7-Mycosis Fungoides

Epidemiology:

- Most common **~ 50-60 y/o**, but may be younger/older
- Incidence = 1 in 300,000

Background:

- Although lymphoma usually originate in the lymph nodes they can also arise from the skin → **primary cutaneous lymphoma** (PCL)
- 1) Hodgkin's vs 2) non-Hodgkin's
    - **Most common** PCL being **non-Hodgkin's cutaneous lymphoma**
        - **80%** T-cell origin = **CTCL**
        - **20%** B-cell origin = **CBCL**
        - Note: primary cutaneous Hodgkin's lymphoma is very rare
    - CTCL (Cutaneous T-Cell Lymphoma)
        - 1) **65% Mycosis fungoides,** including variant **Sezary Syndrome**
            - Other variants: Folliculotropic, pagetoid reticulosis, granulomatous slack skin
        - 2) **25% CD30+ Lymphoproliferative disorders**
            - Lymphomatoid papulosis (LyP)
            - Cutaneous anaplastic large cell lymphoma (cALCL)
        - 3) 10%
            - 1) Adult T-cell leukemia/lymphoma
            - 2) Subcutaneous panniculitis-like T-cell lymphoma
            - 3) Extranodal NK/T-cell lymphoma nasal type
            - 4) Epidermotropic CD8+ CTCL
            - 5) Cutaneous Gamma-Delta t-cell lymphoma
            - 6) Cutaneous CD4+ small/medium t-cell lymphoproliferative disorder
            - 7) Primary Cutaneous Acral CD8+ T-cell lymphoma
            - 8) Peripheral T-cell Lymphoma

Clinical Presentation:

- **Erythematous**, occasionally pruritic, **oval** scaly **patch** in **sun-protected "bathing suit"** distribution. Classically **slow progression through 3 stages.** Important to note that not all lesions progress in the following manner and can skip this order!
    - 3 Stages
        - **Patch → Plaque→ Tumor**
        - **Patch**: round or oval patches 1-5 cm in width and may be annular or polycyclic. Itchy and appear on sun-protected areas (e.g. upper thighs and buttocks) in a "bathing suit" distribution
        - **Plaque**: well-demarcated indurated scaly plaques that take on a variety of shapes with a violaceous to red-brown color
        - **Tumor**: rapidly enlarging nodules that develop within patches or within plaques of MF

PEARL: What should you think about when you see psoriasis in a sun-exposed area? Think Mycosis Fungoides!

Diagnosis:

- **Skin biopsy**:
    - Will need **multiple biopsies** to reach definitive diagnosis
    - If clinical suspicion is high, don't be afraid to repeat the biopsy
    - **Broad shave biopsy** instead of punch = give pathologist **more epidermis** to catch **epidermotropism**
- Patch & Plaque MF **w/out palpable lymphadenopathy** does NOT need further staging work-up e.g. CT scan, lymph node biopsy
- **Immunohistochemical** Staining:
    - **CD3+, CD4+, CD8-, CD30-**
        - Exception for **hypopigmented** variant of MF favoring children and darkly pigmented pt: CD4-, **CD8+**
    - **Loss of CD7** (most common, least specific)
    - **Loss of CD5 & CD2** (less common, more specific)
        - Note: CD7, CD5, and CD2 are T cell markers
    - **Ratio of CD4:CD8 increases as MF progresses**
        - Normally 1:1 in other inflammatory dz
        - <4:1 = less progression = longer survival
        - <10:1 worse prognosis (seen in Sezary Syndrome)

Histology:

- **Patch: band-like distribution of atypical lymphocytes @ DEJ**
    - Presence of **Epidermotropism**: atypical lymphocytes seen in epidermis (where they shouldn't be)
    - Minimal spongiosis
    - Look for **Pautrier's microabscess**, atypical lymphocytes with large hypochromatic nuclei that appear in clusters
    - **Papillary dermal fibrosis**
- **Plaque**: similar histo findings to patch stage, but *more dense band-like infiltrate* in the upper dermis + *more epidermotropism*
- **Tumor: increase in depth and density** of **atypical lymphocytes.** Important to note **epidermotropism** may be **diminished** or gone in this stage!

Treatment:

- **Patch** & **Plaque Stage MF**
    - Skin Directed therapy
        - **Clobetasol** -60% remission
        - **Nitrogen Mustard** -60% remission
        - Narrow band **UVB** – 75% remission
        - Psoralen + PUVA
        - Radiation therapy
    - Systemic Therapy: (refractory cases)
        - **Interferon-alpha**
        - **Oral retinoids** (bexarotene… SE = central hypothyroidism)
    - Systemic Therapy (rapidly progressive or lymph node/visceral involvement)
        - Chemotherapy: **"CHOP"**
            - **C**yclophosphamide
            - **H**ydroxydaunorubicin (Doxorubicin)
            - **O**ncovin (Vincristine)
            - **P**rednisone