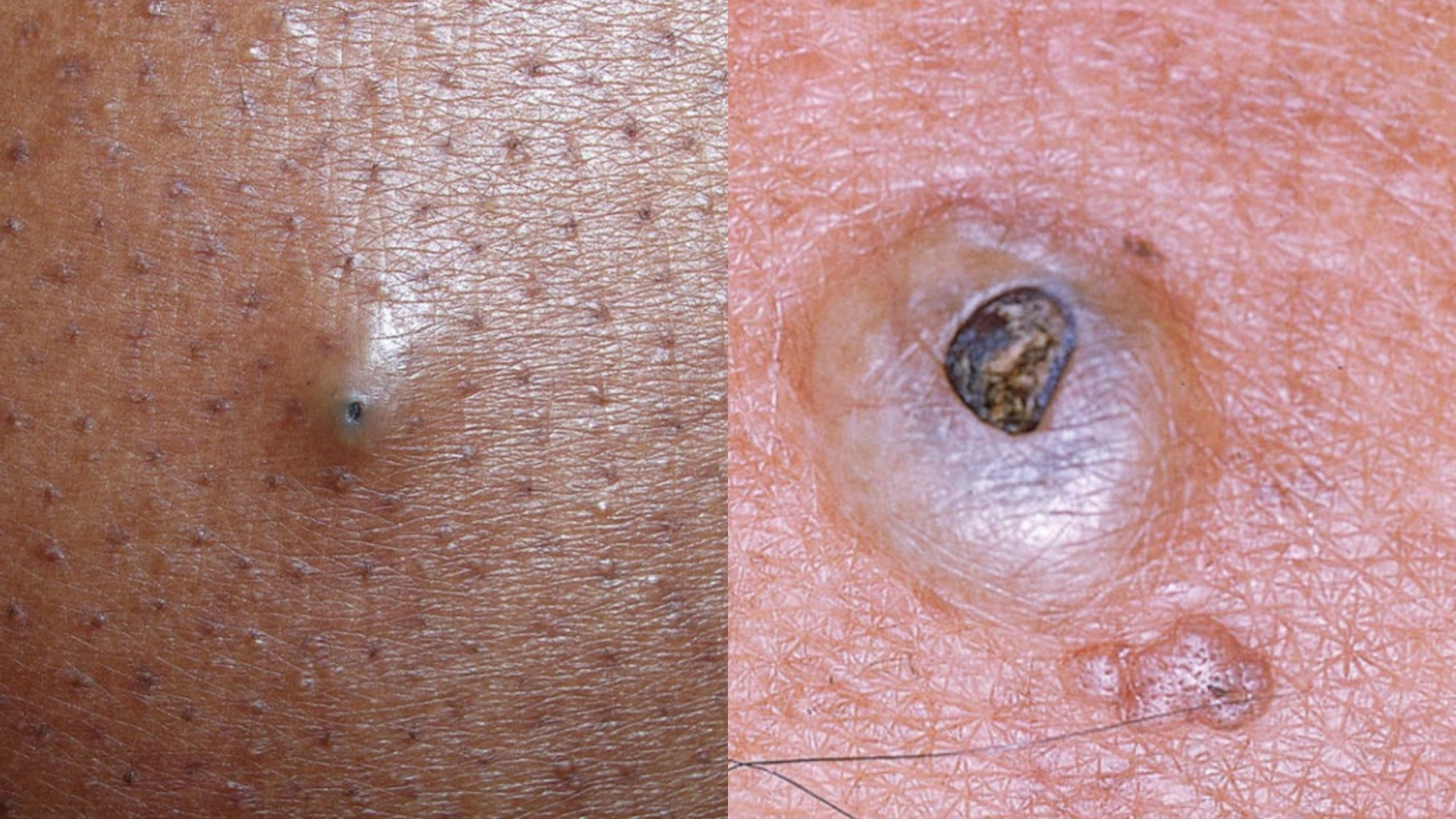
- Risk factors: ultraviolet (UV) exposure, solid organ transplantation, ionizing radiation exposure, cigarette smoking, human papillomavirus (HPV), chemical exposure (ie, arsenic, mineral oil, coal tar, soot, mechlorethamine, polychlorinated biphenyls, and psoralen plus UVA treatment), freckling, red hair, immunosuppression such as HIV disease / AIDS, and chronic nonhealing wounds



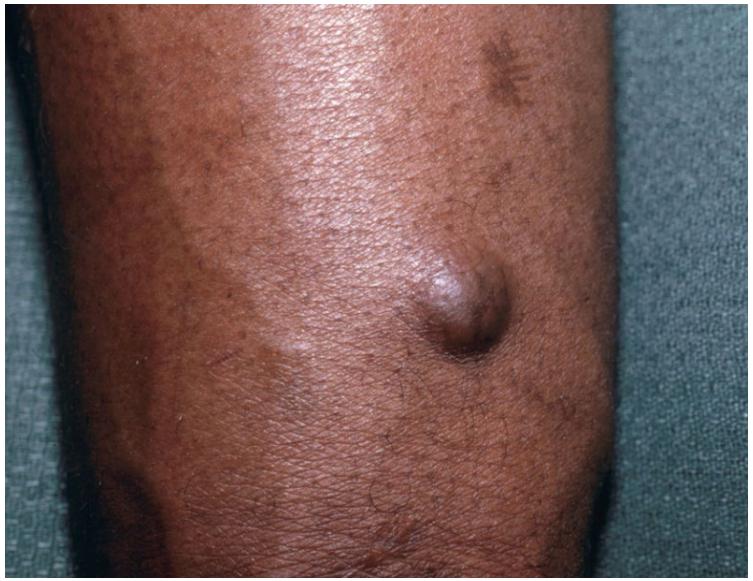




Lentigo

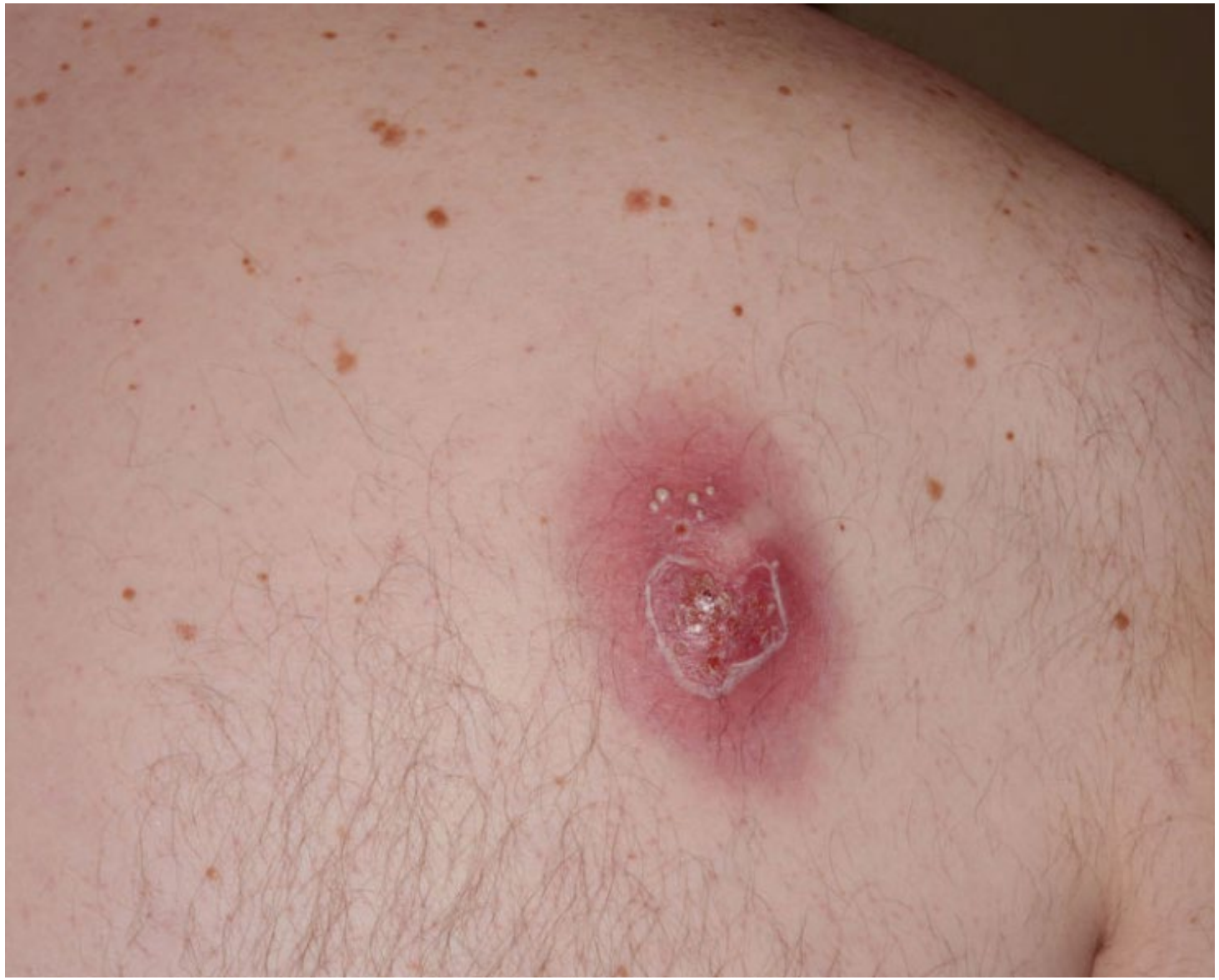
- Solar lentigo (a type of lentigo also known as a senile lentigo, age spot, or liver spot) is a benign pigmented macule appearing on fair-skinned individuals that is related to ultraviolet radiation (UVR) exposure, typically from the sun
- They are typically located on sun-exposed skin, including the face, upper chest, shoulders, dorsal arms, and hands. Solar lentigines are asymptomatic although they may enlarge, darken, or remain unchanged over time.
- No treatment is required for these, cosmetic treatments can include laser treatment or cryotherapy



Sebaceous Cyst

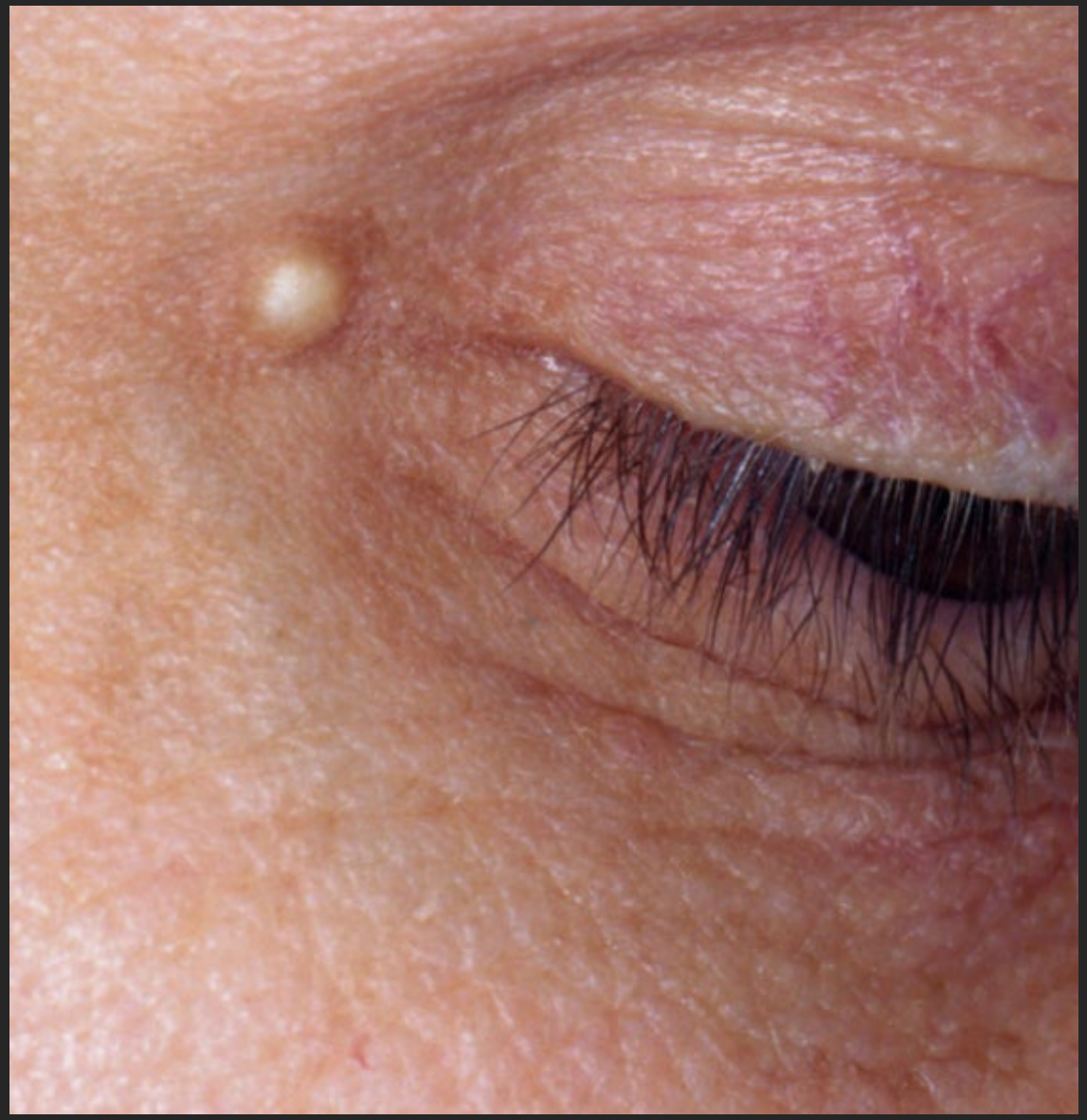


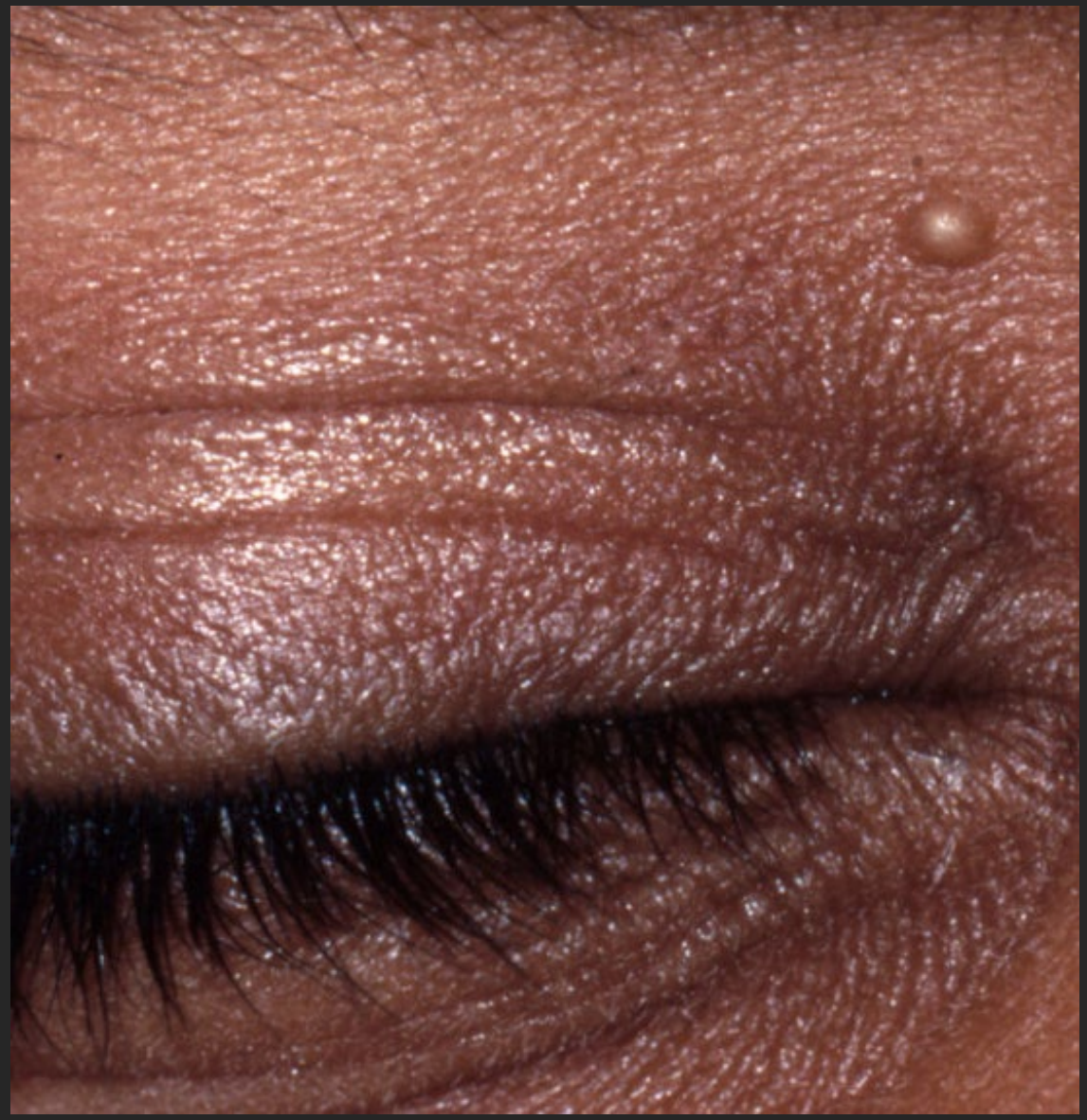
- epidermoid cyst, also known as an epidermal inclusion cyst, is a semi-solid cyst. The cyst wall is stratified squamous epithelium, and the contents consist of macerated keratin and lipid-rich debris. The epidermoid cyst is a common lesion that can arise on the face, trunk, extremities
- Epidermoid cysts are benign and usually asymptomatic, but they may be painful if ruptured or infected.
- Occasionally, a thick, cheesy material with a foul odor can be expressed.



