Opportunistic Infections, & Hepatitis B treatment & monitoring

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Opportunistic Infections, & Hepatitis B treatment & monitoring

SESSION 3
HIV/HBV DIDACTIC SERIES
APRIL 20, 2020
Overall Outline

1. HIV & ART overview
   ◦ History, Epidemiology, transmission/risk, staging
   ◦ Med Class Overview, ART initiation

2. Treatment monitoring & Failure
   ◦ 2nd & 3rd line ART, toxicity/complications, monitoring
   ◦ Prevention

3. Opportunistic Infections & Hepatitis B
   ◦ OIs, ART considerations, Prophylaxis
   ◦ HBV dx, tx, surveillance, & HIV-HBV co-infection

4. Special Populations:
   ◦ Pregnancy, antenatal & intrapartum, infant care & pediatric

5. HIV/HBV Case-Based Application
   1. Case Application
   2. Wrap-up/review, miscellaneous items

5 session, 2 hours each
Source Materials

Liberia Integrated Guidelines for Prevention, Testing, Care, and Treatment of HIV and AIDS
  ◦ 5th edition, August 2019

WHO HIV Diagnosis, Treatment, and Opportunistic Infection Guidelines
  ◦ 2016, 2018 ART update
  ◦ https://www.who.int/publications/guidelines/hiv_aids/en/

WHO Hepatitis B treatment guidelines (2015)

ELWA Hepatitis B Treatment Protocol.

Zambia National Hepatitis B Treatment Protocol.

Reference Materials


AIDS-defining conditions

<table>
<thead>
<tr>
<th>Recurrent bacterial infections</th>
<th>Mycobacterium Avium Complex (MAC)</th>
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<td>Candidiasis “below” the mouth</td>
<td>Mycobacterium Tuberculosis</td>
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<td>Invasive cervical cancer</td>
<td>Pneumocystis Jirovecii Pneumonia</td>
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<td>Coccidiodomycosis</td>
<td>Progressive Multifocal Leukoencephalopathy</td>
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<td>Cryptococcosis</td>
<td>Toxoplasmosis gondii of brain</td>
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<tr>
<td>Cryptosporidiosis</td>
<td>HIV wasting syndrome</td>
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<td>Cytomegalovirus</td>
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<td>Chronic HSV</td>
<td>Cystoisosporiasis (Isosporiasis), chronic</td>
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<td>Disseminated Histoplasmosis</td>
<td>Lymphoma (Burkitt, Primary CNS, or immunoblastic)</td>
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<td>Kaposi Sarcoma</td>
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</tbody>
</table>
Non-AIDS-defining Conditions

Bacterial Enteric Infections
Oropharyngeal Candidiasis
Community-Aquired Pneumonia
Leishmaniasis
Malaria
Latent MTB
Syphilis
Varicela-Zoster
Talaromycosis

Hepatitis B
Hepatitis C
Bartonella
## Oral & Cutaneous Conditions

<table>
<thead>
<tr>
<th>Oral &amp; Cutaneous Conditions</th>
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<tr>
<td>Oropharyngeal Candidiasis</td>
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<td>Oral Hairy Leukoplakia</td>
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<td>HSV</td>
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<td>Anogenital Warts</td>
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<td>Scabies</td>
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<td>Molluscum Contagiosum</td>
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<tr>
<td>Eosinophilic Folliculitis</td>
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<tr>
<td>Bacillary Angiomatosis</td>
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<tr>
<td>Seborrheic Dermatitis</td>
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</tbody>
</table>
Mycobacterium Tuberculosis

**Epidemiology:**
PLHV: 10% annual & 50% lifetime risk
Most common cause of death

**Presentation:**
Variable & atypical sx!
Anemia, fever, weight loss

**Diagnosis:**
Think pre-test probability!
Xpert; smear (but most are negative); culture
If CD4 <200 -> routinely screen urine LAM
- if + => give TBT; does not r/o dz if neg

**Management:**
Don’t delay; if sick > empiric!

**ART considerations:**
CD4 <50 = ART within 2 weeks
CD4 >50 = ART at 8 weeks
TB meningitis = generally defer ART until 8 weeks
Avoid: NVP, ATV/r, LPV/r, DRV/r
DTG: best option, but double dose of DTG for rifampicin

