

Primary Lesion Terminology:

- Macule, Patch = flat, circumscribed, $<1\text{cm}$ vs $>1\text{cm}$
- Papule, Plaque, Nodule = Raised, circumscribed, $<1\text{cm}$ vs $>1\text{cm}$, deeper (dermis)
- Vesicle, Bulla = fluid filled, superficial blister, circumscribed, $<1\text{cm}$ vs $>1\text{cm}$
- Pustule = pus filled papule or plaque, +/- infectious
- Wheal = hive, raised, smooth, surrounding erythema (edematous), comes & goes (evanescent)

- Scale vs. Crust -

- Scale = flakes of epithelial cells
- Crust = dried blood components/pus

Bullous Disease, Diseases of Hair, Pigment, and Nails

PEMPHIGUS VULGARIS

* Autoimmune Disorder *

Physical Exam Finding:

- Nikolsky Sign: dislodging of normal appearing epidermis by lateral finger pressure in the vicinity of bullae, creating an erosion. Downward pressure on bullae causes lateral extension.

BULLOUS PEMPHEGOID

H⁺/PE: Bullae, sudden onset, in generalized distribution often preceded with a prodrome. Pruritic.

Tx: Topical Steroids; Prednisone tapered wks-months

Dx: Punch biopsy w/ direct immunofluorescence

MORPHEA

* Possibly B. burgdorferi related *

- A localized, circumscribed cutaneous sclerosis characterized by violaceous skin, then ivory colored, firm.

Physical Exam:

- Plaques circumscribed, indurated, firm, poorly defined border. Initially violaceous then ivory.

Dx: biopsy

Tx: None effective; Prednisone has been used

SEBORRHEIC KERATOSIS

- Proliferation of keratinocytes, melanocytes, and horned cysts. Horned cyst determines if seborrheic keratosis instead of melanoma.

- 1-3 mm dark brown papules slowly increasing in size.

MELASMA

- A lot like lentigo (sun spots) but hypo/hyperpigmentation.

TUBEROUS SCLEROSIS

- Genetic condition resulting in hyperplasia.

- Very rare; lethal

- White macules present at birth. 2-3 mm red papules located on nose, cheeks, angiofibromas by age 4.

ALOPECIA AREATA

- Different than androgenic alopecia (hormonal hair loss) b/c this has 2-3 cm round patches.

TRICHOTILLOMANIA

- Traumatic, self-induced alopecia. (OCD)

Infections

IMPETIGO

- Caused by *Staph aureus*.
- "Honey-colored crust"

CELLULITIS

- Caused by Group A streptococci; also found is *S. aureus*.
- Four cardinal signs of infection:
 - rubor (redness)
 - tumor (swelling)
 - calor (heat)
 - dolor (pain)

ERYSIPELAS

- Caused by Group A streptococci
- Clearly demarcated margins; "orange peel" appearance

FURUNCLE vs. CARBUNCLE

- Usually *S. aureus* but can also be gram - bacteria.
- For **furuncles**, bacteria enter by a hair follicle, where they form a deep folliculitis and extend into surrounding dermis.
- For **carbuncles**, bacteria usually gain access to the dermis by an external route. Both contain a large number of bacteria in the dermis that elicits an inflammatory response, primarily neutrophils.

HERPES VIRUS

- "Grouped vesicles on an erythematous base". "Tear drop on a rose petal".
 - **Herpes whitlow (HSV1)**
 - Infection of the fingers by HSV acquired by direct inoculation or by direct spread from mucosal sites at the time of primary infection.
 - **Herpes gladiatorum (HSV1)**
 - Among athletes (wrestlers), disruption of the epidermis from trauma w/ subsequent infection.

HAND, FOOT, & MOUTH DISEASE * Coxsackie A-16 Virus *

- Systemic viral infection. Enteroviral implantation in the GI tract (buccal mucosa & ileum) with extension into regional lymph nodes. 72 hours later, viremia occurs.

Psoriasis and Other Papulosquamous Diseases

PSORIASIS

- A chronic inflammatory condition with increased epidermal proliferation resulting in thickened stratum corneum.
- Neutrophils extravasate from superficial dermal capillaries and invade the epidermis, followed by increased epidermal proliferation. Cellular turnover is increased sevenfold and the transient from basal layer to stratum corneum is decreased from 28 days to 4 days resulting in the characteristic silver scale.
 - **Koebnerization** = trauma to the skin that precipitates a psoriatic lesion.
 - **Auspitz sign** = punctuate bleeding spots when a psoriasis scale is scraped.
- Tx: topical steroids (beware of steroid withdrawal)

LICHEN PLANUS

- Purple, polygonal, flat-topped papule. Surface has a fine reticulated pattern of white dots and lines (Wickham's striae). Favors wrists, hands, genitalia, oral mucosa.

LICHEN SIMPLEX

- A chronic eczematous eruption of the skin resulting in scratching. Pruritis precedes the scratching and is precipitated by frustration, depression, and stress.
- The scratching causes lichenification and further itching resulting in a "scratch-itch" cycle.

