11-Annular Disorders

Tinea

Background:

- Fungi: Can be classified as **molds**, yeasts, dimorphic fungi
    - **Molds**: **filamentous fungi** that weave together and form **mycelium**
    - Acquired via direct contact with animals, other infected humans, fomites
    - Ex: aspergillus, **tinea** infections
- Yeast: round, unicellular organisms that reproduce by budding
    - Ex: *Cryptococcus, Candida, Malassezia furfur*
- Dimorphic: "molds in the cold" (outside the body @ 25^0C) and "yeast in the beast" (in host tissue at 37^0C)
    - Ex: *Coccidiomycosis, Paracoccidiomycosis, Histoplasmosis, Blastomycosis*

Clinical Presentation

- **Expanding erythematous annular patches** or **plaques** that classically have an **inflamed** or **scaly leading border**
- Small **vesicles** or **pustules** at the **leading edge**
- Pruritic

PEARL: Name tinea infections based on their location!

- **Scalp, eyebrows, eyelashes**: **Tinea Capitis**
    - *Trichophyton tonsurans* (MC cause in U.S.)
        - Causes an endothrix, *within* the hair shaft
    - *Microsporum canis* (MC cause worldwide)
        - Causes an ectothrix, *outside* the hair shaft
- **Beard**: **Tinea Barbae**
- **Face**: **Tinea Faciei**
- **Torso**: **Tinea Corporis**
- **Arms & Legs**: **Tinea Corporis**
- **Groin**: **Tinea Cruris** (*remember if scrotum affected think candida, not tinea*)
- **Feet**: **Tinea Pedis**
- **Nails**: **Tinea unguium** or **onychomycosis**
- **Hair Follicles outside scalp**: **Majocchi granuloma**

Diagnosis:

- **KOH Prep:**
    - **Branching hyphae** and **mycelium** (Candida: yeast and pseudohyphae)
- **Biopsy**

PEARL: What is the difference between hyphae and pseudohyphae? Hyphae are long branching filaments that are partitioned by septa w/out constrictions between the cells. Pseudohyphae are chains or budding cells that can look similar to hyphae but have constrictions between the cells that makes them look like sausage links!

Histology:

- Look for **hyphae** in the **stratum corneum**
- Highlighted by PAS stains

Treatment:

- Tinea Corporis:
    - **Topical Antifungals** (terbinafine, ketoconazole, clotrimazole, econazole, ciclopirox, tolnaftate, naftifine)
    - **Oral Antifungals** for **extensive lesions** and **hair follicle** involvement (terbinafine, fluconazole)

PEARL: Name superficial tinea infections that require oral therapy? Tinea Capitis, Tinea faciei, Majocchi granuloma. Oral treatments needed due to the fact that topical tx cannot penetrate to the hair follicle in the deep dermis!

Subacute Cutaneous Lupus Erythematosus

Background:

- **Chronic** cutaneous lupus: discoid lupus, hypertrophic lupus, lupus panniculitis, tumid lupus, mucosal lupus
- **Acute** cutaneous lupus: strong association w/ SLE presenting with malar rash and photosensitive eruptions
- **Subacute** cutaneous lupus erythematosus (SCLE) → **Rule** of **50s**
    - **Rule** of **50s**: ~ ½ + ANA, ~ ½ meet criteria for SLE, ~ ½ photosensitive, ~ ½ + Direct immunofluorescent findings

Clinical Presentation:

- **Papulosquamous SCLE**: mimics psoriasis but has a photo distribution
- **Annular SCLE**: polycyclic annular plaques occurring on the sun-exposed areas of the face, neck and upper back

Diagnosis:

- **Biopsy**
- **Anti-Ro** (anti-SSA) & **Anti-La** (anti-SSB)
    - + in SCLE, Sjogren syndrome, neonatal Lupus
- 50-80% + ANA
- Leukopenia on CBC

PEARL: Drug induced SCLE (anti-Ro) vs Drug-induces SLE (anti-histone)

- **Drug-induced Systemic LE (SLE)**: ↓ **cutaneous changes,** arthralgias, serositis, malar rash; **+ anti-histone Ab's**
    - **"My HIPP"** – **M**inocycline (+p-ANCA), **H**ydralazine, **I**soniazid, **P**rocainamide, **P**enicillamine
- **Drug Induced Subacute LE (SCLE)**: ↑ **cutaneous changes** w/ minimal systemic involvement; + **anti-Ro (SS-A)**
    - "**THANG**": **T**erbinafine, **H**CTZ, **A**CE-I, **N**SAIDs, **G**riseofulvin

Histology:

- **Vacuolar interface** (degenerate changes at DEJ looking like bubbles) w/ prominent **lymphocytic infiltrate**, **thickening** of the **basement membrane**, **mucin** deposition, **perivascular** and **peri-adnexal lymphoid aggregates**

Treatment:

- Antimalarials: hydroxychloroquine
- Sun Protection
- Topical steroids
- Stop/switch possible causative medications

Erythema annulare centrifugum

Background:

- Type of hypersensitivity due to long list of possible triggers
    - **Infections**: Tinea
    - **Medications**: penicillin, plaquenil, cimetidine, HCTZ, amitriptyline
    - **Foods**: blue cheese, tomatoes
    - Autoimmune: SLE, hashimotos thyroiditis, pemphigus vulgaris
    - Cancer: leukemia, lymphoma, breast, lung, GI, and prostate cancer

Clinical Presentation:

- **Superficial EAC** vs **Deep EAC**
    - **Superficial**: Single or multiple annular, erythematous scaling plaques that are slow growing and occasionally pruritic w/ trailing scale
    - **Deep**: Dermal process so no scale on lesions

PEARL: Other dz w/ trailing scale? Pityriasis rosea or resolving pustules/furuncles

Diagnosis:

- **KOH: negative**
- **Biopsy**

Histology:

- Classic "**coat-sleeve**" **infiltrate** (densely packed lymphocytes around the blood vessels) w/ **diagonal cut**

Treatment:

- Address Triggers
- Topical steroids, calcineurin inhibitors, UV treatments