Treatment of Cysts

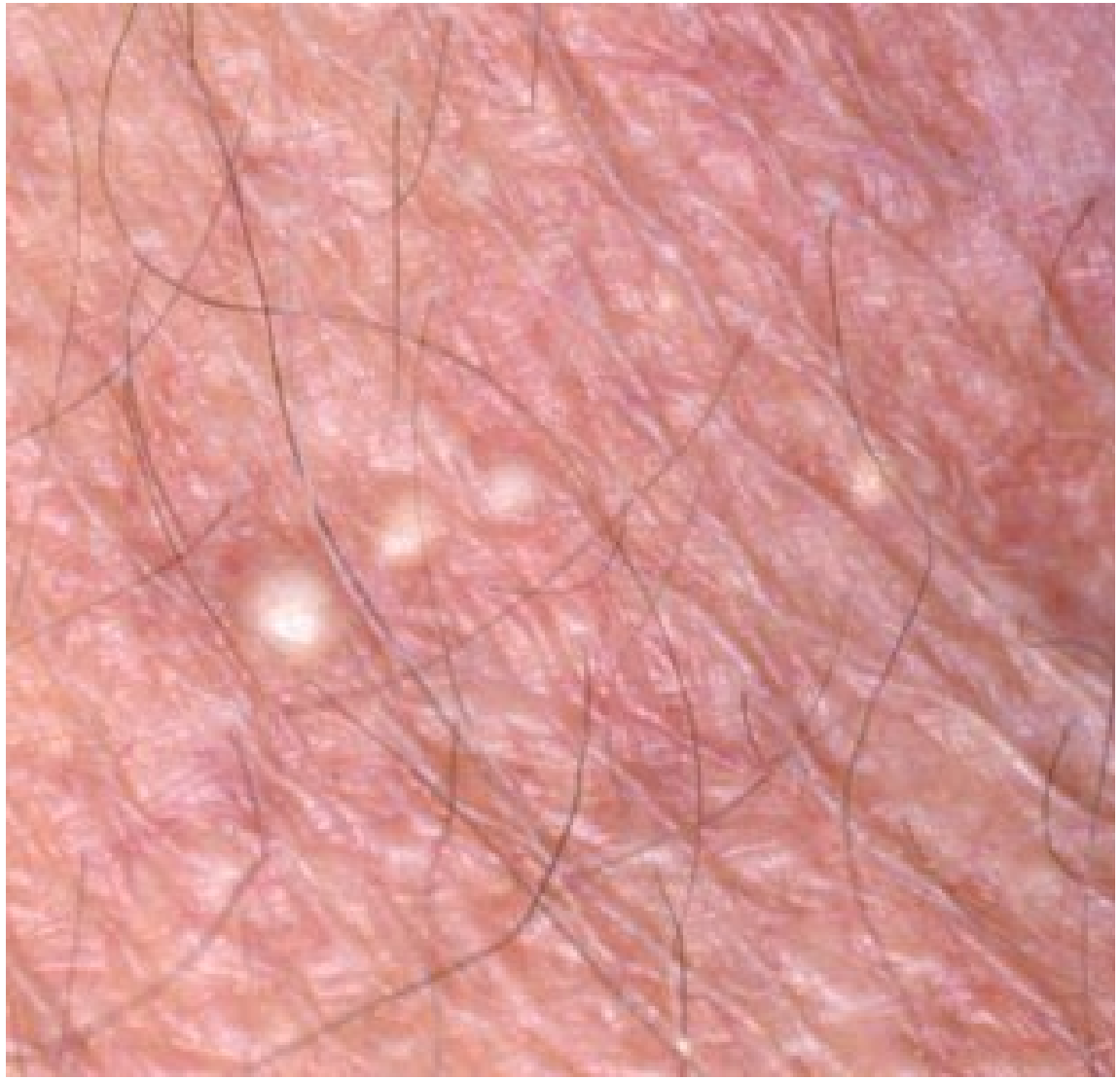
- Non inflamed cyst
  - watchful waiting
  - intralesional kenalog 5-10mg/cc 0.5-1cc total volume can decrease the size
  - surgical excision
- Inflamed cyst
  - warm compresses
  - intralesional kenalog 5-10mg/cc 0.5-1cc total volume can decrease the size and decrease the redness/inflammation
- Infected cyst
  - incision and drainage
  - antibiotics to cover staph including doxycycline 100 mg twice daily x 7 days

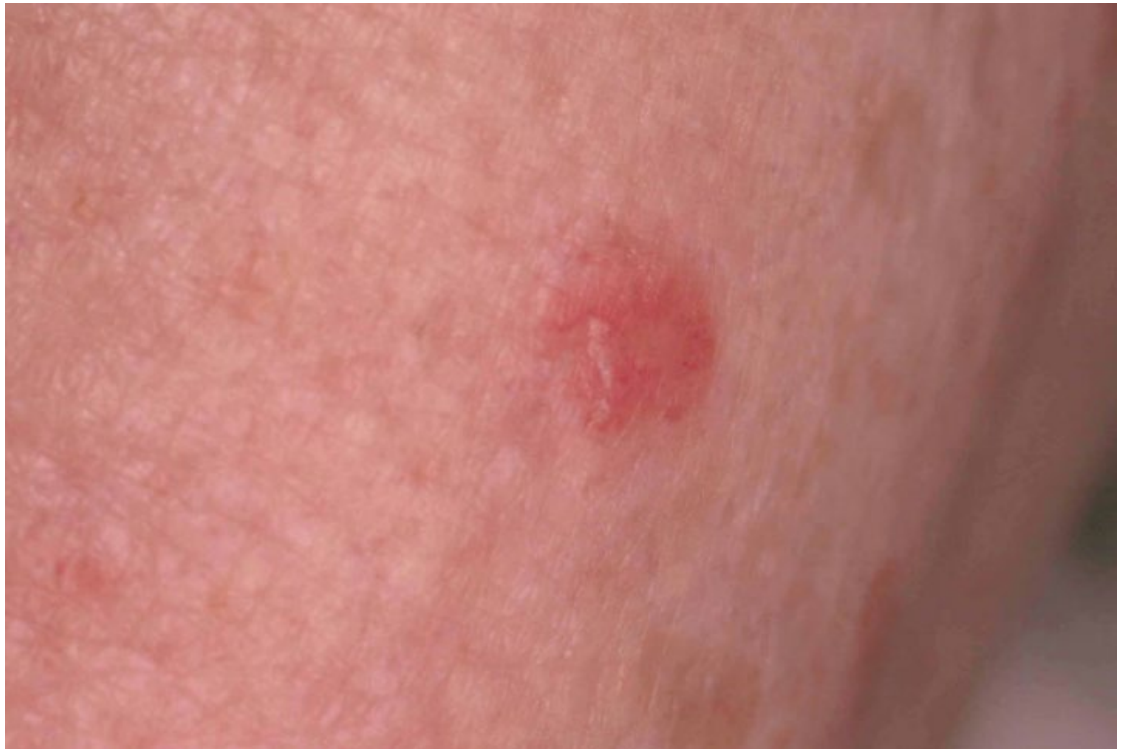


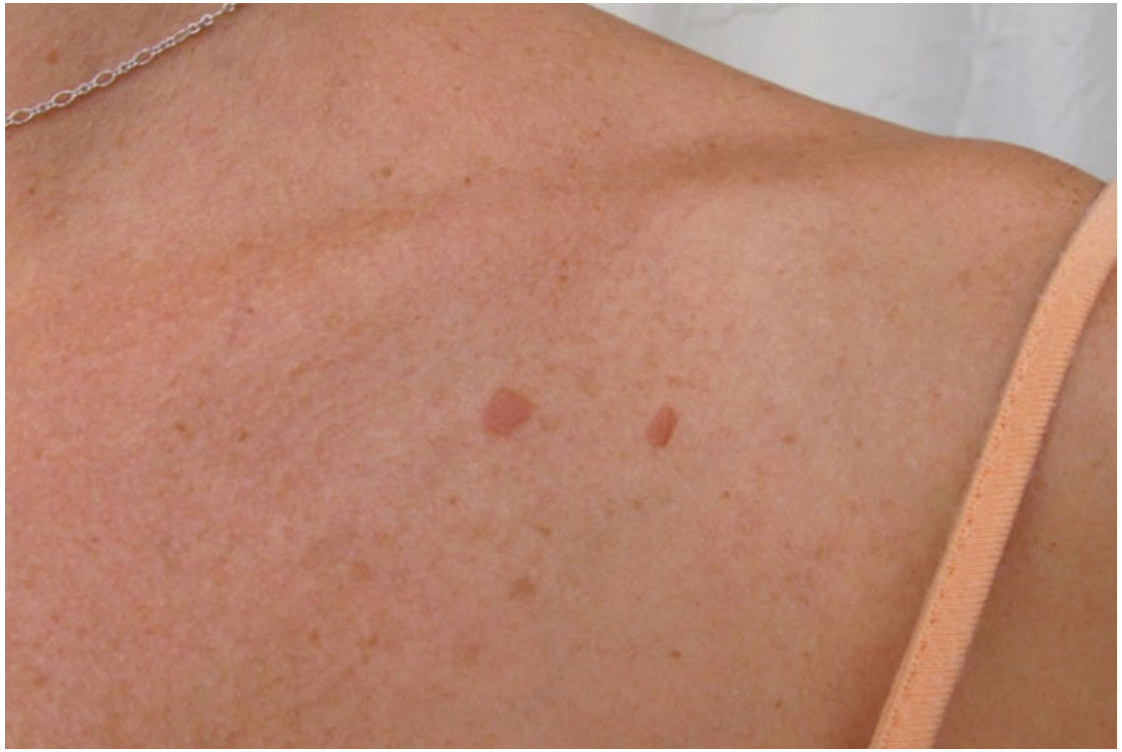


Milia

- epidermoid cysts (also known as infundibular cysts) that present as small white or yellow papules, usually on the face.
- They are typically smaller than 3 mm in diameter. They occur when sloughed off skin becomes trapped in the dermis
- Make a minute incision or "nick" in the skin overlying the milia with a fine-gauge needle or scalpel. They will express easily with a comedone extractor.





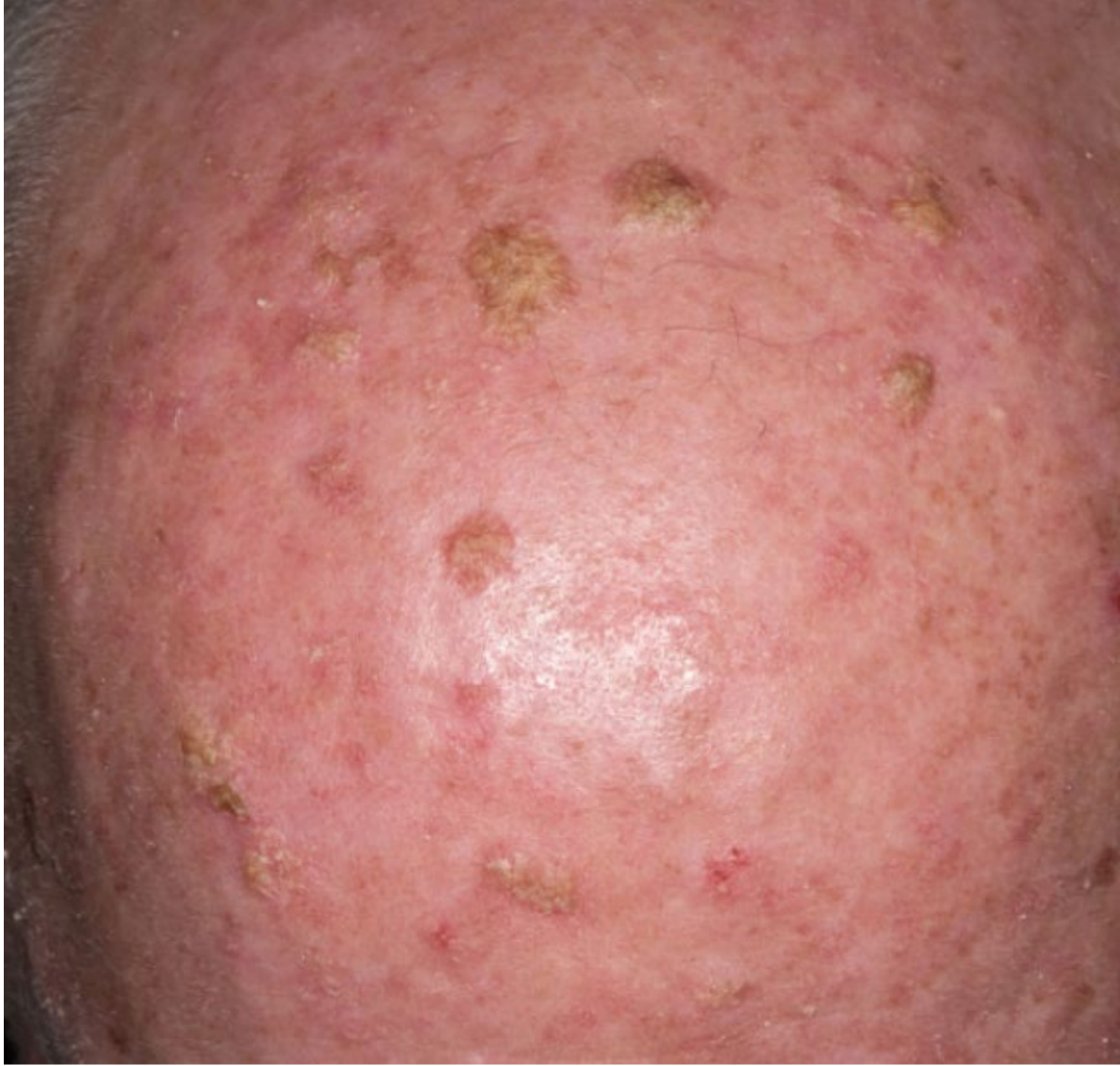


Benign lichenoid keratosis

- asymptomatic or mildly pruritic pink papule or plaque commonly found on sun-exposed areas.
- Can mimic an actinic keratosis, basal cell carcinoma, squamous cell carcinoma in situ, seborrheic keratosis, pigmented or amelanotic melanoma
- usually asymptomatic but may be slightly pruritic
- often involute spontaneously over a period of months

