HIV AND THE SKIN

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KEY FEATURES

• Atypical presentation of common disorders
• Severe or exaggerated presentations
• Sudden acute exacerbations
• Treatment failure

VIRAL INFECTIONS

• Exanthem of primary HIV infection
• Herpes simplex virus (HSV)
• Varicella Zoster virus (VZV)
• Molluscum contagiosum (Poxvirus)
• Human papillomavirus (HPV)
• Epstein Barr virus (EBV)
• Cytomegalovirus (CMV)

EXANTHEM OF PRIMARY HIV INFECTION

• Acute retroviral syndrome
• Morbilliform rash (exanthem) : 2-4 weeks after HIV exposure
• Typically generalised
• Pronounced on face and trunk, sparing distal extremities
• Associated : fever, lymphadenopathy, pharyngitis
• DDX: drug reaction
  • other viral infections – EBV, Enteroviruses, Hepatitis B virus
HERPES SIMPLEX VIRUS (HSV)

- Vesicular eruption due to HSV 1 & 2
- Primary lesion: painful, grouped vesicles on an erythematous base
- HIV: attacks are more frequent and severe
- Chronic: non-healing, deep ulcers, with scarring and tissue destruction
- CLUE: severe pain and recurrences
- DDX: syphilis, chancroid, lymphogranuloma venereum
- Tzanck smear, Histology, Viral culture

HSV

- Treatment: Acyclovir 400mg tds 7-10 days
- Alternatives: Valacyclovir and Famciclovir
- In setting of treatment failure, viral isolates tested for resistance against acyclovir
- Alternative drugs: Foscarnet, Cidofovir
- Chronic suppressive therapy (>8 attacks per year)
VARICELLA

• Chickenpox
• Presents with erythematous papules and umbilicated vesicles, may become pustular
• Starts on face and scalp, spreads caudally
• Presentation varies from typical course to fatal pulmonary involvement
• Have 7-15X greater risk of developing HZ

HERPES ZOSTER

• Shingles
• In HIV, interval between chickenpox and HZ is much shorter
• Dermatomal, but can be multidermatomal
• Ulcerative, chronic, verrucous +/- widely disseminated
• Systemic involvement is common
• Can also occur in the immune recovery syndrome
• Treatment: until clinical resolution
• Acyclovir 800mg 5X daily for 7 days
• Systemic involvement: IV Acyclovir (Paeds 10mg/kg 8hrly IV)
MOLLUSCUM CONTAGIOSUM

• Occurs in significantly reduced CD4+ cell counts
• Classic dome-shaped umbilicated papules, and larger coalescent plaques >1cm in diameter
• HIV: tend to be widespread, giant lesions, severe facial involvement
• Resistant to therapy
• Can recur with initiation of therapy (IRIS)
• RX: destructive modalities – curettage/electrotherapy
  • - cryotherapy every 2-3 weeks
• Topicals like Imiquimod + topical cidofovir

VIRAL WARTS

• Caused by human papillomavirus (HPV)
• Isolated warts are common in immunocompetent individuals
• Numerous lesions are a sign of immunodeficiency
• More extensive
• Skin coloured flat-topped papules – large plaques (c. acuminate genital area)
• May develop Bowenoid papulosis, Acquired Epidermodysplasia verruciformis (AEDV), SCC in association with EDV
• Increased risk of developing cancer – CIN, AIN, Penile cancer,
TREATMENT: WARTS

- Depend on size and location of lesions
- Often challenging with high relapse rate
- Genital warts: 25% Podophyllin, wash off after 4-6 hours, repeat weekly for 6/52
  - Imiquimod 3X weekly until resolution
- Verruca vulgaris: 2% salicylic acid face, 5% salicylic acid body, cryotherapy if available
ORAL HAIRY LEUKOPLAKIA

- Due to Epstein-Barr virus (EBV)
- Presents as an early sign of HIV infection
- Asymptomatic, corrugated white plaques with hair-like projections along lateral aspect of tongue
- No associated malignant degeneration
- RX: unnecessary – topical/oral antiviral agents, Podophyllin resin,
- ARV’s may lead to regression of plaques

CMV

- Despite ART, remains NB cause of serious opportunistic infection in patients with advanced AIDS
- Common presentation: retinitis, oesophagitis, colitis
- Cutaneous disease relatively uncommon
- Presentation: ulcers (esp anogenital and mucosal surfaces)
  - verrucous and hyperpigmented plaques, purpuric papules, vesicles, morbilliform eruptions
- Biopsy more sensitive than viral cultures
- May get co-infection with HSV, VZV

BACTERIAL INFECTIONS

- Staphylococcus aureus infections
- Bacillary angiomatosis
- Mycobacterial infections
- Syphilis
STAPHYLOCOCCUS AUREUS INFECTIONS

