HIV and Dermatology
Where are we going?

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When do you start antiretrovirals (ARV’s)?

Trend is to start ARV’s earliest time possible-SF experiment

Reasons to do this:
- Feasible-easy to take and better tolerated
- Population benefit: ARV’s decrease risk of transmission
- HIV replication associated with irreversible damage thru INFLAMMATION
Why do we care about low level viremia?

• Even though our assays reveal an undetectable viral load, there is activation / inflammation


• Causes havoc both acutely and chronically

• Causes premature aging
Acute Inflammation

• Psoriasis/sebopsoriasis
CD4 count goes down, viral load mounts-
psoriasis blooms
Herpes zoster

- First episode occurs around CD4 of 315
- Can be very monomorphous umbilicated pustules
- Can disseminate from zosteriform lesions or in HIV can present as chickenpox
- Can have multiple episodes in HIV
• RECURRENT ZOSTER occurs when adherence to ARV’s is less than perfect and NOT because CD4 counts drop or VL increases drastically

• Role of Inflammation?
The chronic phase of HIV

- During chronic phase, CD4 counts rise, Viral load is lowered but chronic activation still persists
Chronic Inflammation-Eczema
Pruritic Papular Eruption of HIV
• Cohort in Uganda-UARTO Cohort-started HIV meds-average CD4 was 350
• PPE went away after 16 weeks but very high rate of recurrence (every 4 months) even as patients are virally suppressed on meds

Chua, Amerson, Leslie, Maurer
Chronic Inflammation-Aging of the Immune System

• Evidence from patients that have had HIV for 20 years
• HIV has been well controlled but starting to see premature aging as marked by:
  Heart disease-MI’s around the age of 50
  Carotids with plaques
  CRP’s and IL6 levels elevated
  Kidney function declining 50 y/o have kidney function of 60-65 y/o olds
  Dementia occurring in 50 y/o olds
  Increased cancer risk?
Recurrence Rates of Squamous Cell Carcinoma

• Higher recurrence rates of SCC in HIV infected vs uninfected -17% vs 3%
• Ave years of known infection= 11 years
• Virally suppressed and CD4 counts ave 350

Chren, Hausauer
Chronic Inflammation-KS
• CD4 counts 500-800, virally undetectable for years, CD4 nadir never less than 300

• Compared to HIV infected subjects without KS: More CD57+ cells, CD28- cells and waning pools of naïve T cells suggesting immunosenescence (Unemori, AIDS March 2013)
KS abroad

• KS is the number one cancer in sub-Saharan Africa
• KS occurs in spite of wide introduction of HIV meds
Comparative incidence of cancer

Prostate cancer in US: 152 cases / 100,000 people

KS in HIV+ in Kenya on ART: 270 / 100,000

KS in HIV+ in Uganda on ART: 201 / 100,000

KS in HIV+ not on ART? 1876 / 100,000

• KS pts dying even on HIV meds—at least 25% of pts dying
• Even if pts on ARV’s, those with KS have a 6 x higher death rate COMPARED to other pts on ARV’s who do not have KS
• –Assimwe 2014
• Why is survival so bad?!?
Are we not detecting lesions early enough when ARV’s have a chance?
Kaposis sarcoma

Lichen planus
Kaposis sarcoma

Filiriasis
UNAIDS
ONUSIDA
ЮНЭЙДС
UNAIDS
ONUSIDA
ЮНЭЙДС
聯合國艾滋病規劃署
برنامج الأمم المتحدة المشترك لمكافحة الأيدز
منظمة الصحة العالمية
世界卫生组织
World Health Organization
Organisation mondiale de la Santé
Всемирная организация здравоохранения
Organización Mundial de la Salud
Increase Diagnostics

• Through the WHO, developed algorithms to capture most prevalent HIV dermatologic disease around the world
• Validating and evaluating algorithms
Plaques

Scaly

- Scalp, elbow, knees, hairline
  - Plaques with well-demarcated borders and silver, thick scales; salmon colored
  - May also have nail changes and arthritis
  - Psoriasis

- Face, eyebrows, beside nose, behind ears, chest, scalp
  - Scaly or inflamed patches.
  - Sometimes with increased or decreased pigment
  - Seborrheic Dermatitis

- FOREHEAD, SCALP, axilla, upper back, chest
  - Greasy, weeping plaques that are exudative
  - Seborrheic Eczema

- Sun-exposed areas: nose, neck, cheeks, lower lip, arms
  - Darkly pigmented plaques - darker than surrounding skin
  - Photo-dermatitis

Not Scaly

- Trunk, chest, arms, legs
  - History of recently starting new drug
  - Drug Eruption
Traditional healer

Hospital / clinic

*Photo credit: NPR News “Spiritual Healers Keep Watch for Plague in Uganda”
Limited infrastructure

• Work with traditional healers-recognition and referral
• Transportation to clinics/hospital
• Biopsy –teach how to biopsy
• Pathologists not available-train general pathologists through training grants to read dermatopathology
758 Traditional healers trained 2012-2013

Types of traditional healers:
- Herbalists (58%)
- Traditional birth attendants (25%)
- Diviners (8%)
- Spiritualists (14%)
- Bone setters (4%)
Bring needed and effective meds to the areas

• Use evidence based medicine and expert opinion to determine treatment for most prevalent diseases

• WHO to make guideline suggestions that will put dermatologic drugs on formularies
HIV-Derm conditions selected for potential inclusion in WHO guidelines

1. Kaposi’s sarcoma
2. Seborrheic dermatitis
3. Molluscum
4. Scabies
5. Eosinophilic folliculitis
6. Papular pruritic eruption
7. SJS / TEN
8. Zoster
9. Tinea
10. Oral candidiasis
Plans for the future: programmatic

• Building a Dermatology residency program for East Africans in Kampala Uganda and Eldoret Kenya

• Opportunities for teaching/learning

• Opportunities to strengthen South-South collaboration