Treating Common Primary Care Conditions in the HIV + Patient

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Is HIV Really a Problem in Louisiana

- LA has 3rd highest rate of HIV in the US (30.2 per 100,000 population) (2011)
  - 11th in the actually number of HIV cases
- New Orleans region is 2nd and Baton Rouge region is 3rd in US for HIV rate (43.0 and 41.6 per 100,000, respectively)
- In 2013, 1,365 new HIV cases were diagnosed in LA, only 50% were in NO or BR regions
Cases of HIV per Zip Code
If started early and maintained on HAART, HIV + expected life span is

A. 5-10 years less than HIV-person’s
B. 1-3 years less than HIV-person’s
C. Approximately the same as HIV – person’s
D. Is longer than HIV-person’s

25% 25% 25% 25%
Age of “Non-AIDS” Death

## Risk of Death

<table>
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<tr>
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<th>AIDS death</th>
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*Difference (P<0.05) between HR for non-AIDS death and HR for AIDS death

Stages of HIV Infections

- **Primary infection** (CD4 > 500)
  - Fever
  - Myalgia
  - Arthralgia
  - Adenopathy
  - Malaise
  - Rash
  - Meningoencephalitis

- **Early** (500 > CD4 > 200)
  - Guillain-Barré syndrome
  - Chronic demyelinating neuropathy
  - Idiopathic thrombocytopenia
  - Reiter's syndrome
  - Polymyalgia
  - Sjögren's syndrome
  - Bell's palsy
  - Tinea, onychomycosis
  - Gingivitis
  - Seborrheic dermatitis
  - Molluscum contagiosum
  - Herpes zoster
  - Tuberculosis
  - Sinusitis

- **Intermediate** (CD4 < 200)
  - Oral candidiasis
  - Hairy leukoplakia
  - Cryptosporidiosis
  - Pneumocystis
  - Toxoplasmosis
  - Cryptococcus
  - Mycobacterium avium complex
  - Cytomegalovirus

- **Advanced** (CD4 < 200)
  - Primary central nervous system lymphoma
  - Kaposi's sarcoma
  - Non-Hodgkin's lymphoma
  - Cervical intraepithelial neoplasia
  - Primary central nervous system lymphoma
  - 10 weeks
  - 5 years
  - 10 years
  - 13 years
Monitor HIV Disease

• Immunological Status (CD4)
  – Not the same as a CBC

• Viral Load (HIV Viral Load)
  – Usually listed as simply “RNA Viral Load”

• CBC with Differential
  – Very vague measure of immune system function/ HIV
  – Typically “off” but should be life threatening

• Symptoms
  – Not all are due to HIV: especially if HIV is well controlled
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<th>CD4 Count</th>
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<tr>
<td>TB</td>
<td>250-500</td>
</tr>
<tr>
<td>Candida</td>
<td></td>
</tr>
<tr>
<td>Recurrent bacterial infections</td>
<td></td>
</tr>
<tr>
<td>PCP</td>
<td>&lt;200</td>
</tr>
<tr>
<td>Toxoplasmosis</td>
<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
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</tr>
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<td>Cytomegalovirus</td>
<td>&lt;50</td>
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Regarding HIV management, the most essential intervention is

A. Preventing the development of Opportunistic Infections associated with diagnosis of AIDS
B. Promote healthy behaviors to reduce risk of morbidity (smoking cessation, diet)
C. Assurance adherence and effectiveness to Highly Active Anti Retroviral Therapy (HAART)
D. Provide essential interventions that reduce risky behavior and the spread of HIV
HAART in HIV Management

- HAART should be initiated as early in the course of the disease as possible
  - May be held until CD4 < 500
  - Always to be started if co-infected with TB or HBV and if partner is non-infected
  - Always be started in patient is pregnant
- HAART consistence of at least 3 “active” ART
- Patients should be monitored at least every 3 mons for adherence and tolerance to HAART as well as CD4 and HIV Viral Load measures
  - May be extended to 6 mons after 1-2 years of HAART tolerability, undetectable HIV Viral load (< 20 copies) and stable or elevating Cd4
The most common disease seen in US primary care is

A. Back disorders
B. Skin disorders
C. Hypertension
D. Upper Respiratory Disorders
E. Diabetes
Prevalence of Diagnosis in Primary Care Setting Based on Race

- Skin Disorders
- OA/Joint Disorder
- Back Disorders
- Lipid Disorders
- Upper Resp Disease
- Mental Health
- Chronic Neuro Disorder
- HTN
- H/A and Migraine
- Diabetes

White
Black
Asian
Case 1

• JC is a 34 year old new patient to your clinic who moved into your community about 6 months ago. He presents today with a large skin abscess to his upper thigh that has been getting worst over the last 5 days. He reports he is HIV + and has been for 10 years.