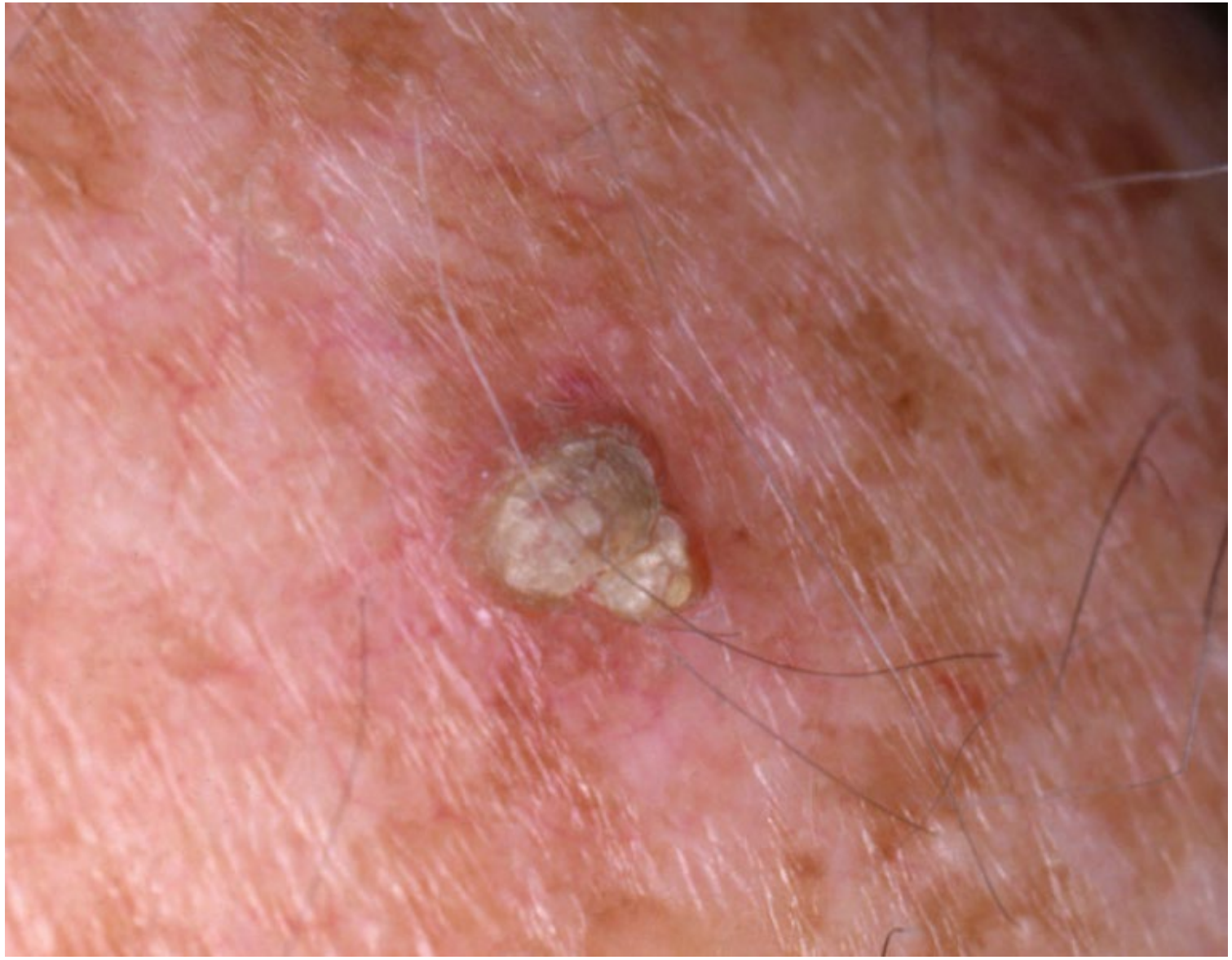
Actinic Keratoses

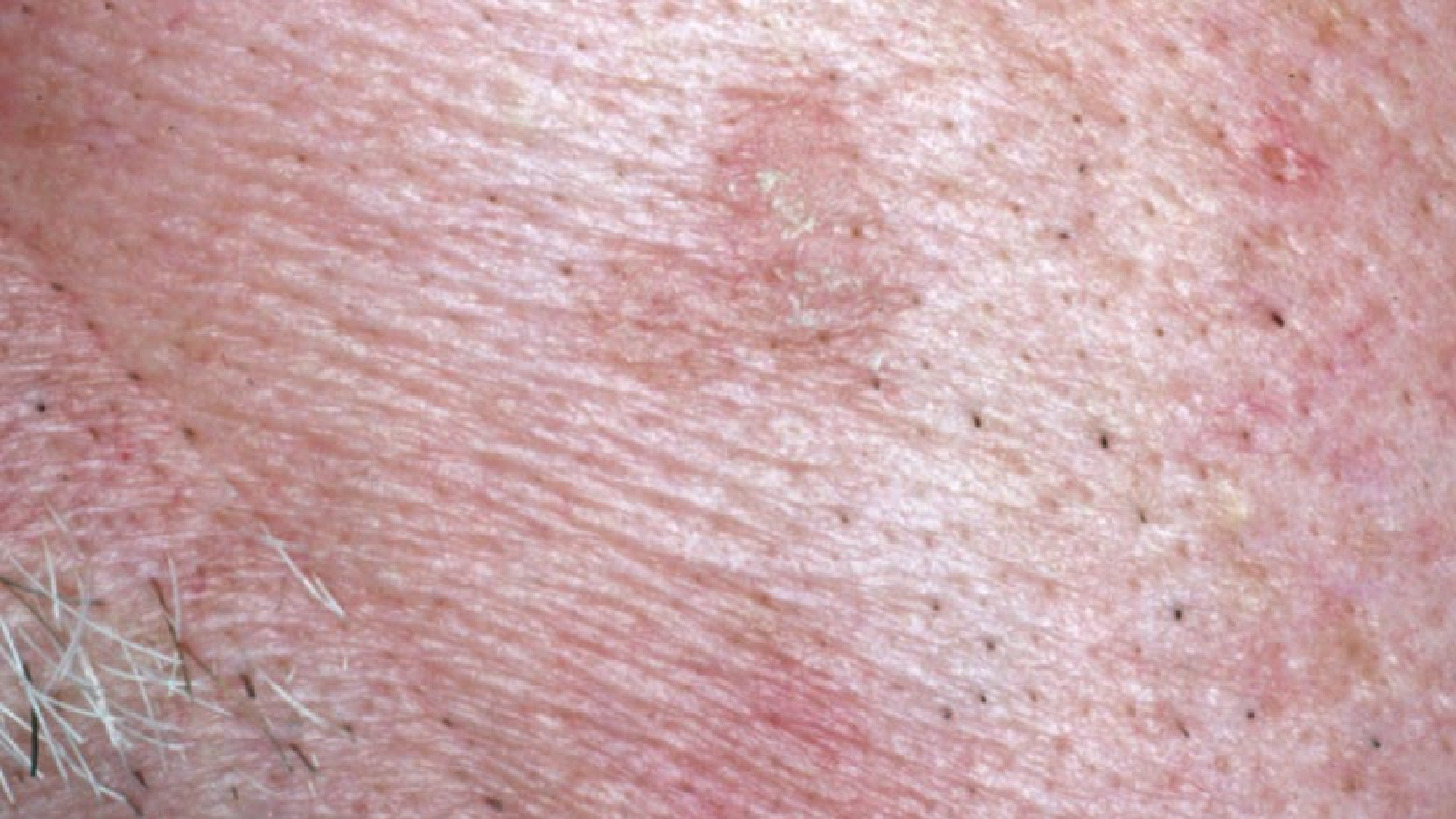
- Precursor to Squamous Cell Carcinoma
- Rough, scaly on sun exposed skin (scalp, dorsal hands, lower lip, ears, nose)
- Can self resolve in most cases

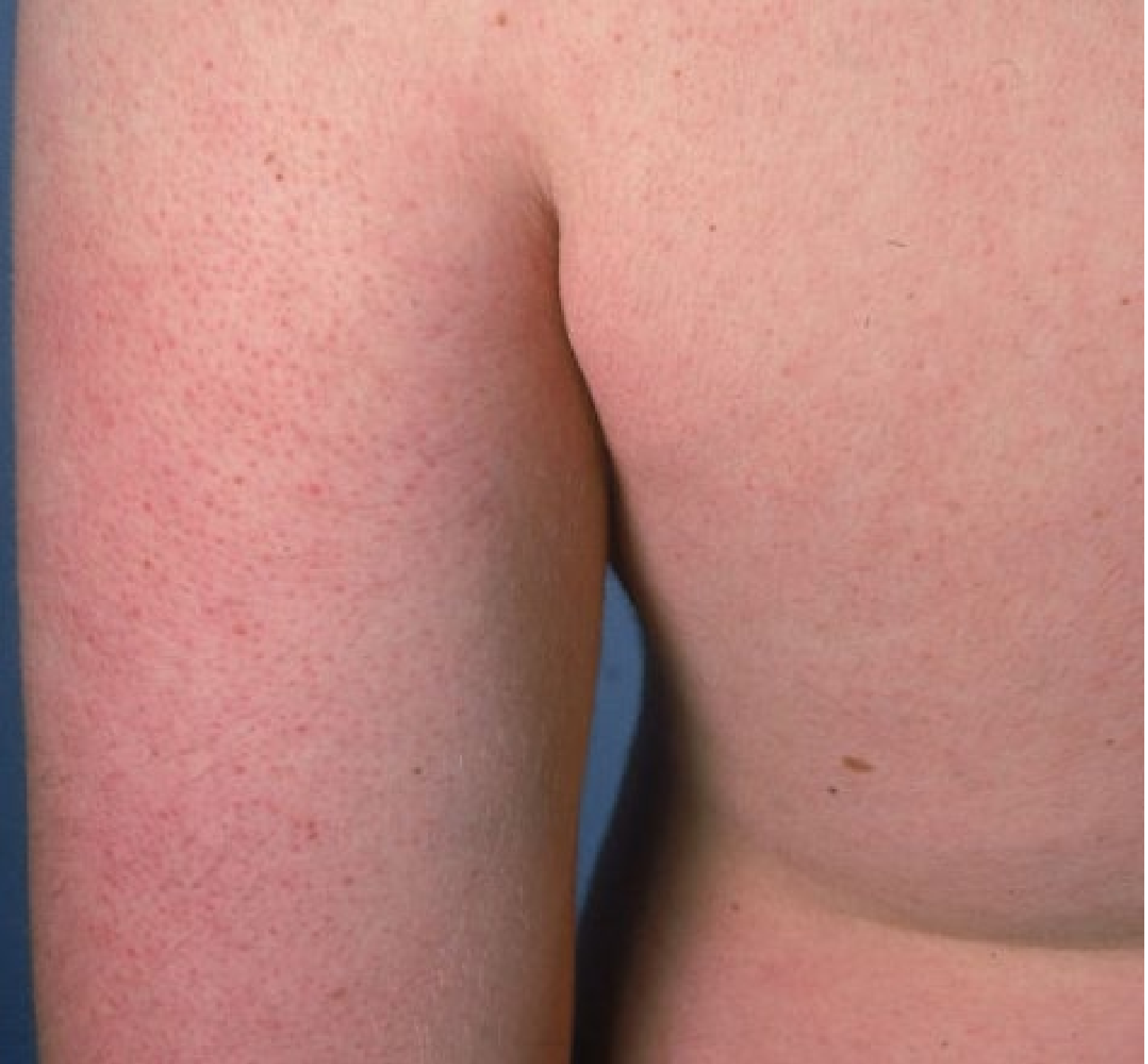


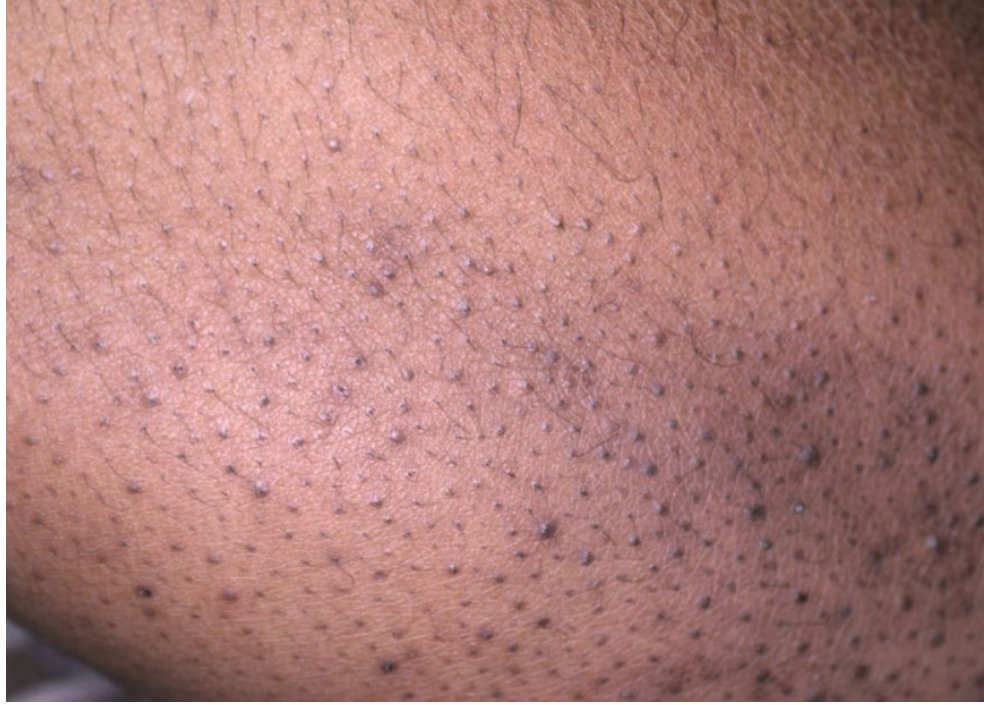
Actinic Keratoses

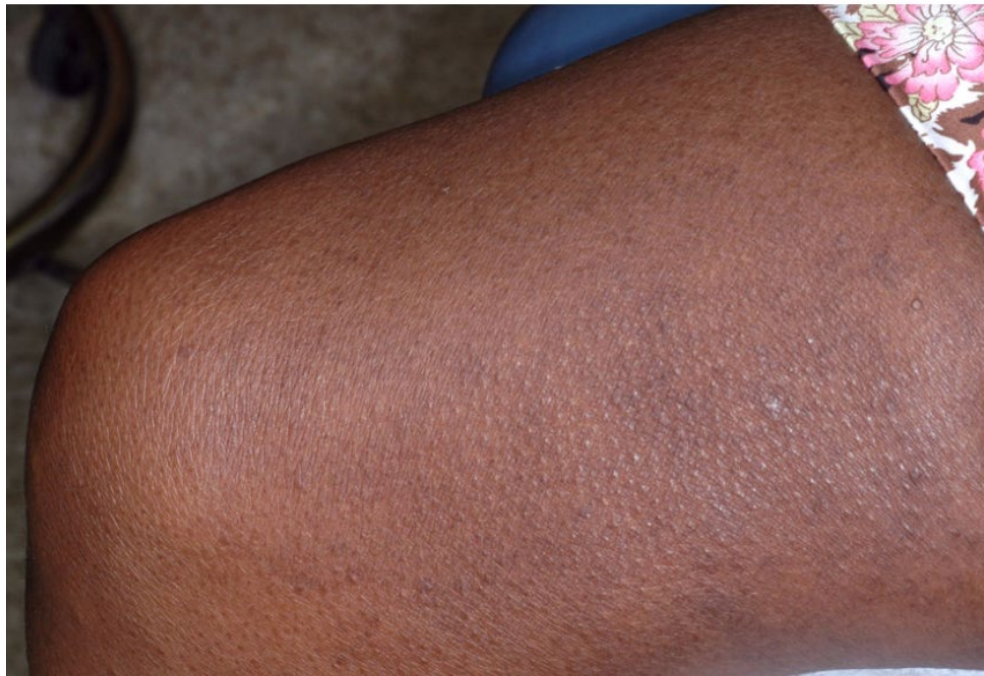
- frequency of actinic keratoses increases with age and cumulative lifetime sun exposure
- more common in immunosuppressed individuals (especially after solid organ transplantation) and in males
- Some medications (ie, capecitabine, sorafenib) may induce inflammation of existing actinic keratoses