PITYRIASIS ROSEA

- Possible viral etiology sometimes preceded by an upper respiratory infection.
- **Herald Patch** = largest lesion usually measuring 2-6 cm with light red patch and a collarette scale followed by several days to weeks by a generalized eruption described as a "Christmas tree pattern"
- Tx: hydrocortisone

MYCOSIS FUNGOIDES

- Malignant proliferation of T lymphocytes in the dermis migrating into the epidermis.
- Irregular shape, erythematous brown, violaceous colored patches randomly distributed that can progress into plaques and tumors.
- Dx: shave biopsy, hematology reveals eosinophils
- Tx: UVA or UVB. If systemic, chemotherapy.
- **Szary Syndrome** represents total body erythema, lymphadenopathy, and a high number of Szary cells in the peripheral circulation.

Sebaceous & Apocrine Gland Disorders, Dermatitis

Acne Pathogenesis

1. Microcomedone
2. Comedone
3. Inflammatory papule/pustule
4. Nodule

ROSACEA

- Chronic inflammatory disorder of facial pilosebaceous glands.
- Increased reactivity of capillaries leading to flushing and telangiectasis.
- Results in thickened dermis of nose, cheeks, chin due to sebaceous hyperplasia, edema, fibrosis.

HIDRADENITIS SUPPURATIVA

- Chronic suppurative disease of the apocrine glands.
- Involves axilla, genitals, rarely scalp
- May be associated with cystic acne
- Tx: intralesional steroids, surgery, oral abx

PERIORAL / PERIORBITAL DERMATITIS

- Discrete micropapules and microvesicles around the mouth and/or eyes.
- Tx: Abx or topical metronidazole

Tumors and Growths

ACROCHORDON

- "Skin tag"

DERMATOFIBROMA

- "Scar"
- "Dimple Sign" - if you squeeze it, it will sink.

SEBORRHEIC HYPERPLASIA

- Keratinocytes plugging up the pilosebaceous apparatus leading to collection of sebum.
- 1-3mm yellow-flesh colored papule with telangiectasias and a central pore
- Typically on face.

SYRINGOMA

- Benign sebum accumulation of the eccrine ducts.
- 1-2mm solitary or multiple flesh colored papules usually located at the eyelids, axilla, chest, umbilicus, vulva.

KERATOANTHOMA

- Rapidly growing neoplasm of the epithelium; 3-8mm volcanic-shaped papule most frequently located on sun exposed areas.

VENOUS LAKE

- Dilated venules lined with flat endothelial cells filled with RBCs and surrounded by a thin wall of fibrous tissue.
- Blue-to-violet colored papule, sometimes serpiginous (snake-like) and blanchable.

ACTINIC KERATOSIS

- Precancerous neoplasm of the epidermis caused by UV light exposure.
- Volcanic shaped papules 3-10mm located on sun exposed areas. Can be solitary or appear in clusters.

Cutaneous Manifestations of Systemic Disease

LUPUS ERYTHEMATOSUS (LE)

Two Types:

- Systemic (SLE) and Cutaneous (CLE)

CLE Subtypes -

- Acute ^{butterfly}
 - Traditional malar rash, photo induced; lesions on dorsal hand - knuckles spared
 - Bullous
- Subacute
 - Drug induced ^(Thiazide diuretics, Terbinafine, Calcium channel blockers) - Annular lesions, psoriasiform
 - Neonatal ^{Born to anti-Rho + moms} - Most common - chest, back, arms - spares face and hands

• Chronic

- Discoid - indurated hyperpigmented round plaques that scar; localized → above neck and on scalp
- Hypertrophic (wartlike) lupus - palms/soles
- Tumid lupus - chest redness; face or truncal distribution
- Mucosal lupus - lips; inside of mouth; lower eyelid; rarely vulva/penis
- Lupus panniculitis/profundus - affects subcutaneous tissue; buttocks, limbs, face, anywhere; lesions leave dents
- Chiblain lupus erythematosus - red/violaceous papules and plaques on acral areas; cold temperatures precipitate lesions (not Reynaud's).

Treatment: topical and intralesional corticosteroids

SCLERODERMA

* Systemic *

• CREST Syndrome

- Calcinosis on skin
- Raynaud's Phenomenon
- Esophageal dysfunction (reflux)
- Sclerodactyly (thickening and tightening of skin on hands)
- Telangiectasis

* Localized & linear *

- Coup de Sabre (line on midline of scalp and forehead)
- Parry Romberg (hemifacial atrophy, epilepsy, alopecia)

* METABOLIC DISEASES *

ACANTHOSIS NIGRICANS

- Symmetric brown thickening of the skin
- Endocrine Syndromes:
 - Type A: hyperandrogenemia
 - Type B: uncontrolled DM
- Drug-induced

MYXEDEMA

- Pretibial Myxedema (shins)
 - Graves Disease
 - Nonpitting edema
- Myxedema Coma
 - Untreated hypothyroidism

* Drug Reactions *

STEVEN JOHNSON SYNDROME

- Widespread blisters and purpuric targetoid macules, papules, crusting
 - Skin, mouth, eyes, genitals
- Drugs most common cause:
Phenytoin, phenobarbital, sulfonamides, penicillins