- Most common bacterial pathogen in patients infected with HIV
- Impetigo, folliculitis, furunculosis and cellulitis
- NB: increased incidence of MRSA (6fold)
- Treatment: antibiotics – Fluclouxacin 500mg qid 10 days
  - Incision and drainage
  - Temporary eradication of bacterial colonization – chlorhexidine gluconate washes, beach baths, intranasal Mupirocin applications
- Unusual presentations may be refractory to treatment

BACILLARY ANGIOMATOSIS

- Rare infection caused by gram-negative bacilli Bartonella (B.henselae, B.quintana)
- Transmitted to humans by cat scratches/ flea bites/ body louse
- Red to purple "vascular-appearing" papules and nodules and ulcers
- Lesions vary from one to more than hundreds
- Affects skin, all organs including liver, bone
- Confused with Kaposi’s sarcoma
- Skin biopsy will confirm the diagnosis
- RX: Erythromycin/Doxycycline for minimum 2months
MYCOBACTERIA: CUTANEOUS TB

- Increased risk of presenting with cutaneous hypersensitivity reactions
- Skin lesions variable: ulcers
  - verrucous plaques
  - erythematous papules and nodules
  - deep nodules
- Common practice of TB prophylaxis as well as ART has led to the decrease in frequency of cutaneous TB

SYPHILIS

- Lesions same as in immunocompetent patients
- Ulcerated papules and nodules involving skin and mucosae are common in HIV infected individuals
- Classic secondary syphilis with unusual presentations such as
  - Nodoulcerative forms
  - Papular eruptions that mimic molluscum contagiosum
  - Syphilitic palmoplantar keratoderma
  - Lues maligna (severe ulcerations, pustules + constitutional symptoms)
SYPHILIS

• LUES MALIGNA: aggressive widespread variant of secondary syphilis
  • prodrome of fever, headaches and myalgia
  • followed by an eruption of papulopustular or necrotic lesions
• CNS involvement (neurosypilis) occurs more frequently
• Confirmation: serological tests
  • skin biopsy
• RX: Benzathine benzylpenicillin IMI 2,4 MU once weekly for 3 weeks
  • Erythromycin 500mg qid/ Doxycycline 100mg bd for 14 days
FUNGAL INFECTIONS

- Superficial fungal infections: Candidiasis
  - Dermatophytosis (Tinea)
  - Pityriasis versicolor
- Systemic fungal infections: Cryptococcosis
  - Histoplasmosis
  - Coccidioidomycosis
  - Sporotrichosis

CANDIDIASIS

- Most frequently encountered fungal infection in HIV
- Correlates with lower CD4+ cells
- 90% patients with HIV develop oropharyngeal candidiasis
- Presentation: Perleche – painful fissures at oral commissures
  - Intertriginous candida infection
  - Chronic paronychia
- RX: oral fluconazole (in addition to ARV’S)

DERMATOPHYTOSIS:TINEA

- Tinea faciei, pedis and corporis
- Common manifestation of HIV – atypical in appearance, more widespread, resistant to therapy
- Presents as erythematous, scaly patches with a well-defined edge
- Nails – proximal white onychomycosis
- Dx – KOH preparation in the lab
- RX – Localized: topical azoles
  - Extensive: Griseofulvin 1g daily for 4 weeks in adults, 20mg/kg daily for 4 weeks in children
SYSTEMIC FUNGAL INFECTIONS

- In patients with CD4 count <250 cells/mm³
- CRYPTOCCOCCOSIS: translucent dome-shaped papules with central umbilication
  - CNS involvement common
- HISTOPLASMOSIS: commonly on the face with oral ulcerations
  - Skin biopsy and culture of dermal tissue is mandatory
  - Cryptococcal Ag detection in CSF and serum is helpful
  - RX: IV Amphotericin B
  - Antifungal agents like Itraconazole, Fluconazole, Variconazole
  - Relapses are common
SCABIES

- CRUSTED/NORWEGIAN SCABIES
- Generalised hyperkeratotic lesions
- Subungual debris with marked nail thickening (mites)
- Thousands of mites may be present in a single patient, therefore, extremely contagious
- RX: Topical Permethrin, multiple courses may be required
- Oral Ivermectin, highly effective
- Treat contacts as well
- Wash bed linens + clothing at high temperatures
- Children: salicylic acid 5% in UE