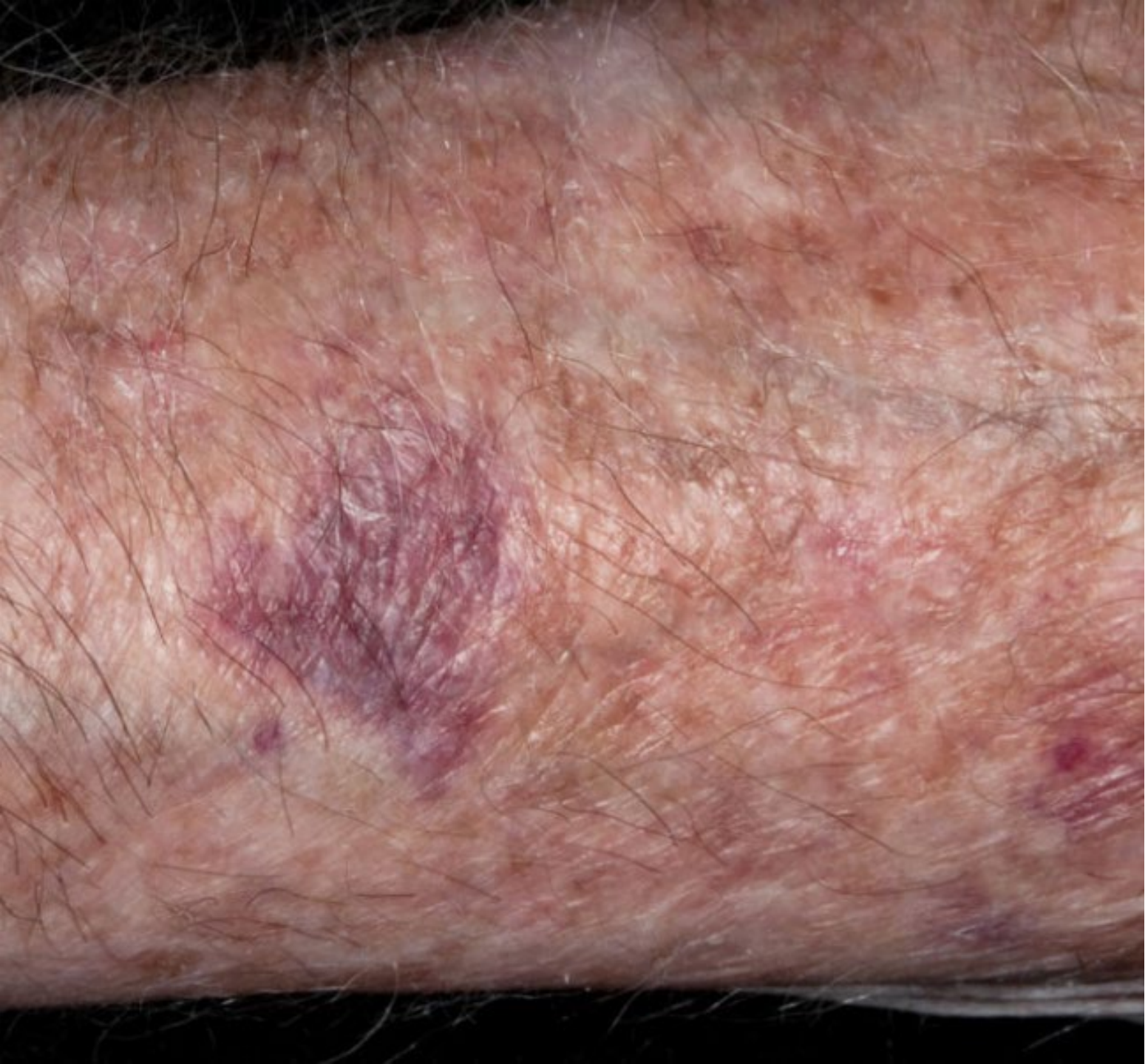


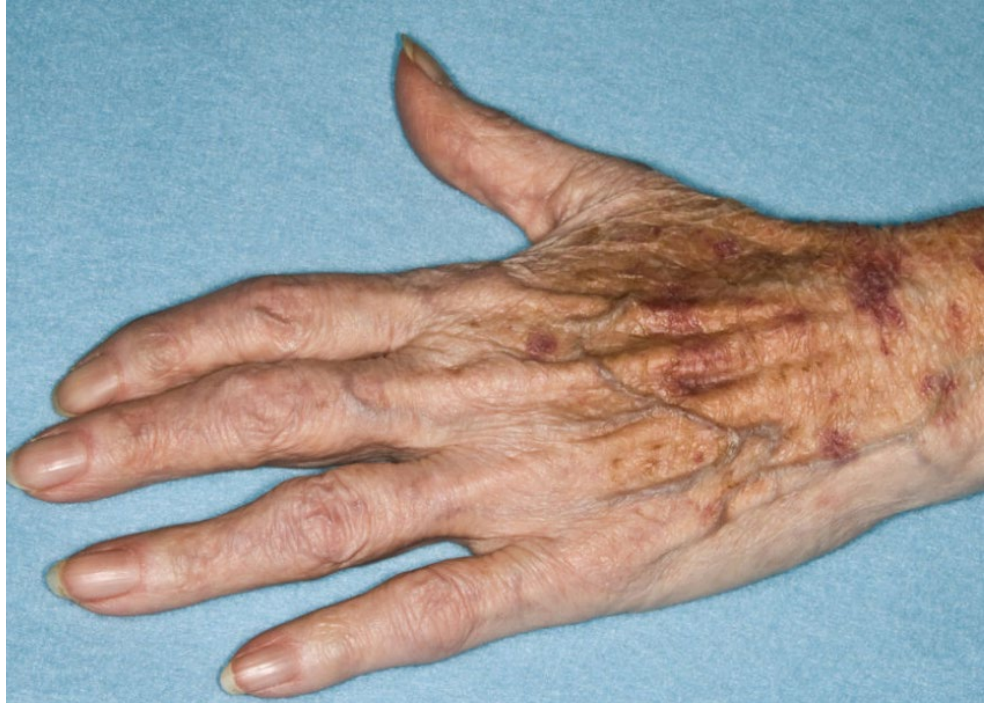


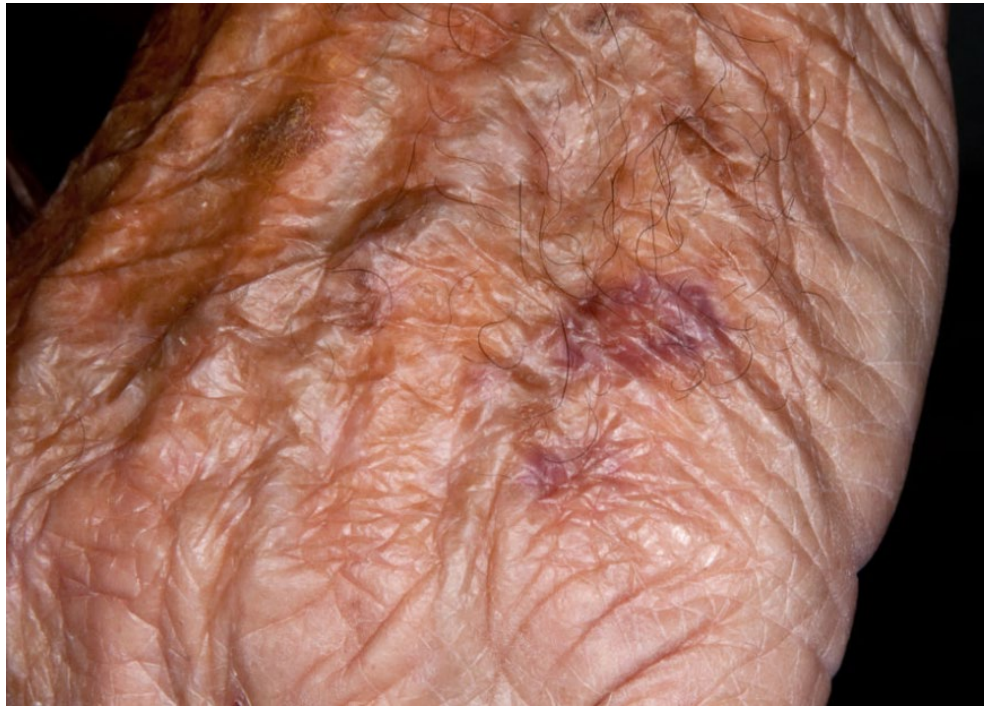


Keratosis Pilaris

- Very common, layman's term for this is "gooseflesh or chicken skin"
- Autosomal dominant inheritance
- numerous monomorphic, pinhead-sized 1- to 2-mm follicular papules
- distributed on the extensor upper arms or thighs, facial cheeks and buttocks may be involved.
- rough to the touch with perifollicular erythema in individuals with lighter skin phototypes, which may be less apparent in individuals with darker skin phototypes.
- Treatment: keratolytics including topical ammonium lactate creams or salicylic acid creams







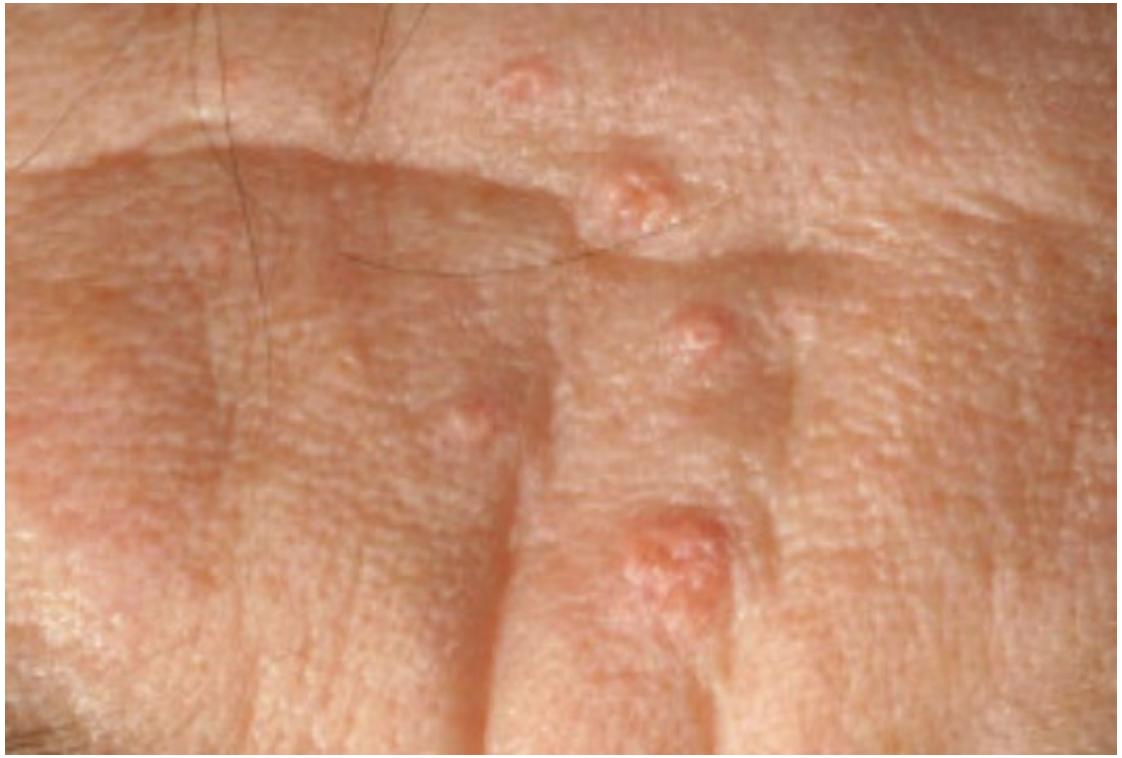
Senile Purpura

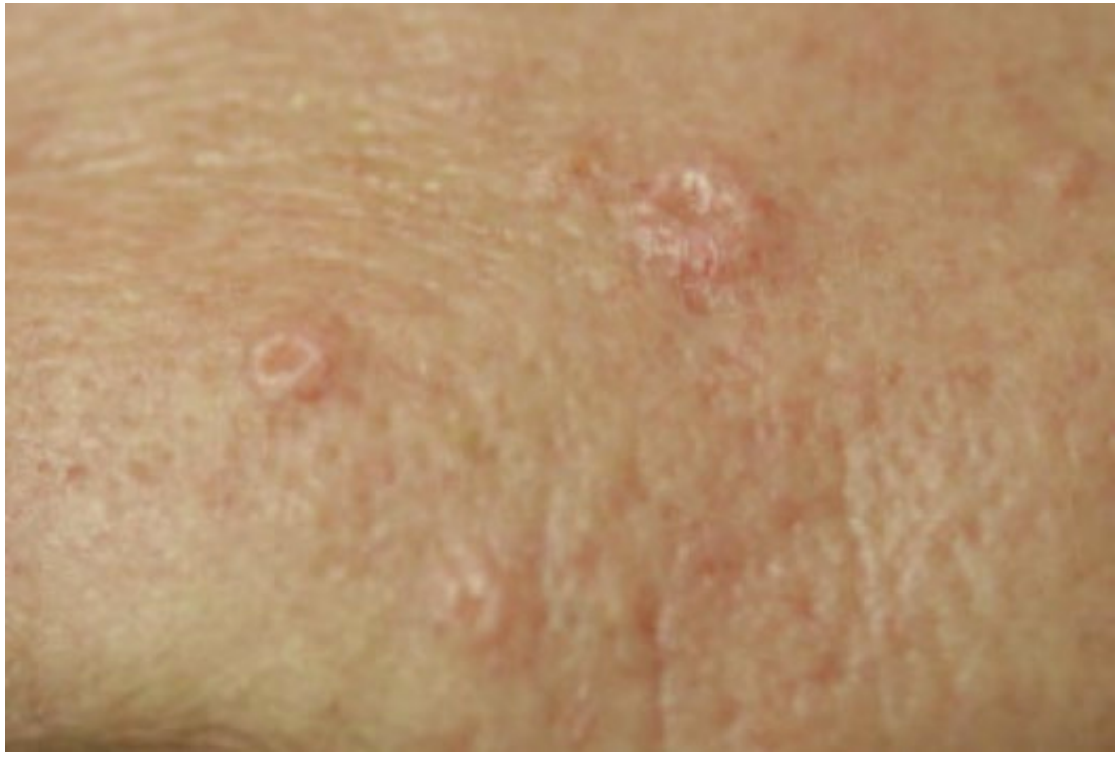
- benign form of purpura related to sun exposure
- Ultraviolet radiation induces atrophy of the dermis, rendering dermal blood vessels vulnerable to minor trauma
- This manifests clinically as violaceous macules and patches on the hands and the extensor surfaces of the arms, which persists for several weeks
- Patients often are taking medications that may exacerbate the condition (warfarin, aspirin)

Senile Purpura

- This is usually a clinical diagnosis; the following laboratory tests may help determine the cause of purpura if the diagnosis is not obvious and if there is no dermal atrophy:

- CBC with platelet count
- Coagulation studies
- Liver function tests
- Protein electrophoresis considering amyloid associated paraproteins



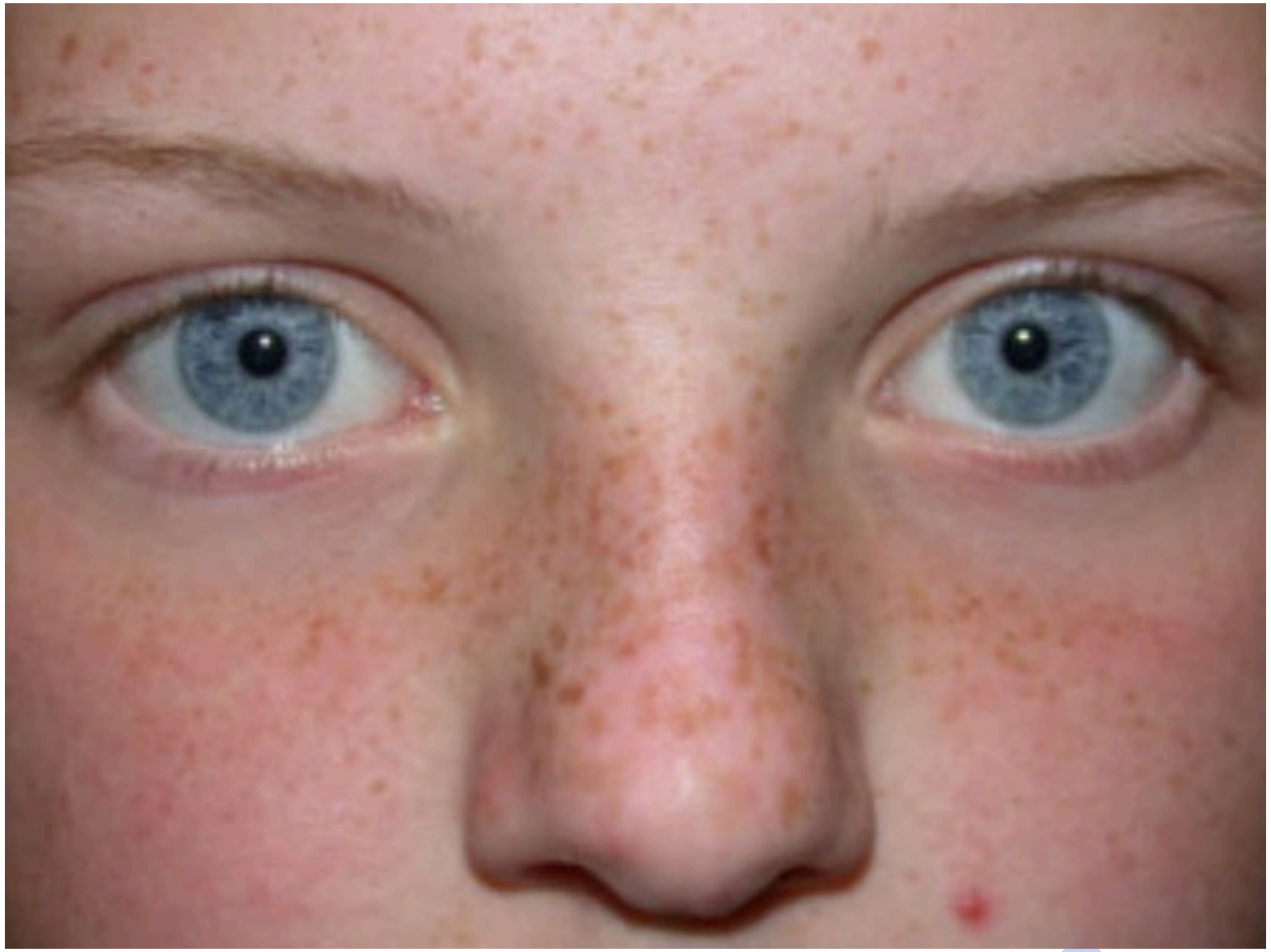


Sebaceous Hyperplasia

occurs on the forehead and cheeks of adults

presents as one or more dome-shaped papules with central umbilication

Uniform yellow lobules are seen on dermoscopy



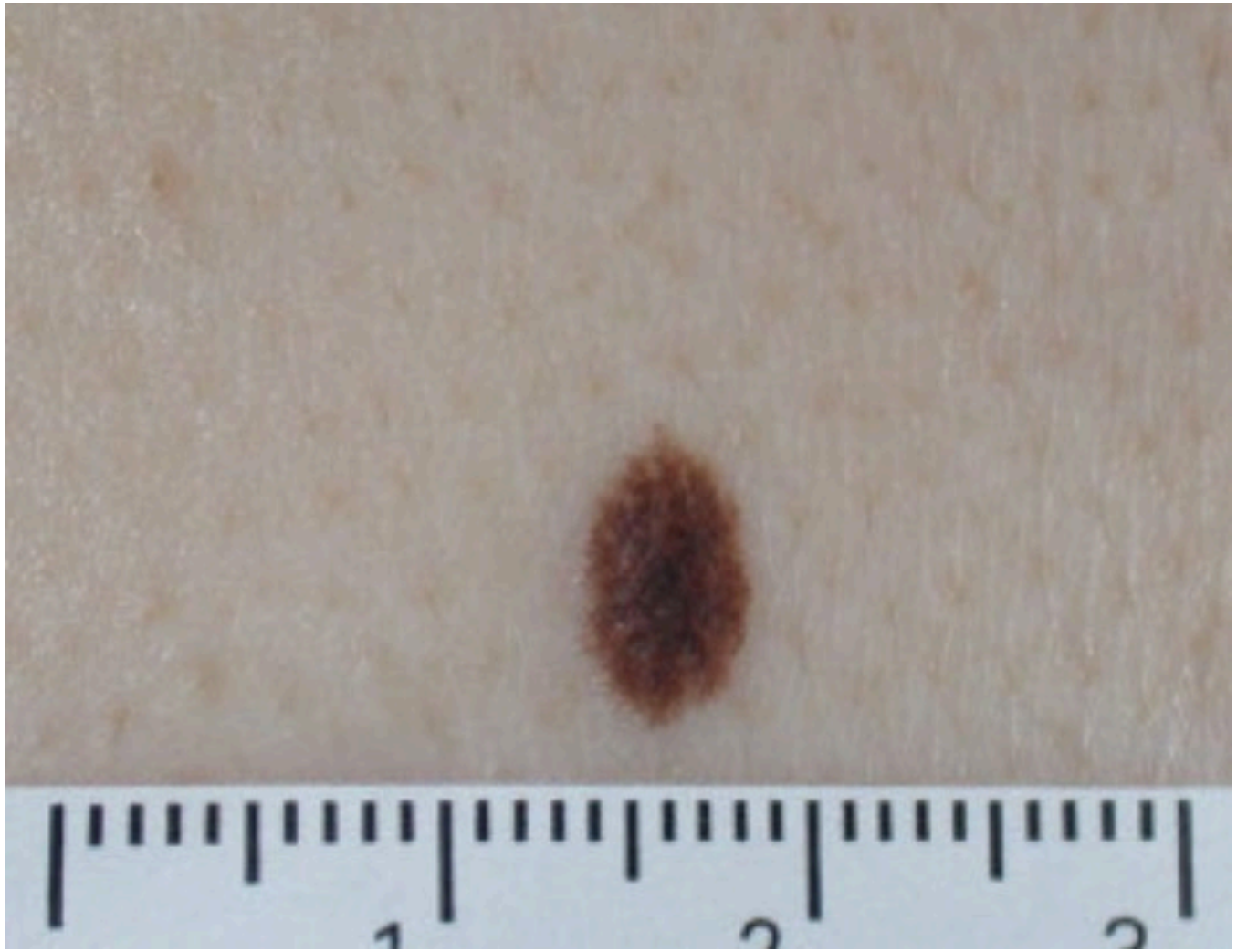
Ephilides (freckles)

- genetically determined well-defined small brown macules with the following characteristics:
- 1–4 mm in diameter
- Tan or brown color
- Located in areas exposed to the sun such as the face and forearms.
- Increased melanin deposition in the basal keratinocyte on biopsy

Nevus (mole)