**TB Preventive Therapy (TPT):**
All HIV+, start w/ ART either:
- 6H (INH x6mo)
- 3HP (RFP/INH wkly x12)
Cryptococcosis

**Epidemiology:**
CD4 <100-200

**Presentation:**
Indolent, headache, AMS, +/- fever, rash similar to molluscum

**Diagnosis:**
CrAg (serum (95% +) or CSF)
India Ink stain, ^opening pressure
If CD4 <200 = routinely screen with serum CrAg

**Management:**

*Induction Phase*
Option 1: AmphoB/flucytosine x7d
Option 2: Fluconazole/flucytosine x14d
Option 3: AmphoB/fluconazole x14d

*Consolidation Phase*
Fluconazole 800mg daily

*Maintenance phase*
Fluconazole 200mg daily for life

**ART considerations:**
Start ART only 5 weeks after antifungal tx initiation

**Prevention:**
None (other than ART)
Toxoplasmosis Gondii

**Epidemiology:**
CD4 <100
Results from reactivation of previously latent dz

**Presentation:**
New CNS alteration
Retinitis, pneumonitis, disseminated

**Diagnosis:**
Presumptive clinical diagnosis
CT with ring enhancing lesions
CSF studies (PCR specific, not sensitive)
IgG negative = excellent NPV

**Management:**
Cotrim 960mg:
4 tab BID x6wk, then
2 tab BID x3mo, then
1 tab BID lifelong

**ART considerations:**
Start ART within 2-3 weeks

**Prevention:**
If CD4 <100 give cotrim ppx

**Parasite:**
 Reactivation of latent infection
Pneumocystis Jiroveci (carinii) Pneumonia (PJP)

**Epidemiology:**
CD4 <200 predominates

**Presentation:**
Subacute, nonproductive cough, fever, hypoxia, often no rales
Infant: severe PNA

**Diagnosis:**
*Ambulatory hypoxia*
CXR
CSF studies (PCR specific, not sensitive)
IgG negative = excellent NPV

**Management:**
Cotrim x21d
If hypoxic give prednisolone x21d (start with cotrim)

**ART considerations:**
Start ART within 2 weeks

**Prevention:**
CPT lifelong

**Fungus**
Likely re-infection
Mycobacterium Avium Complex

**Epidemiology:**
CD4 <50
ART decreases population prevalence

**Presentation:**
Nonspecific/indolent – fever, fatigue, diarrhea, weight loss, abd pain, diffuse LAD

**Diagnosis:**
Presumptive clinical diagnosis
Blood Culture x2 (90% sensitive by 14d growth)

**Management:**
Macrolide & ethambutol x12mo

**ART considerations:**
Start ART immediately

**Prevention:**
ART

**Epidemiology:**
non-TB mycobacterium group
Ubiquitous in environment
Cytomegalovirus

**Epidemiology:**
CD4 <50
Risk factors: MSM, high HIV RNA, prior OI

**Presentation:** indolent
Retinitis – floaters, flashes, field deficits, failing vision, often unilateral
CNS (encephalitis), GI (diarrhea, weight loss, esophagitis)