• What key items do you need to know to adequately judge his risk of significant complications?
Establishing Primary Care of HIV+

• Current HAART and duration of therapy
  – Increase stability with increase length of HAART
  – Include 3 active ARV’s: Norvir/Cobistat don’t count

• Last CD4 (measure and date)
  – Preferably within last 3-6 months

• Last Viral Load (measure and date)
  – If on HAART “undetectable” is expected (<20 copies)
    • Any other result is unacceptable

• HIV Care Provider and last time assessed
  – Assure follow up is scheduled: “In Care”
  – At least every 6 mon/ usually 3-4 mons
• **JC reports**
  
  – Currently on Atripla and has been for 3 years
  – Last seen ~ 4 mons ago before he moved here from CA
  – At that time his viral load was undetectable
  – Viral load has been undetectable since starting Atripla
  – His last CD4 was about 300
    
    • Higher then the 30 that he had when he was diagnosed 3 years ago
  – He does not have any appointment to see anyone for his HIV since he just moved here
    
    • Was hoping you could make a referral

• **How would you characterize the “stability” of JC’s HIV?**
Cutaneous Abscess/ Furuncle/Carbuncle

- Usually caused by Bacteria indigenous to the region
  - Trunk, extremities, axillae, or head/neck: Staph Aureus/ Strep/ MRSA
  - Perineal: anaerobes or a combination of aerobes and anaerobes.

- Note cellulitis, regional lymphadenopathy, fever,

- Treatment: Drainage, CULTURE, Antibiotics (MRSA coverage)
  - Dependent on size and location
    - < 5 mm: no antibiotics in most cases
    - ≥ 5 mm: no fever oral antibiotic x 5-10 days
    - Multiple lesions, fever, expanding, cellulitis, not healing after drainage, immunocompromised or those risk of endocarditis: oral antibiotics x 10 days

  - Suggestions: TMP/SMX, Clindamycin, Doxy, Minocycline, amoxicillin/clavulanic acid, quinolones, and linezolid
    - Stay away from the “R’s” (rifabutin rifampin, rifapentine)
How dare you mess with CYP3A4?

Inhibiting CYP3A4 Isozyme significantly effects metabolism of drugs

CYP: Cover your Pharmaceutical

- HMG-CoA reductase inhibitors
  - lovastatin, simvastatin, pitavastatin,
- Antibiotics:
  - clarithromycin, rifabutin rifampin, rifapentine
- GI Drugs:
  - PPI, H2blockers, antacids
- Benzodiazepines:
  - midazolam, triazolam
- PDE5 inhibitor:
  - tadalafil, vardenafil, avanafil,
So Back to JC
How would you treat him?

- Drainage (culture)
- Systemic Antibiotics?
  - >5 mm
  - > 2 lesions that are >3 mm
- Recurrent
  - At least once a year for 3 years
  - > 3 times in one year
- Systemic symptoms: fevers, lymphadenopathy
- Address recurrence: Mupirocin 2% to nares daily
HIV Care in LA

We really really really really want to see them

• Finding HIV Care in Your Region
  – Local AIDS Service Organization: Not all ID’s treat HIV
  – LA HIV 411
  – Louisiana {HIV} Health Access Program (LA HAP)
  – Delta’s AETC list of Louisiana HIV Care Providers
    • 504-826-2186 or tnewto@lsuhsc.edu
  – Call or email Christine Brennan 504 905 765

• Make the Patient the Appointment
  – They can always change it but it will get them on the clinic’s “list” and promote case outreach
Case 2

• TM is a 34 yo female who has been seen at your clinic multiple time over the last 8 years. Today she comes in with a x7 days of nasal congestion, headaches and facial pain. You note she was seen for this 2 additional times in the last year. You also note she is HIV +
  – dx 2004 with 2nd pregnancy

• You have some laboratory and HIV related information on her from a 7/3/12 visit:
  – Labs: CD4 272/ 16%    RNA Viral Load 1214
  – Per note was on Atripla for HAART at that time
TM’s HIV Care

- Current HAART and duration of therapy
- Last CD4 (measure and date)
- Last Viral Load (measure and date)
- HIV Care Provider and last time assessed
TM’s HIV Care

• Current HAART and duration of therapy
  – It was changed the last time she was at clinic but she does not remember what it is