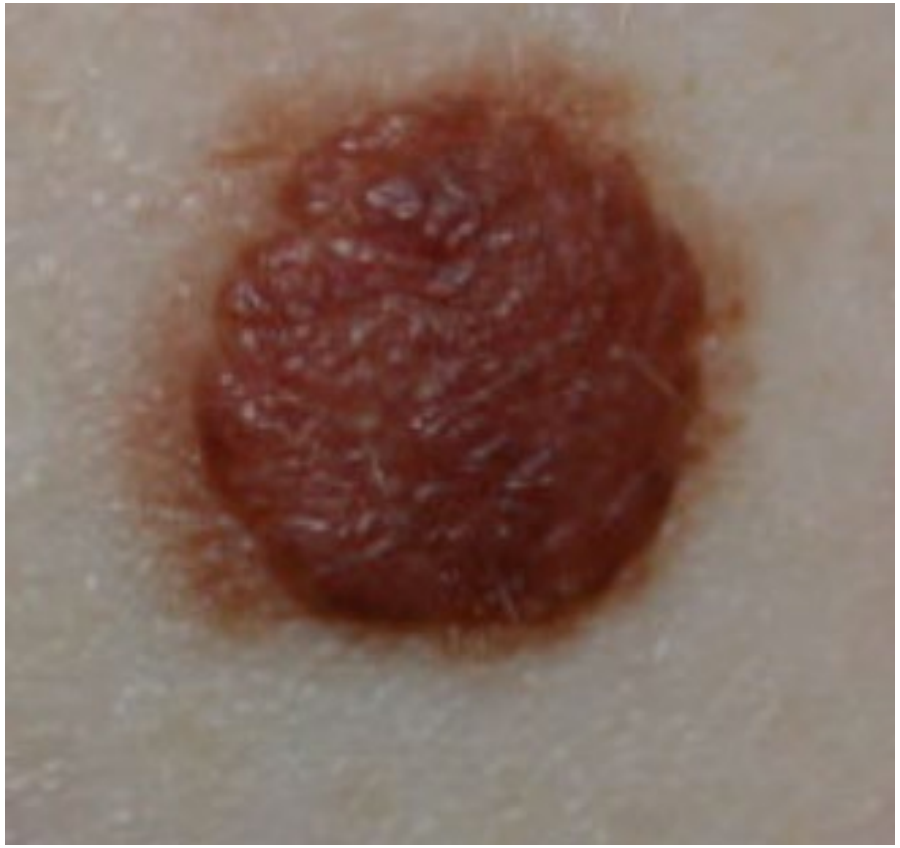
Melanocytic nevi can be histologically classified as a junctional, compound, or dermal nevi

Junctional nevus



Junctional nevus

- junctional nevus has nevus cells at the base of the epidermis.
- A junctional nevus is well-circumscribed pigmented macule with regular but fading borders.
- The number and appearance of junctional nevi depend on sun exposure, fluctuating hormonal levels, and immunosuppression

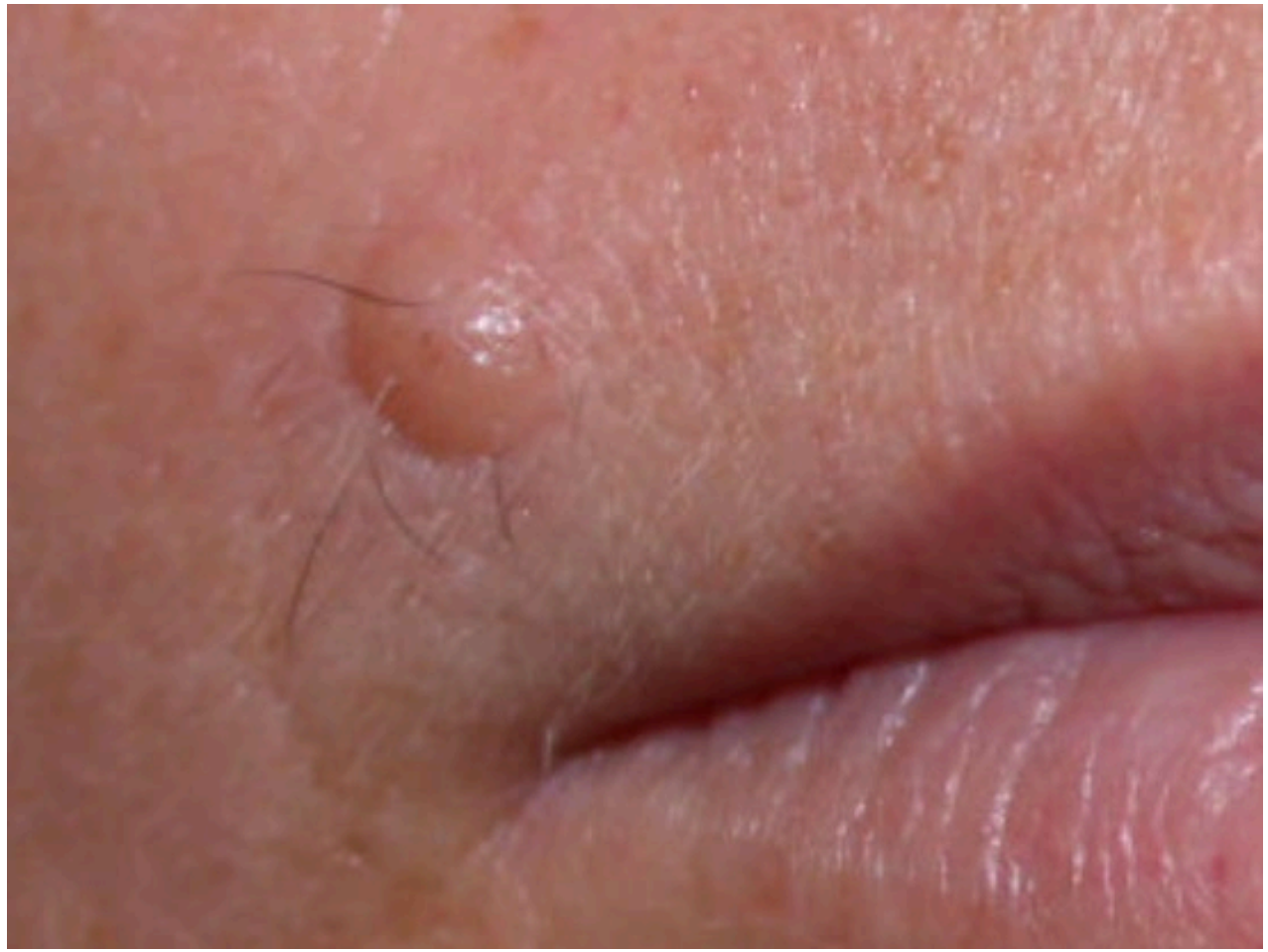


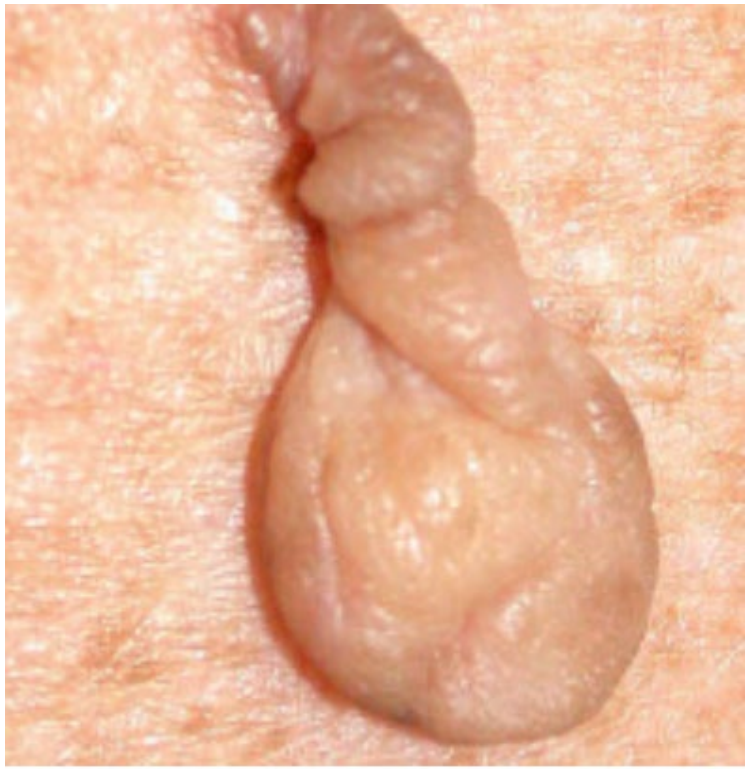
Compound nevus

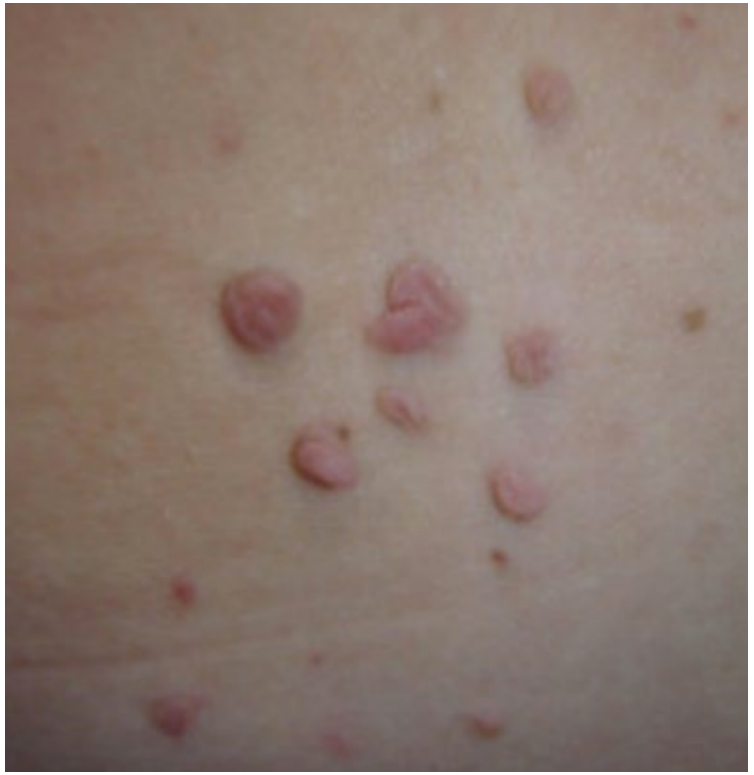
- has papular and flat components due to junctional and dermal nevus cells.
- The compound nevus is usually a pink or brown, dome-shaped papule surrounded by macular pigmentation.
- Most lesions arise during childhood.

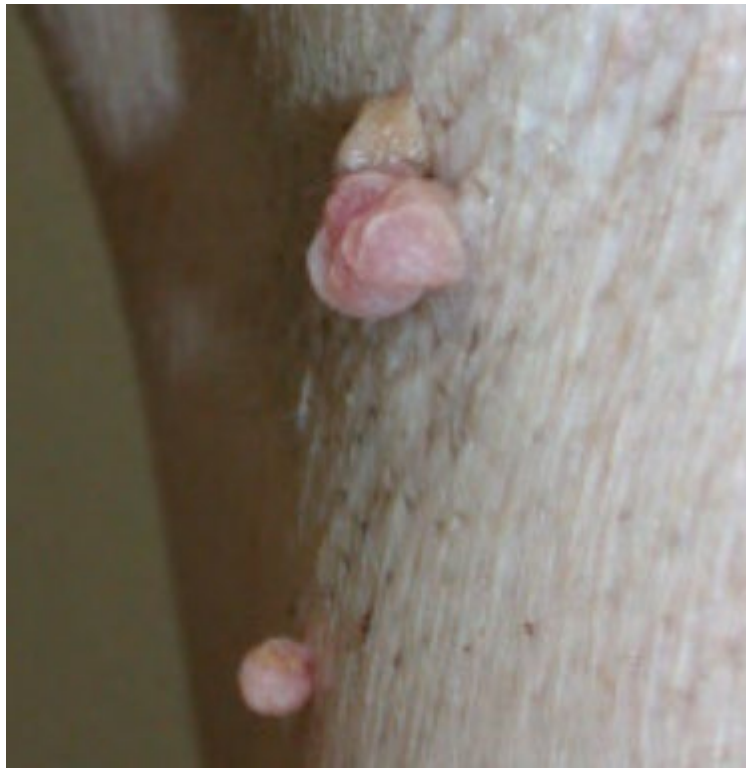
Dermal nevus

- is characterised by nevus cells in the dermis.
- The dermal nevus is an elevated papule.
- It can be brown, blue, black or skin colored.
- Dermal nevi arise in childhood but mature during early adult life.