**Diagnosis:** clinical
Retinal exam, endoscopy (mucosal ulcerations, biopsy), CSF PCR

**Management:**
IV ganciclovir or intravitreal injxn

**ART considerations:**
Start ART 2wks after tx start
Significant IRIS risk

**Prevention:**
ART

**ds-DNA herpes virus**
Reactivation of latent infection
Histoplasmosis

**Epidemiology:**
Endemic in most tropical regions
CD4 <150

**Presentation:** *many* variations
Disseminated: fever, wt loss, cough
Encephalitis, GI, hepatomegaly

**Diagnosis:**
CXR: nodules, diffuse patchy opacities
Urine Ag

**Management:**
Severe: amphiB > itraconazole x12mo
Non-severe: itraconazole x12mo

**ART considerations:**
Start ART immediately

**Prevention:**
2* ppx stopped after 1yr when on ART with undetectable RNA & Histoplasma Ag not detected

fungus

Reactivation of latent infection
Cryptosporidiosis

**Epidemiology:**
Contaminated water (persists despite chlorination), person-to-person

**Presentation:**
watery diarrhea, vomiting
Chronic OR profuse

**Diagnosis:**
Stool ova & parasite with modified acid-fast stain

**Management:**
Immediate ART
Supportive treatment

**ART considerations:**
Start ART immediately

**Prevention:**
ART
Microsporidiosis

**Epidemiology:**
Untreated drinking water
CD4 <100

**Presentation:**
diarrhea

**Diagnosis:**
Clinical diagnosis
Stool microscopy

**Management:**
*ART* (sx stop when CD4 >100)
Some species: albendazole, itraconazole

**ART considerations:**
Start ART immediately

**Prevention:**
*ART*
Isosporidiosis ("cystoisosporiasis")

**Epidemiology:**
- Tropical regions
- Fecal-oral route
- CD4 <250

**Presentation:**
- Watery diarrhea, vomiting, low grade fever

**Diagnosis:**
- Presumptive clinical diagnosis
- Large oocysts on modified acid-fast stool microscopy

**Management:**
- Cotrim TID for 10-30d

**ART considerations:**
- Start ART immediately

**Prevention:**
- CPT with ART

**Parasite**
Candidiasis

**Presentation:**
Oral: white/red patches  
Esophageal: odynophagia  
Vaginal: vaginitis, discharge

**Diagnosis:**
Presumptive clinical diagnosis  
Wet prep if vaginal

**Epidemiology:**
CD4 < 100-200

**Management:**
Oral: nystatin topical x7-14d  
Esophageal: fluconazole x14d  
Vaginal: topical or oral x1

**ART considerations:**
Start ART immediately

**Prevention:**
ART
Herpes Zoster (shingles)

**Epidemiology:**
CD4 <200
15x risk in HIV+ compared to HIV neg

**Presentation:**
Dermatomal distribution
Caution trigeminal nerve involvement

**Diagnosis:**
Presumptive clinical diagnosis

**Management:**
Acyclovir x7d within 72hrs of symptom start
Ophtho for CN V
Pain control

**ART considerations:**
Start ART immediately

**Prevention:**
vaccination

**Virus**
Reactivation of latent
Scabies

**Epidemiology:**
Skin-to-skin contact
Crusted (Norwegian) scabies = airborne

**Presentation:**
Pruritis; papules & thin short “burrows”
Crusted: severe, widespread, crusted

**Diagnosis:**
Presumptive clinical diagnosis

**Management:**
Topical permethrin
Oral ivermectin
tx contacts
**Crusted:** ivermectin

**ART considerations:**
Start ART
Kaposi Sarcoma (KS)

**Epidemiology:**
CD4 < 150

**Presentation:**
Purple/red/brown patch > plaque > nodule
Cutaneous, mucous membrane, visceral organ (GI, pulm, lymphatic)
Pediatric: woody inguinal oedema

**Diagnosis:**
Presumptive clinical diagnosis biopsy

**Management:**
- KS Stage T0 (adults with only cutaneous KS) = ART x3mo
- KS Stage T1 (any pediatric & adult w/ oedema, nodules, non-cutaneous involvement):
  - paclitaxel chemo
  - bleomycin/vincristine

**ART considerations:**
Start ART

**Prevention:**
ART

Vascular tumor caused by human herpes virus-8 (HHV-8)
Lymphoma

**Epidemiology:**
- Burkitt
- Primary CNS

**Presentation:**
- LAD, weight loss, fever, anemia
- CNS findings

**Diagnosis:**
- Biopsy
- Consider if failure to improve after TB treatment x4wks in suspicious cases

**Management:**
- Oncology

**ART considerations:**
- Start ART

**Prevention:**
- ART
Progressive Multifocal Leukoencephalopathy

**Epidemiology:**
- 80% JC worldwide seroprevalence
- Immunocompromise > reactivation

**Presentation:**
- Subacute CNS alteration
- 20% seizure
- Fever & acute encephalopathy rare

**Diagnosis:**
- Presumptive clinical diagnosis
- MRI

**Management:**
- ART

**ART considerations:**
- Start ART immediately

**Prevention:**
- ART

**JC virus reactivation**
IRIS (Immune Reconstitution Inflammatory Syndrome)

Disease- or pathogen-specific inflammatory state that may occur after initiation of ART
- **Paradoxical:** worsening of previously diagnosed disease
- **Unmasking:** appearance of previously undiagnosed disease

Rules of thumb:
- Treat the IRIS-specific condition as indicated
- Continue ART

TB-IRIS
- Give steroids (4 weeks)