• Last CD4 (measure and date)
  – Thinks it was 250 or something

• Last Viral Load (measure and date)
  – Doesn’t recall

• HIV Care Provider and last time assessed
  – EIC and a couple months back
HIV Continuum of Care/ HIV Cascade of Care

- Diagnosed: 82%
- Linked to Care: 66%
- Retained in Care: 37%
- Prescribed ART: 33%
- Virally Suppressed: 25%
TM’s HIV Care

Call me a cynic, but history has taught me

• HAART “It was change the last time in clinic”
  • she developed resistance: required a change
    – 90% of virologic failure is due to non adherence
    – You have a measure of her on HAART and she was not “undetectable”
    – “..not remember what it is”
  • not taking it enough to actually know what it is

• Last CD4/ Viral Load/ HIV Care:
  – “....it was 250 or something” “doesn’t recall” “a couple months back”: vague/ does not know probably because she has not had it measured- has not be to HIV care
Back to TM

• Not on HAART/ “lowish” CD4 before: How stable is she now?

• What are her symptoms?
  – Fever: none
  – Weight lose: increased from last visit
  – General myalase: “except for the sinus thing, OK”
  – Candidiasis: virginal, oral, esophageal
    • esophageal candidiasis: sore throat, severe indigestion, worst with eating, food burning through chest
  – Diarrhea: “only when I took the HIV meds”
Back to TM

• Based on symptoms HIV appears fairly stable
• Treat for sinusitis, or bronchitis or other URI based on symptoms
• Get a CD4/ HIV Viral load for your own records
• Talk about HIV care
  – Issues with Accessing Care
    • Does she have an appointment, case manager, ride, able to get off from work, does she like the clinic/ provider,
  – Address “Inter” stigma: “I am a bad person”
    • does she have some one who she can talk to, does she know any one else who is HIV +
What TM Came in For

• x7 days of nasal congestion, headaches and facial pain

• “sinus issues” x 3 mons: “worst this year”
  – Sore throat in AM but goes away
  – Cough in AM, some at night, Getting worst
  – Some clear nasal discharge but usually none
  – Treating with some nyquill, sudefed, advil cold, something the doctor gave her daughter, vitamin C, etc etc etc
HIV and Immune Mediated Conditions

- Occurrence of “Allergies” responses increase with HIV
  - allergic rhinitis, drug allergies, asthma, recurrent bronchitis, chronic bronchitis
  - Disruption in immune allergen control mechanisms
    - Tends to improve with HAART and immune stability.
- Must manage “allergies”
  - Antihistamine/ leukotriene receptor antagonist bronchodilator/ nasal corticosteriod
  - Use with caution: Fluticasone, Budesonide, Beclomethasone
Treating TM

• Treat acute, potently bacterial infection
  – AB??: Yes: worsening over 7 days

• Manage “allergies”
  – Any of the OTC antihistamine,
    • consider the promptness of diphenhydramine
  – mometasone furoate monohydrate
  – Inhaled Albuterol
  – Discuss triggers/ management

• Assure HIV follow up
  – Well controlled HIV will minimize Allergies
  – Schedule follow up in 1 month to assure she went to HIV care:
Case 3

• SR is a 57 yo that is new to your clinic. Through ACA he has recently gained access to health insurance. He has been assigned to you as his PCP. He comes to day for a check up but really to make sure his heart is OK. His father died of a heart attack at 60 and he knows that this family history puts him at increased risk for heart disease.

• He reports he is HIV+. He was diagnosed in 2004. At the time he was told his CD4 and VL were good and he did not need to start meds. However, since 2008 he has been on HAART. He did not do well with the first med but is doing well with what he is on now.

• He also has HTN and takes Benicar HTC (he was getting samples for it and now he needs a prescription)
SR’s HIV Care

• Current HAART and duration of therapy
  – Reytaz, Norvir, Truvada (TDF+ FTC, ATZ, RTV)

• Last CD4 (measure and date)
  – Week of July 4, 550

• Last Viral Load (measure and date)
  – Week of July 4: Undetectable (UND) (<20 copies)

• HIV Care Provider and last time assessed
  – In July started seeing a ID (with his new insurance) had been at the local “charity” HIV clinic but it was just too hard to get care there. Last saw them the week of Mardi Gras
More on SR’s

- S Hx: works as a contracted paralegal, lives with his partner who is HIV+, ETOH socially, Smokes ½ pack a day (22 pack/year). Like to exercise when he can
- Medical Hx: as above, No surgeries
- Family Hx, Father died of MI at 65, no prior heart disease, Mother alive with HTN and alzhamzer,
- Vitals wt 220  ht 5’11  NKDA
  - Temp 97.3F  RR 18  P 82  BP 142/86
- ROS: negative accept for increase weight of 30 lbs over last 2 years associated with HIV meds
More on SR’s