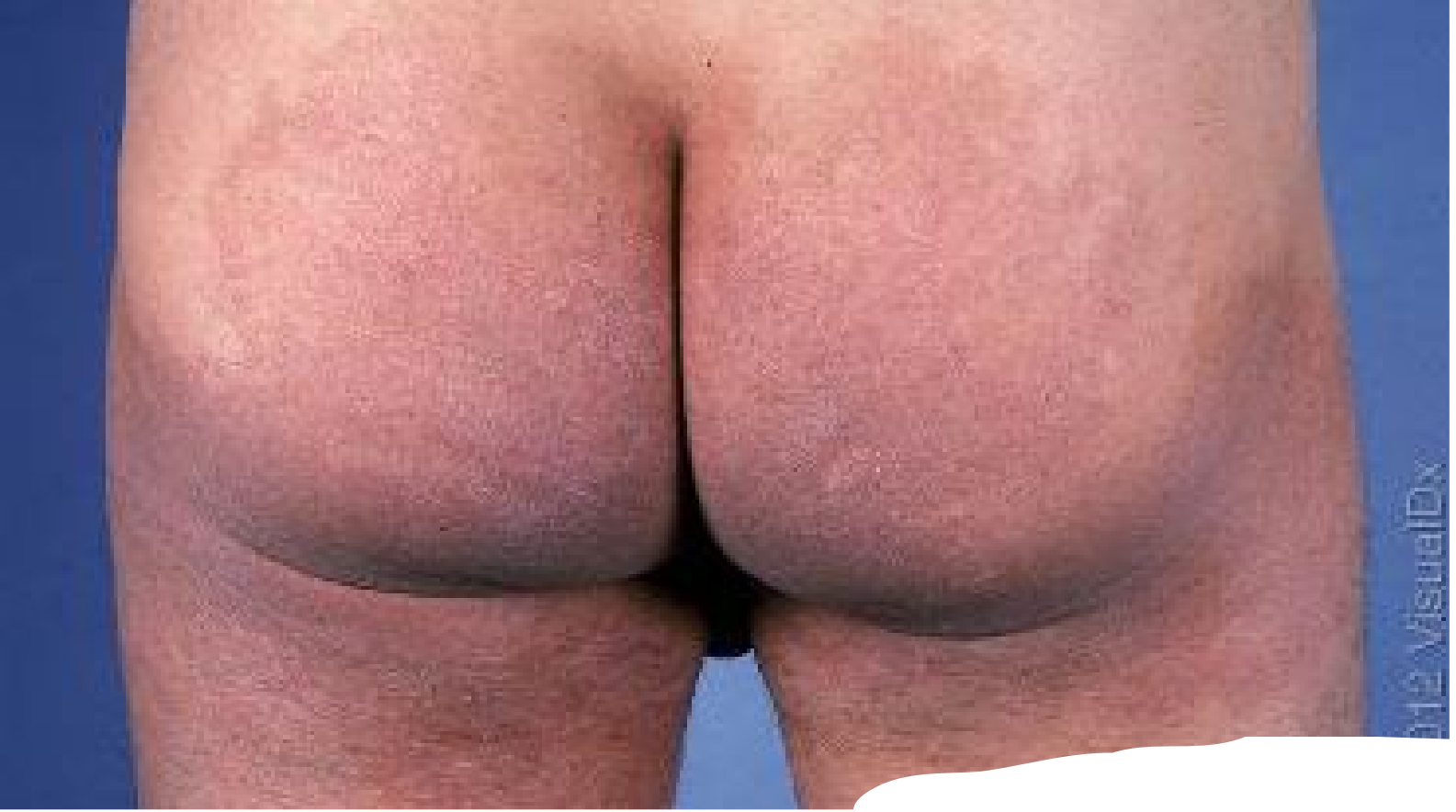


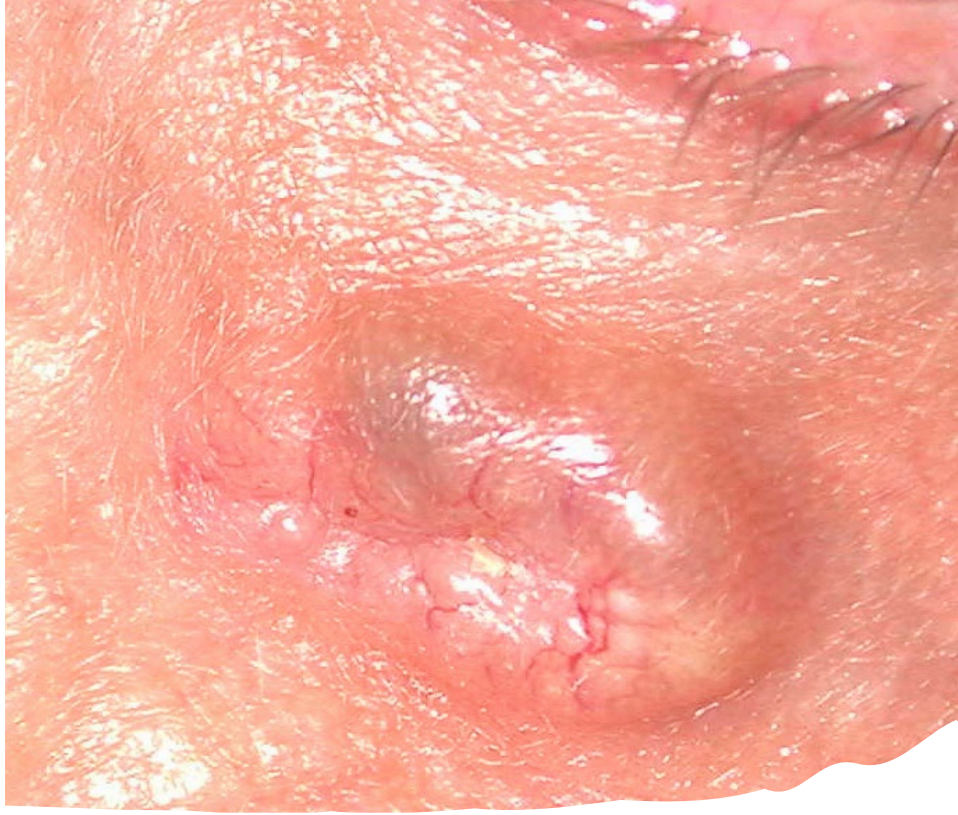


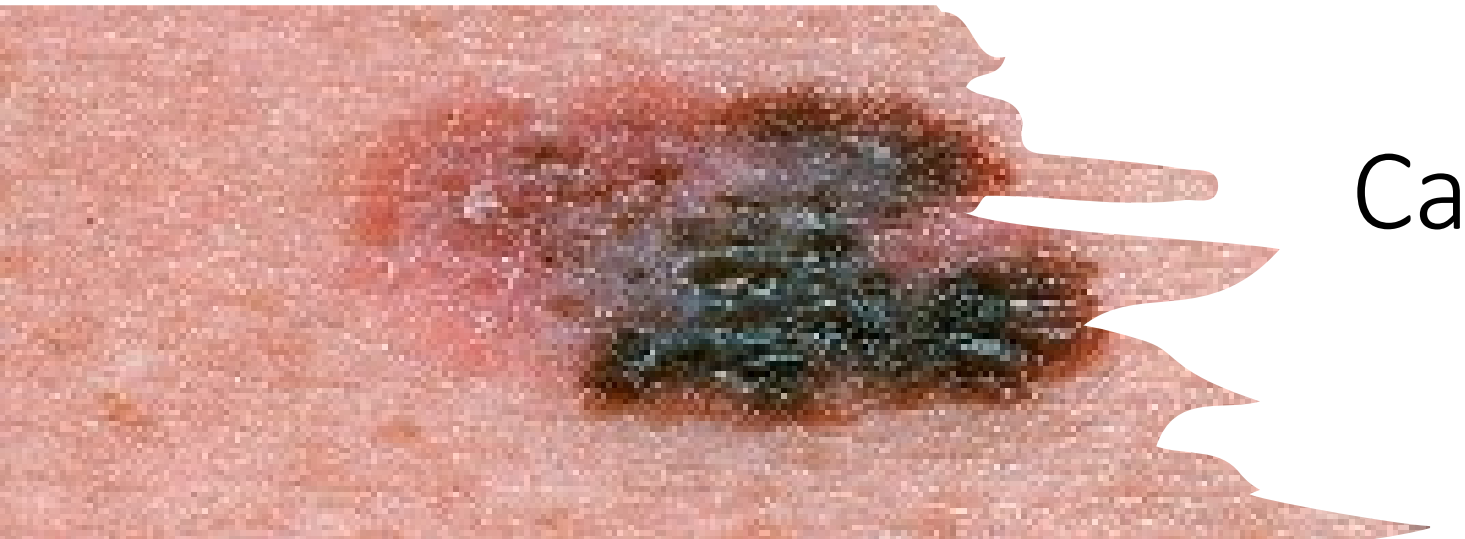


Acrochordon – skin tags

- An acrochordon is a soft, fleshy papule that is almost always pedunculated.
- They vary in diameter from 1 to 6 mm.
- On biopsy, there is a fibrovascular core covered by normal squamous epithelium



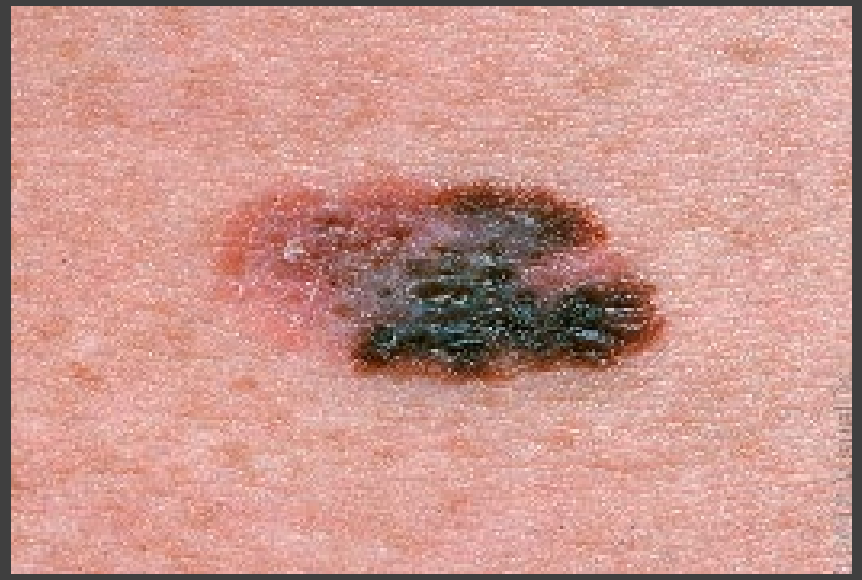


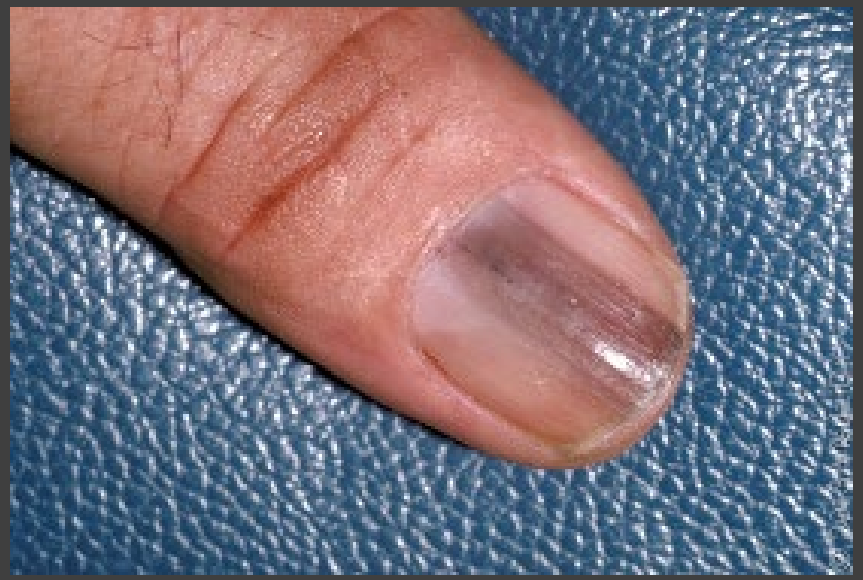


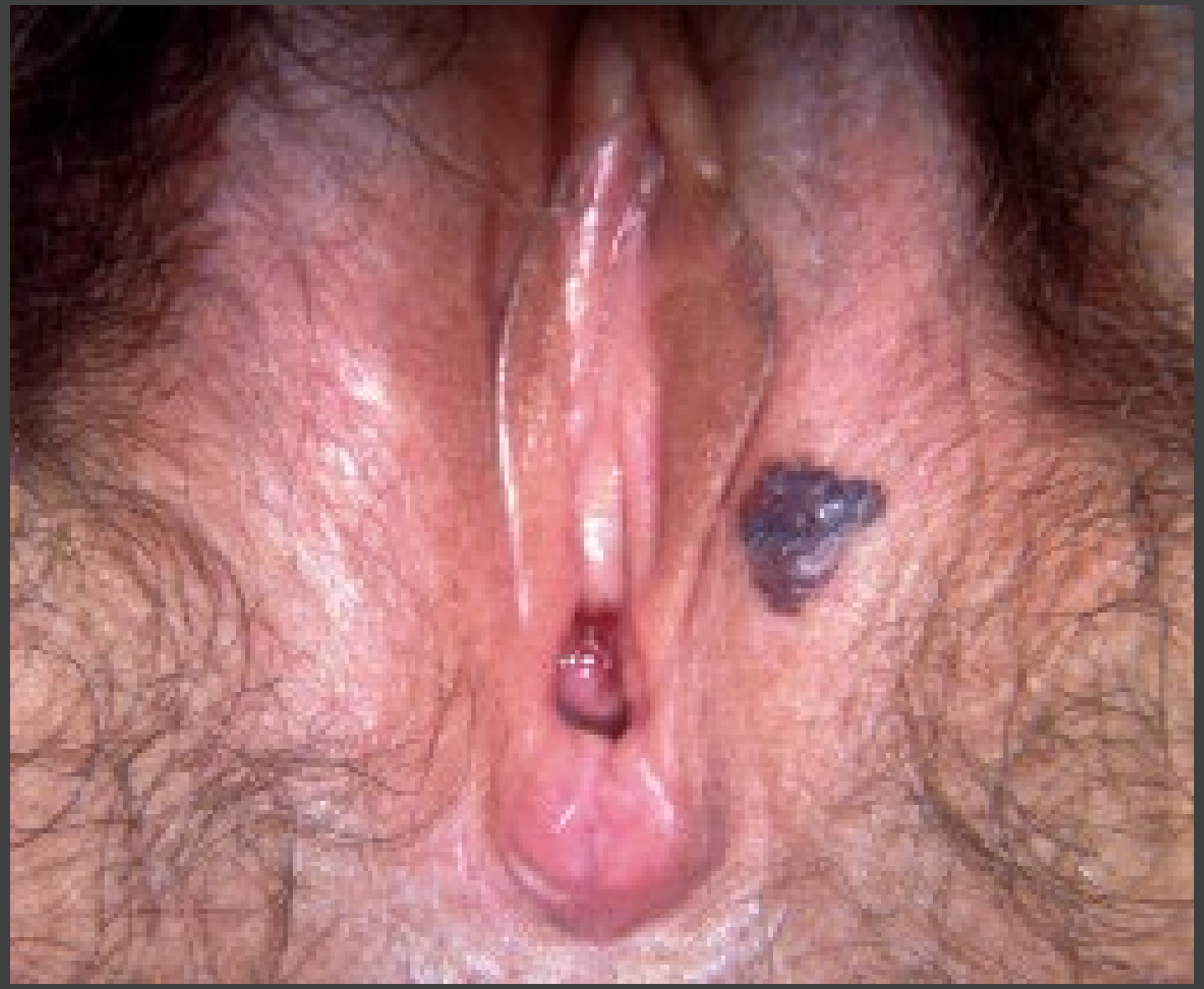
Cancer

Melanoma

- Aggressive malignancy of melanocytes, can present on skin, mucous membranes, nails or eye
- Risk factors: family history or prior personal history of melanoma, a history of severe or blistering sunburns, a changing mole, a giant congenital nevus (greater than 20 cm), older age, lighter skin phototype, and multiple atypical nevi.
- Primary prognostic feature of melanoma is the depth of invasion

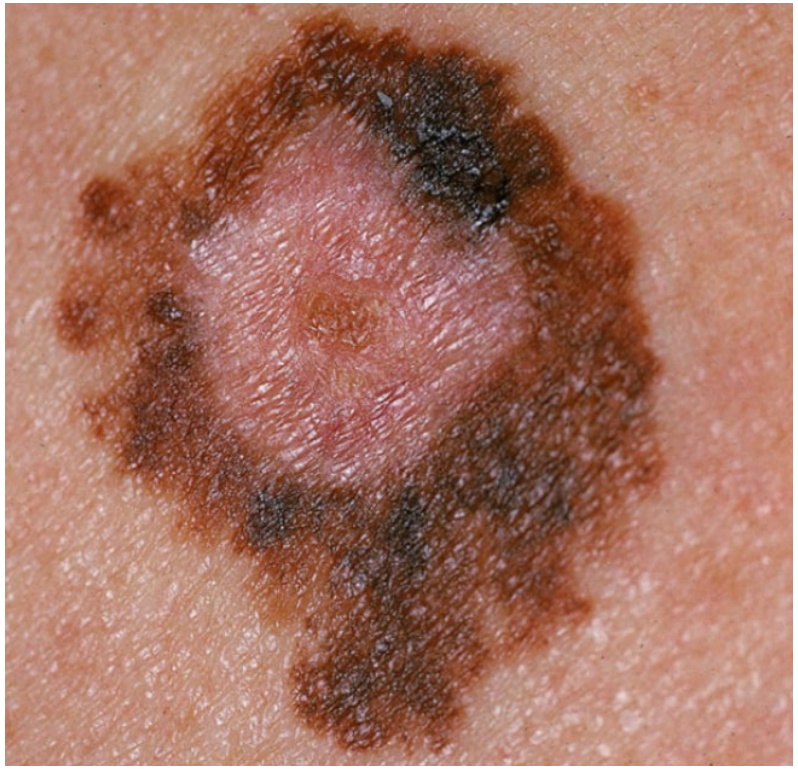






Eval of pigmented skin lesions

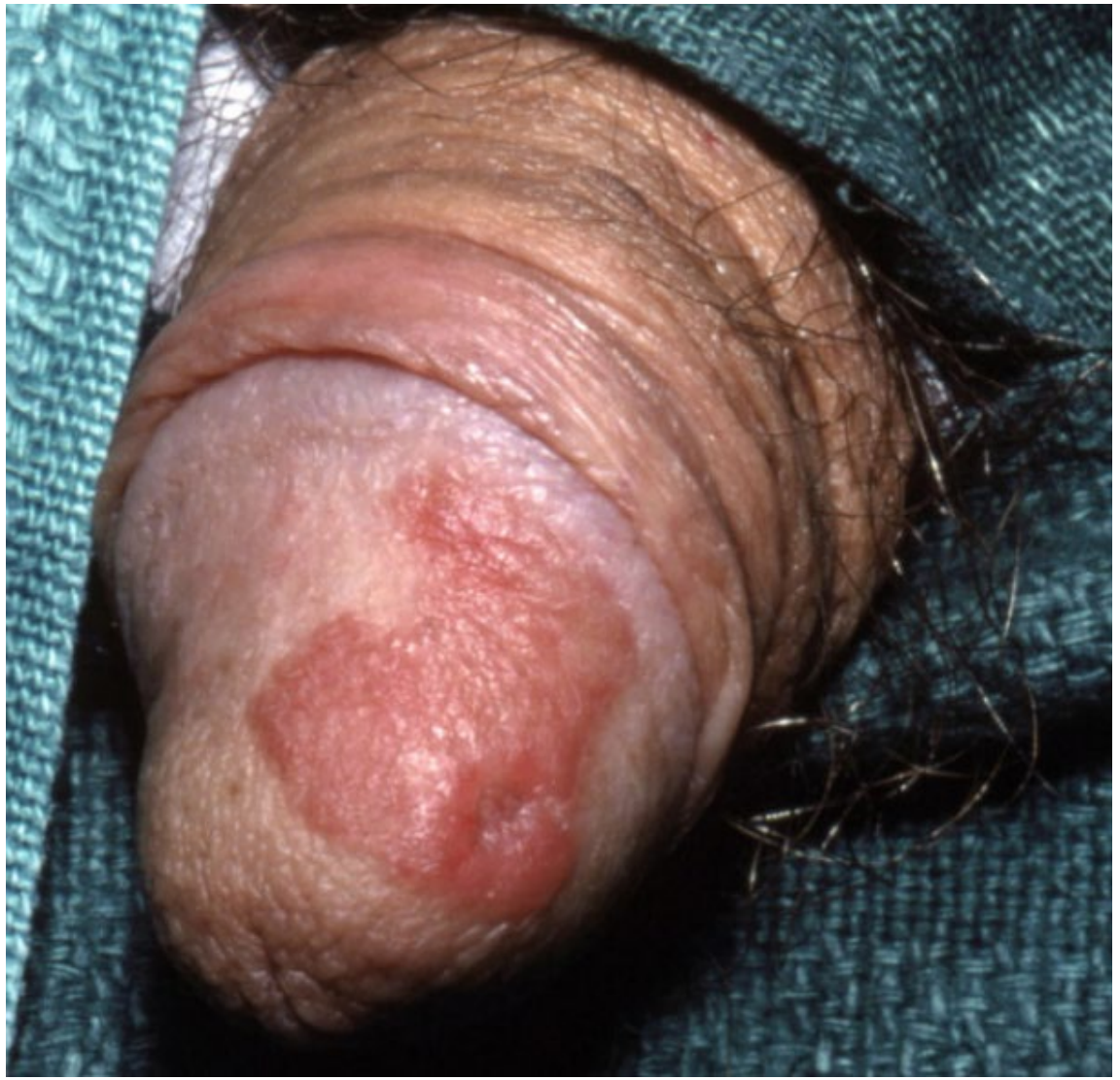
- Asymmetric
- Borders that are irregular
- Colors, different colors specifically red, white, blue, pink within the mole
- Diameter greater than pencil eraser
- Evolving or changing over time



Zebras – Less common types of skin cancer

Squamous cell carcinoma of the penis

- AKA Erythroplasia of Queyrat, AKA, Bowen's disease
- well-demarcated, velvety, erythematous plaque, but its appearance may be variable
- most commonly due to human papillomavirus (HPV) type 16
- common in elderly, uncircumcised males