DEMODICOSIS

- Caused by mites Demodex folliculorum and D.brevis
- Presents with folliculitis or rosacea-like eruption
- Usually affects the head and neck region
- Microscopic exam of skin scrapings or skin biopsy demonstrates mites in hair follicle
- RX: Topical Permethrin
- Gamma benzene hexachloride
- Metronidazole gel or oral
- Refractory cases: Ivermectin
NON-INFECTIONOUS HIV-RELATED CUTANEOUS DISORDERS

- Development of non-inflammatory disorders with unusual presentation should alert one to consider HIV infection
- PAPULOSQUAMOUS DISORDERS
  - Seborrheic dermatitis
  - Psoriasis
  - Reactive Arthritis (Reiter’s Disease)
  - Others: Acquired Ichthyosis
    - Pityriasis Rubra Pilaris
    - Atopic dermatitis
NON-INFECTIONOUS PAPULAR PRURITIC ERUPTIONS

- Papular pruritic eruption of HIV
- Eosinophilic Folliculitis
- These eruptions are common in HIV infection
- Extreme itch which can be debilitating
- Pathogenesis of these dermatoses is not entirely clear

DDX: Hypersensitivity to drugs/parasites
- Systemic disorders e.g. hepatobiliary/renal disease, lymphoma
PAPULOPRURITIC ERUPTION OF HIV

- Intensely pruritic, urticarial papules
- Non-follicular and symmetrically distributed
- On face and trunk
- Advanced immunosuppression, CD4 COUNTS <50 IN 70% of patients
- ? Exaggerated response to arthropod Ag’s
- Skin biopsy: eosinophils throughout the dermis
- Rx: oral antihistamines
  - topical steroids
  - Recalcitrant cases - Phototherapy

EOSINOPHILIC FOLLICULITIS

- Intensely pruritic urticarial lesions resembling insect bites
- Concentrated on face, neck, upper trunk and proximal parts of upper limbs
- Secondary changes like excoriations and PIH may mask features
- Histologic features: peri- and intrafollicular eosinophilic infiltrate
- Rx: similar to PPE

ERYTHEMA ELEVATUM DIUTINUM

- Chronic form of cutaneous leukocytoclastic vasculitis
- Occurs in low CD4 count < 200 cells/mm3
- Persistent erythematous papules and nodules
- Favour extensor surfaces of limbs
- Responds to Dapsone
PHOTOSENSITIVITY REACTIONS

- Prone to developing eczema in sun-exposed sites
- On the face, nape of the neck, anterior V of the chest and forearms
- Causes may be: HIV, Drugs (antiTB, tetracyclines, NSAIDS), Pellagra
- Presentation: pruritic, lichenoid, violaceous plaques
- Mx: Remove offending drug
  - Topical steroids, Sunscreen
  - Oral antihistamines
- In Pellagra – Nicotinamide 100mg daily, until there’s clinical improvement
PHOTOSENSITIVE DISORDERS IN HIV

- Are common, affecting 5% of HIV-positive patients
- Conditions include: photosensitive drug eruptions, chronic actinic dermatitis (CAD), pellagra, lichenoid eruptions, porphyria cutanea tarda (PCT)
- Actinic lichenoid leukomelanoderma of HIV – is a photosensitive condition specific to South Africa

HIV-RELATED CUTANEOUS NEOPLASTIC DISORDERS

- HIV-infected individuals have a 3- to 5 fold higher risk of developing non-melanoma skin cancers
- BCC and SCC
- Appear at a younger age, are more multifocal, are located on trunk and limbs
- Have a high risk of recurrence and metastasis
- HPV infection increases risk of anogenital, oral, digital SCC
- Aggressive Rx is often required to prevent recurrences and metastases

KAPOSI’S SARCOMA

- Most common neoplasm associated with HIV
- Incidence has declined significantly with use of ART
- Due to HHV-8
- Can occur at any stage of HIV infection
- Present as violaceous patches, plaques and nodules
- Involving the skin and oral mucosal surfaces like gingivae and hard palate
- Systemic involvement is common: Lymph nodes (lymphoedema), GIT and lungs
KAPOSI’S SARCOMA: TREATMENT

• Rx depends on extent of disease and comorbidities
• NB to be on ART
• Flares can occur as IRIS
• KS is radiosensitive, therefore, radiotherapy for local destruction
• Systemic disease, chemotherapy
• Avoid radiotherapy for oral lesions (non-healing ulcers and stomatitis)

LYMPHOMAS

• HIV-infected persons are at increased risk of developing lymphomas
• B-cell lymphomas are considered AIDS-defining
• Pathogenesis involves EBV and HHV-8 infection
• Occurs in the setting of significant immunosuppression with CD4 < 200 cells /mm3
• Presents as pink to violaceous papules and nodules, with ulceration, sometimes simulates panniculitis
• Skin and LN biopsy mandatory
• Referral to Haematology and Oncology for chemotherapy