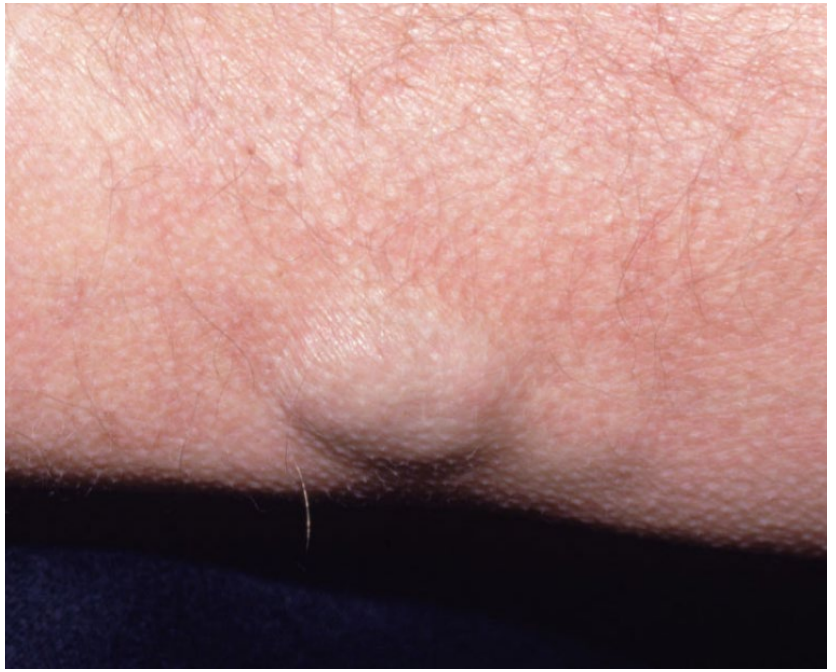


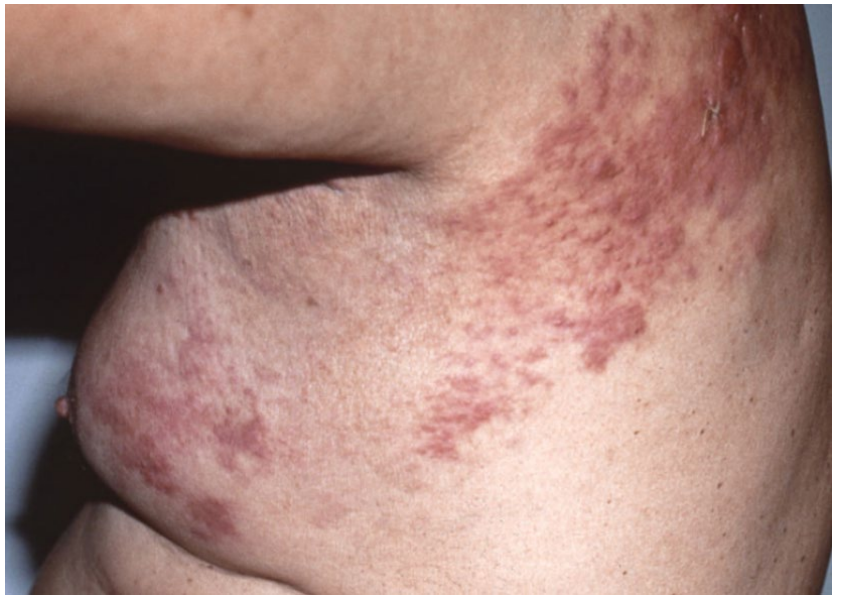
Squamous cell carcinoma of the penis

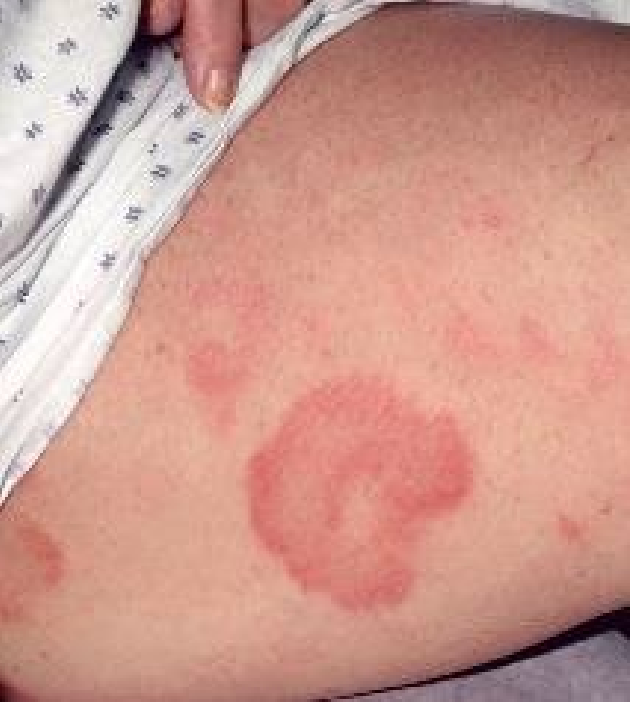
- Risk factors HPV infection, immunosuppression (such as human immunodeficiency virus [HIV] infection), ultraviolet (UV) light exposure, phimosis, multiple sexual partners, smoking, other underlying dermatoses (lichen sclerosis or lichen planus), and any form of chronic irritation
- Biopsy should be performed for any genital lesion that is pigmented, erosive, bleeding, and/or resistant to topical steroid therapy

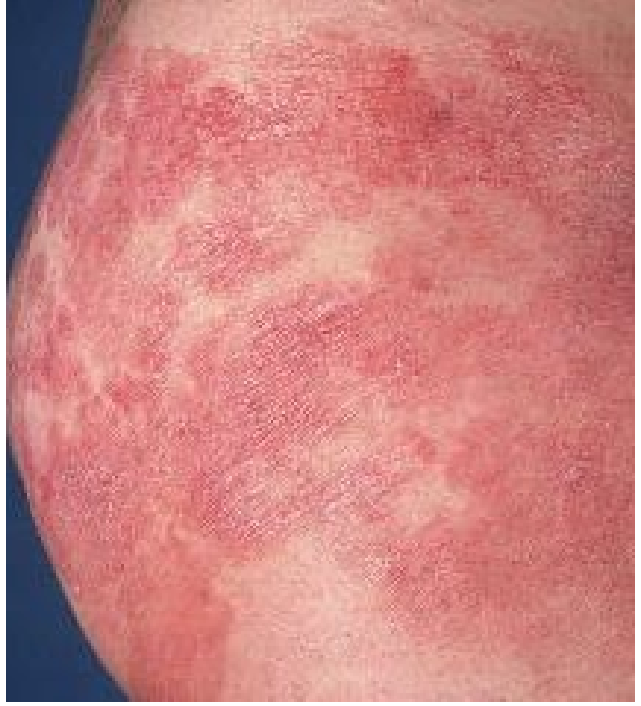
Cutaneous metastases

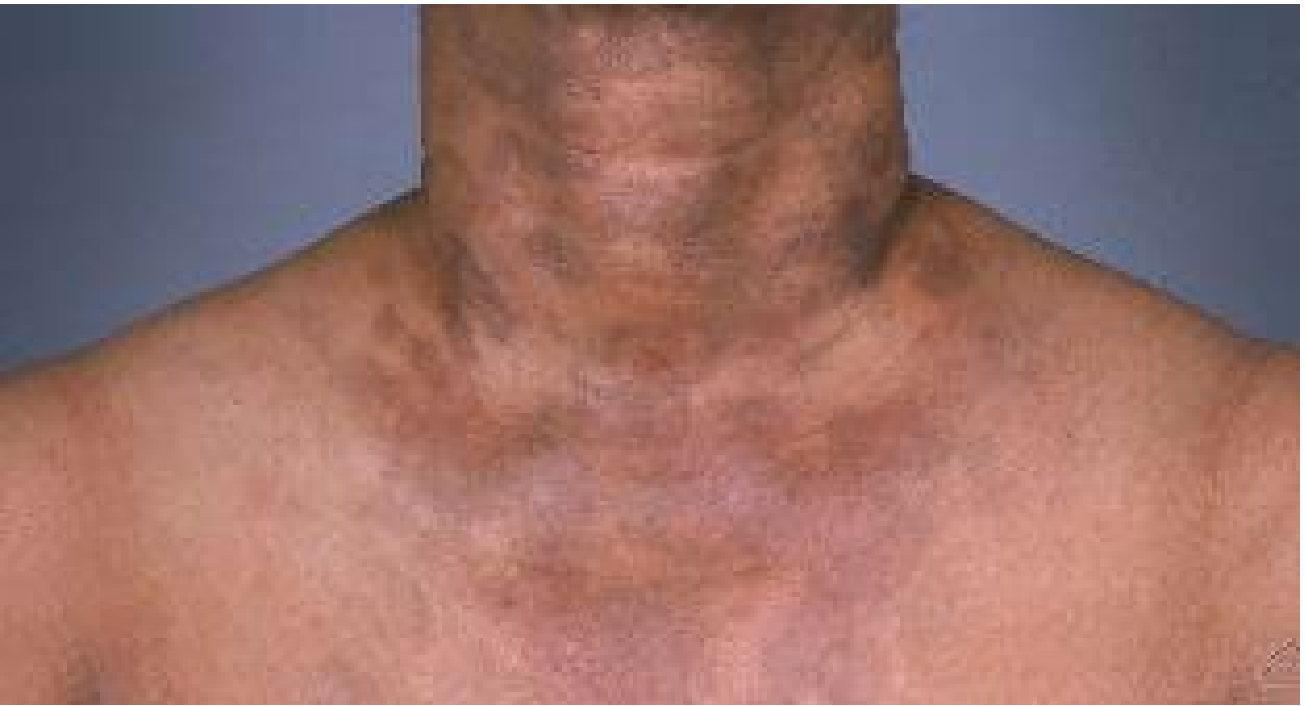
- Can be subtle or appear to be a subcutaneous growth
- Cyst without a punctum should be biopsied
- May or may not have a history of malignancy
- most frequent primary tumors are carcinomas of the breast, stomach, lung, uterus, kidney, ovary, colon, bladder.
- Cutaneous metastases usually indicate a very poor prognosis, with an approximate 75% one-year mortality rate
- firm, red to pink nodules
- most common on the chest, abdomen, and head and neck
- Sister Mary Joseph nodule is metastatic carcinoma to the umbilicus from intraabdominal carcinoma









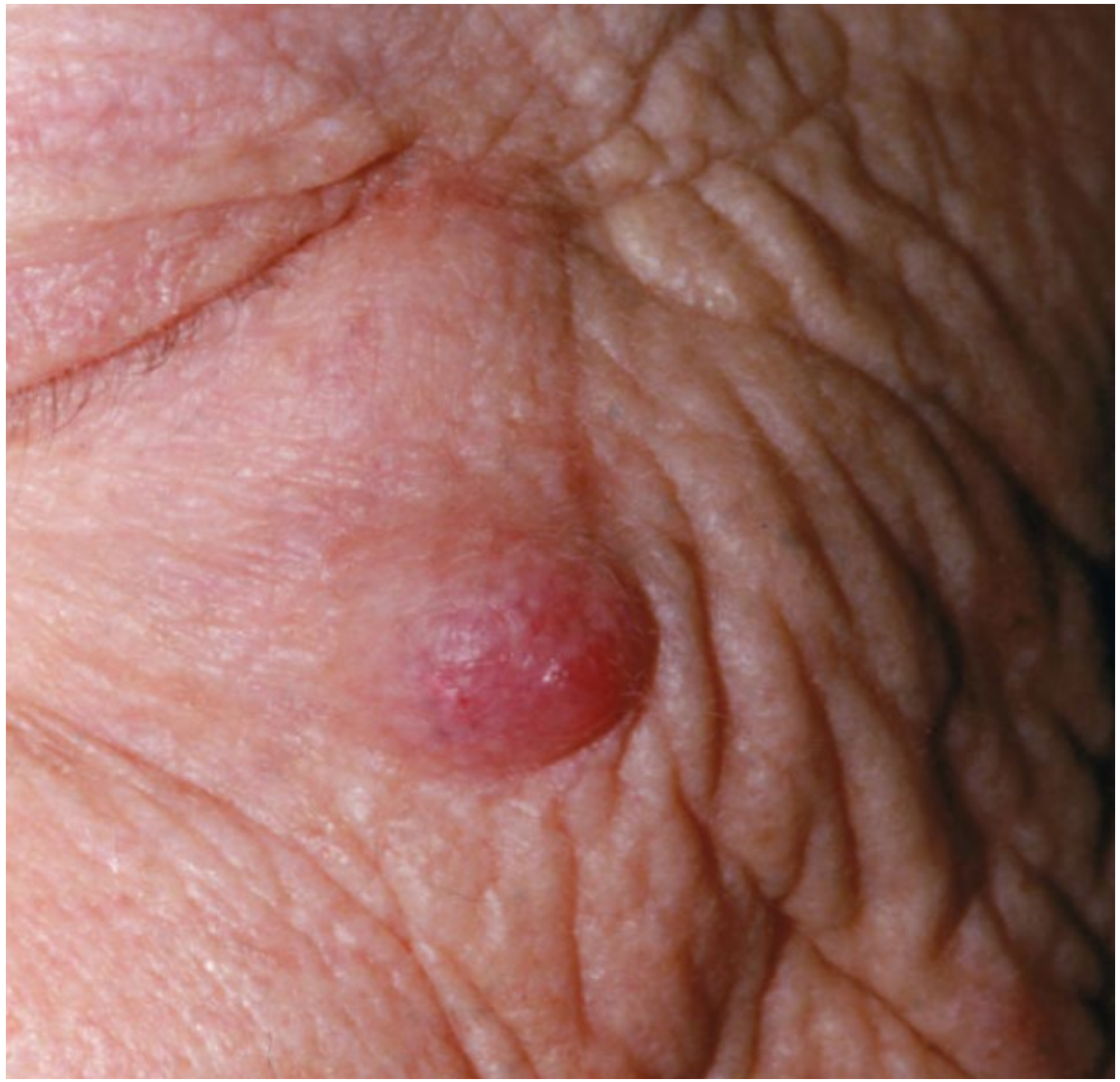


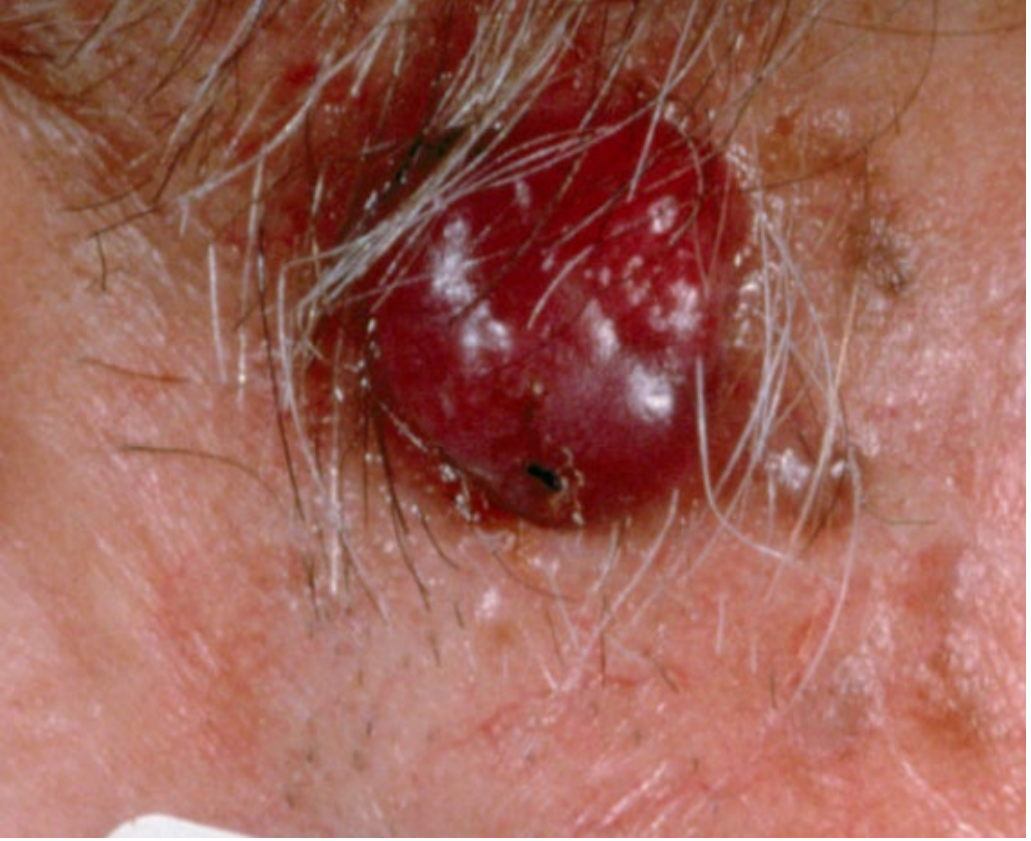
Mycosis Fungoides

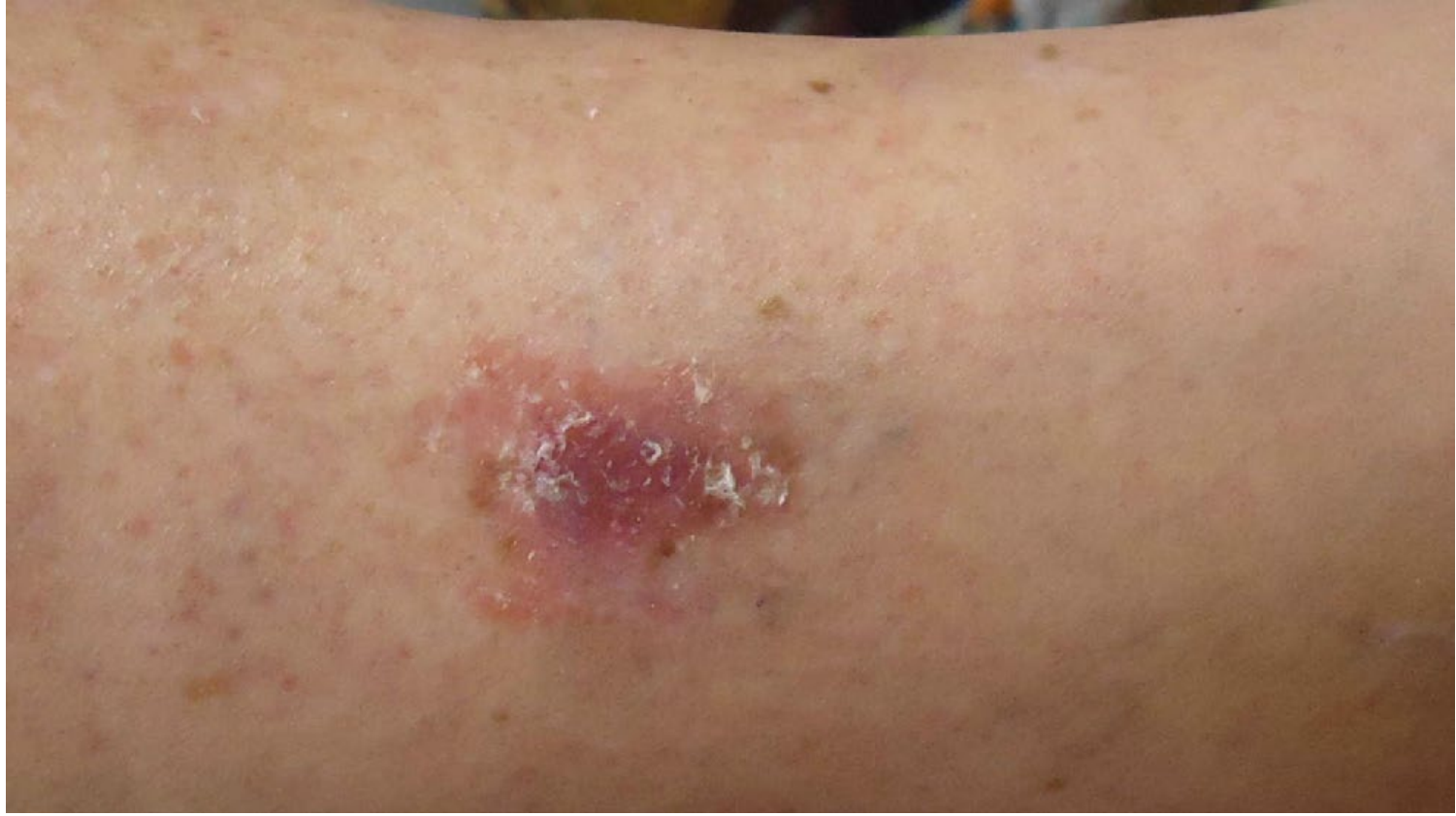
- Most common type of Cutaneous T cell lymphoma
- CP: patches or thin plaques with fine scale that measure 2-20 cm and favor the sun-protected areas of the body, including buttocks and posterior axillary folds
- Many patients have a long history of generalized eczematous or psoriasiform dermatitis before being diagnosed with MF.
- Early patch stage disease may not be diagnostic on histopathology, Numerous biopsies are necessary
- Typically mistaken for atopic dermatitis, psoriasis, tinea corporis for years

Merkle cell Carcinoma

- Cutaneous neuroendocrine carcinomas
- They most frequently occur on the head and neck but can also be seen elsewhere on the body
- MCC favors older adults with a median age of 75-80 years old at the time of diagnosis
- More common among individuals of Northern European descent
- Two important etiologic factors for MCC are the Merkel cell polyomavirus and ultraviolet (UV) exposure
- Asymptomatic solitary nodule
- Despite aggressive treatment, recurrence rates are high, metastases are common, and 5-year relative survival is approximately 60%

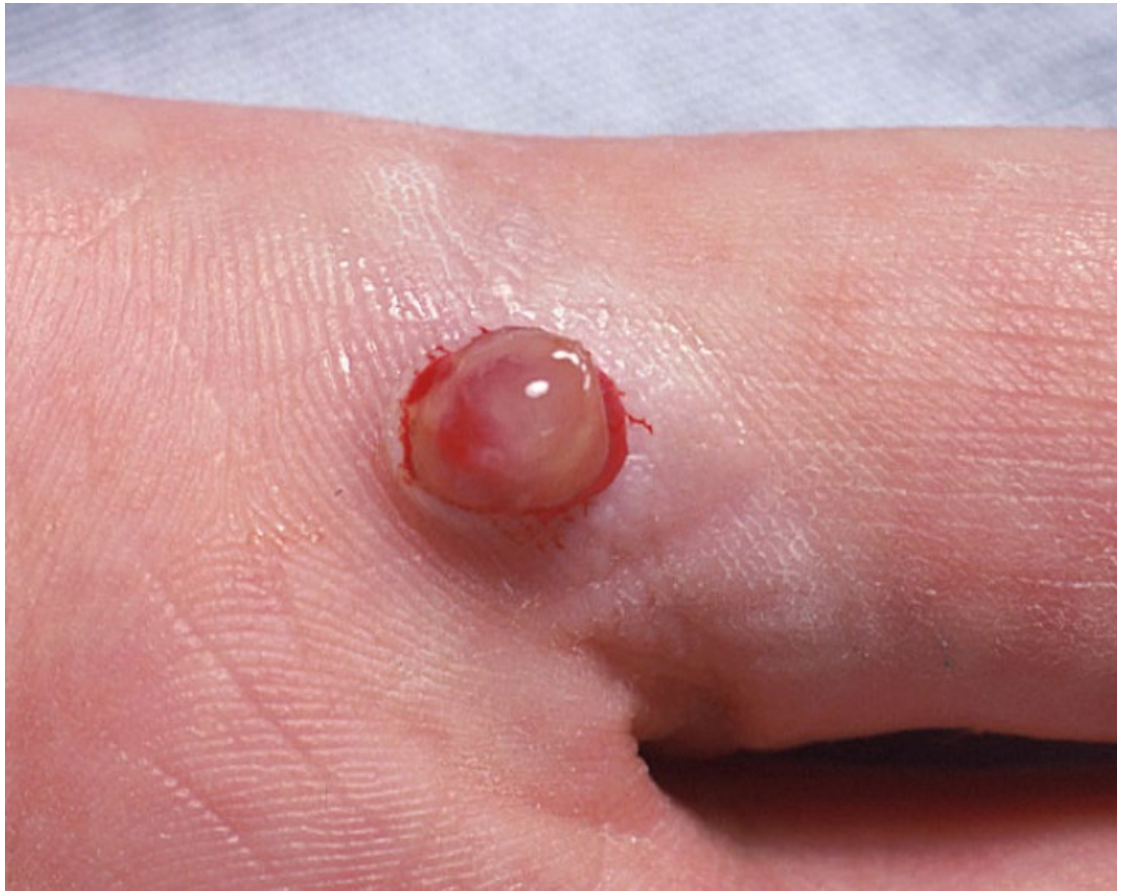


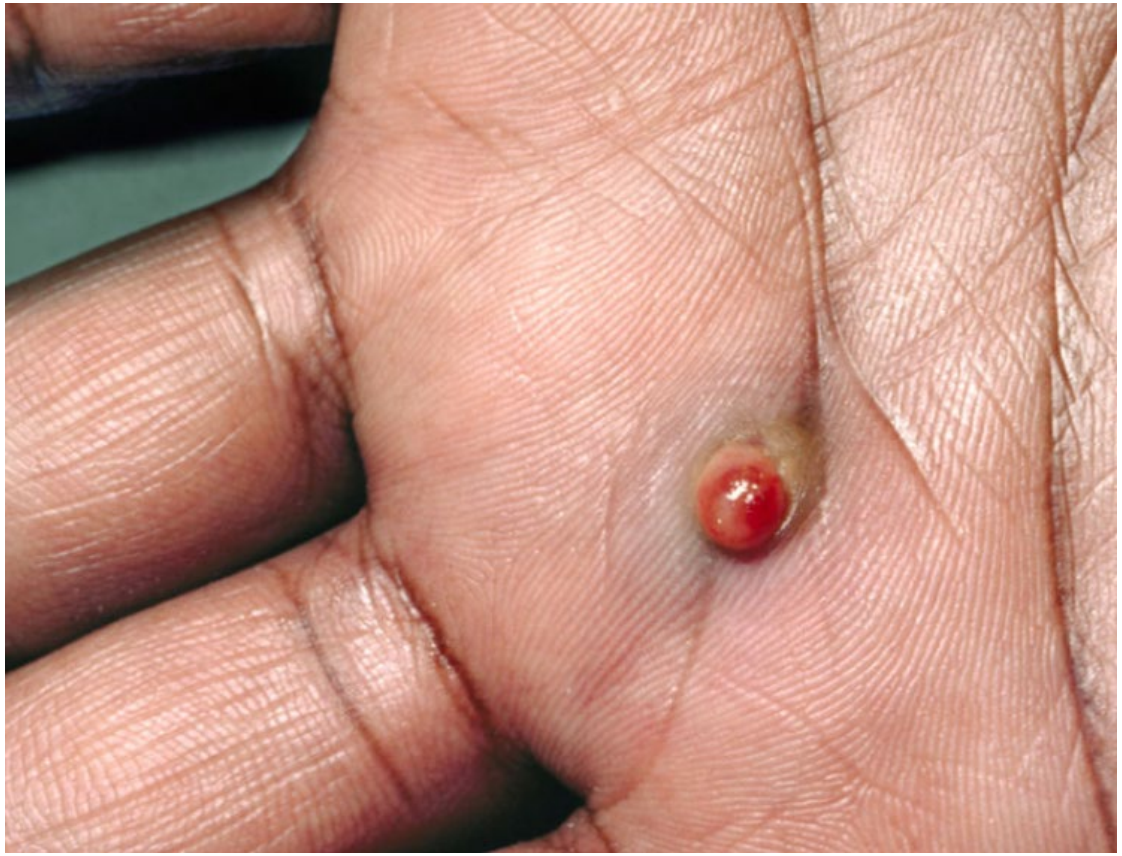




Amelanotic melanoma

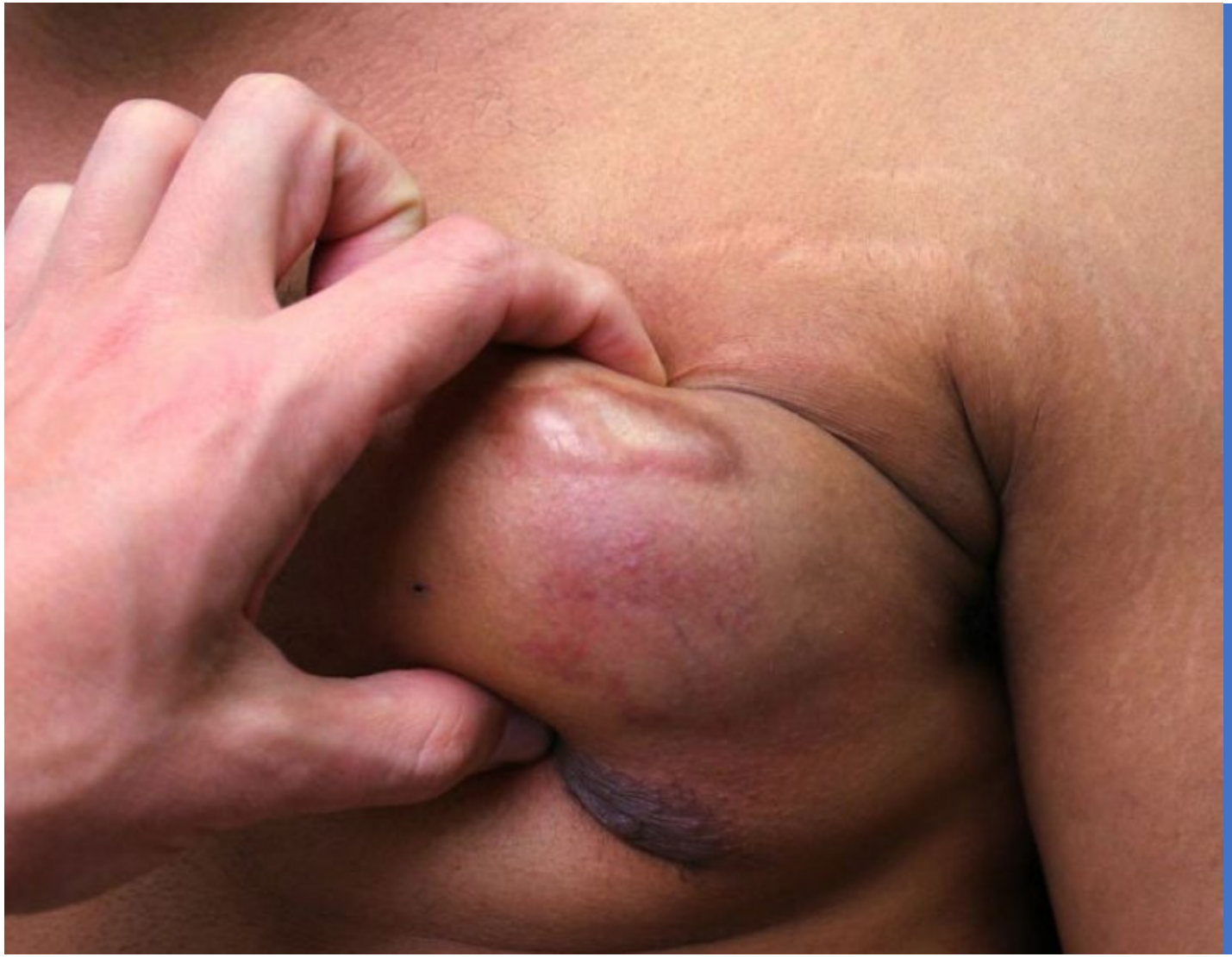
- clinical subtype of cutaneous melanoma with little to no pigment on visual inspection
- ranging from 2%-8% of all cases
- worse overall survival rate than the pigmented counterpart
- associated with the presence of red hair, older age





Pyogenic granuloma

- Rapidly growing, benign vascular proliferations of the skin and mucous membranes
- No predisposing factors
- Nearly 5% of pregnant women develop the lesion
- Friable, bright red papule or nodule that bleeds spontaneously or after trauma



Dermatofibrosarcoma protuberans (DFSP)

- intermediate-grade soft tissue sarcoma
- slow-growing, red-brown, indurated plaque with irregular nodularity
- most common site is the trunk, followed by the proximal extremities, head, and neck
- uncommon neoplasm with low metastatic potential, carrying a 2%-5% risk of distant metastasis.
- it can be locally aggressive and has a high rate of recurrence after surgical excision

Skin Biopsy Principles

- Provide complete, accurate clinical description and differential diagnosis to the pathologist → if this is not possible refer to avoid taking the wrong type of biopsy
- Inflammatory conditions can involve the subcutaneous fat and blood vessels and need a punch biopsy
- If melanoma in suspected biopsy the entire lesion (depth is important for prognosis and treatment)
- Ulcers should be biopsied from the edge of the lesion
- Tumors should be sampled from the thickest portion when possible
- Annular lesions biopsy from the leading edge

Skin Biopsy Principles

- Prepare for bleeding in vascular areas like scalp
- If possible avoid biopsies below the knee, especially in diabetics, as they are prone to infection and long healing times
- Prepared patients for the type of scarring expected
- Do not put multiple specimens in one container

Tangential Shave biopsy

- Materials required: alcohol prep swab, local anesthetic (xylocaine with epi), drysol, cotton tipped applicator, Vaseline, bandage, stainless steel blade
- Cleanse the area with alcohol prep swab
- Inject local anesthetic
- Remove the entire lesion by applying pressure to the ends of the blade to bend the blade and using a back and forth sawing motion to remove the lesion from the skin, you need at least pin point bleeding to ensure correct depth
- Apply drysol to the wound for bleeding
- Place specimen in formalin bottle for pathology

Punch Shave biopsy

- Materials required: alcohol prep swab, local anesthetic (xylocaine with epi), gauze, topical surgical prep swab, gloves, punch biopsy tool (2-8mm in size) forceps, scissors, needle holder, formalin, sutures, Vaseline, bandage, stainless steel blade
- Cleanse the area with alcohol prep swab
- Inject local anesthetic
- Surgical prep scrub applied to the skin in concentric rings from the lesion
- Stretch the skin perpendicular to the relaxed skin tension lines, punch instrument inserted into skin in a rotating fashion down to the subcutaneous fat. Forceps used to grab the specimen at the subcutaneous fat, curved sharp scissors used to cut the specimen at the fat.
- Suture with interrupted sutures
- Place specimen in formalin bottle for pathology

Treatment of Actinic keratoses

- Cryotherapy with liquid nitrogen
- Topical chemotherapy creams to treat one area of a field of disease
  - Imiquimod
  - 5-fluoururacil

Imiquimod

Selection of patients – Patients with field of disease (face, nose, ears, scalp, dorsal hands)

Pharmacokinetics

Metabolism: minimal systemic absorption

Excretion: urine and feces <1%; Half-life: 29h

Subclass: Antineoplastics, Topical; Immunomodulators; Warts

Mode of action - exact mechanism of action unknown; stimulates Toll-like receptor 7, modifying immune responses

Dosage-1 packet per application, limit treatment area to 25 cm^2 on face or scalp 2x per week for 16 weeks

Side effects – irritation at application site, flu like symptoms, photosensitivity, reactivation of HSV

Safety – no additional monitoring, No significant interactions known or found for this drug.

Imiquimod – use in pregnancy

Pregnancy

Clinical Summary

use alternative during pregnancy; inadequate human data available to assess risk

Lactation

Clinical Summary

may use while breastfeeding; no human data available, though risk of infant harm and adverse effects on milk production not expected based on minimal maternal systemic absorption

5- Fluorouracil

Selection of patients – Patients with field of disease (face, nose, ears, scalp, dorsal hands)

Pharmacokinetics
Metabolism: liver primarily, tissues; 6% systemic absorption
Excretion: expired CO2, urine; Half-life: unknown
Mechanism of Action- inhibits DNA and RNA synthesis, used intravenous to treat breast and colon CA

Dosage forms: CRM: 0.5%, 5%; SOL: 2%, 5% apply 0.5% cream qd x1-4wk

Side effects – irritation at application site, flu like symptoms, photosensitivity, reactivation of HSV
Safety – no additional monitoring, No significant interactions known or found for this drug.

5- Fluorouracil – use in pregnancy

Pregnancy

Clinical Summary

avoid use during pregnancy; inadequate human data available, though risk of fetal harm low based on expected limited systemic absorption; risk of teratogenicity based on conflicting human data w/ systemic fluorouracil

Individuals of Reproductive Potential

avoid pregnancy by using effective contraception during tx and x1mo after D/C in female pts

Lactation

Clinical Summary

avoid use on nipple while breastfeeding, otherwise caution advised on other areas; no human data available to assess risk of infant harm, though possible drug excretion into milk if large application site; no human data available to assess effects on milk production

Treatment Basal and Squamous Cell Carcinomas

- This is dependent on the depth and type of skin cancer, for specifics use the NCCN guidelines treatment algorithms
- Electrodessication and curettage
- Excision
- Mohs surgery

Treatment of melanoma

- Referral to dermatologist, med oncologist, surgical oncologist for treatment
- Excision
- Sentinel lymph node biopsy
- Chemotherapy/immunotherapy

Need for skin cancer screenings post cancer diagnosis

- Actinic keratosis – once yearly
- NMSC or Melanoma
  - skin examination should be performed at least every 6-12 months for 2 years and then annually

Patient education

Daily sun protection of the hand, ears, dorsal hands, forearms, v of the neck

- SPF 30 at least

Wide brim hats

Protecting children prior to age 18 from blistering sun burns