• **PE:** WNL except for 2 cavities. He deferred the DRE

• **DX:**
  – HIV + controlled based on HX
  – ????
  – HTN
  – Cavities
  – Family History of Cardiac Disease
  – Obese
# Weight Gain in HIV

## It is Not all HIV

<table>
<thead>
<tr>
<th>Lipodystrophy</th>
<th>Weight Gain</th>
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<tr>
<td>Viviscal fat</td>
<td>Subcutaneous fat</td>
</tr>
<tr>
<td>Some regions may be come extremely thin while others gain mass</td>
<td>Generalized increase in mass</td>
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<tr>
<td>Usually associated with metabolic disorder early</td>
<td>Metabolic disorders result in distance</td>
</tr>
<tr>
<td>Occur after start of HAART</td>
<td>Not associated with HAART</td>
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<td>Minimal response to minor diet/exercise change</td>
<td>Significant responds to diet change</td>
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<tr>
<td>May have well defined “pockets” of fat deposits</td>
<td>Results in cellulite and dimpling</td>
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Plan for SR

• Labs: Chem 16, CBC, Lipids
  – PSA, Vitamin D, CD4 and VL (for your records)

• Work on Diet: “Step Approach” (1 at a time)
  – Reconfirm limiting sodium intake
  – Eliminated any high caloric drinks
  – 5 Fruits/vegetables a day (not can, OK frozen)
    • Going to store at least 2 x a week (Food Deserts)
  – Eating only from “outside” of Store
    • avoid processed foods
      – Avoid high starches/sugars. Work on increasing exercise
      – Assure support at home/work/friend

• Work on accessing Dentist/A assured HIV Follow up

• RTC in 4 weeks for lab review, BP check and weight check
Plan for SR

What about his smoking?

After AIDS and Liver disease
Smoking 1# cause of death in HIV

Chantix, Wellbutrin, E Cigs, Nicotine replacement
## Risk of Death

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*Difference ($P<0.05$) between HR for non-AIDS death and HR for AIDS death

SR Follow up

• Partner is committed to improve diet as well, they are walking every day.
• Allows himself 1 coke a week, otherwise it is water, un-sweeten ice tea or coffee
• Eating less boil seafood, only frozen/ fresh vegetables (avoiding the cans)
• Vitals wt 218 T 97.7F R16 P80 BP 136/84
• ROS: negative except for:
  – increase urination, x 6-8 months, during the day, not at night, not associated with diet change (maybe less). No pain, little burning, no change in stream
SR Labs

- **CBC**
  - 13/42  WBC 2.1 Plat 214

- **Lipids**
  - Chol 272  Trig 350  HLD: 52  LDH: 192

- **Chemistry**
  - Glucose: 178,  BUN 11,  Cr 1.09,  AST 34,  ALT 26  T Bili: 2.5

- All other results are WNL
Metabolic Syndrome

*glucose intolerance*

hyperglycemia

hyperlipidemia

insulin resistance

DIABETES
Metabolic Syndrome (MetS)

- Caused by imbalanced food intake, physical inactivity and obesity,
- MetS encompasses a cluster of risk factors leading to CVD and higher risk of DM
  - obesity (central adiposity),
  - defective glucose metabolism (DM, impaired glucose tolerance/ fasting glycaemia),
  - Elevated BP
  - Elevated TG and low HDL-c levels.
- Results in increases risk of some cancers, polycystic ovary syndrome and asthma.
# Definition of Metabolic Syndrome

Either Have or Be Treated For

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<tr>
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<th>EGIR (1999)</th>
<th>NCEP/ATP III</th>
<th>AHA-NHLBI</th>
<th>IDF</th>
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<td>Obesity Waist</td>
<td>≥94 cm (male), ≥ 80 cm (female)</td>
<td>≥102 cm (male), ≥ 88 cm (female)</td>
<td></td>
<td>BMI is &gt;30 kg/m</td>
</tr>
<tr>
<td>Lipid</td>
<td>TG≥2.0 mmol/L and/or HDL-c &lt;1.0 mmol/L</td>
<td>TG&gt;150 mg/dL or HDL-C &lt;40 mg/dL (males), &lt; 50 mg/dL (females)</td>
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<td></td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>≥ 140/90 mmHg</td>
<td>≥ 130/85 mmHg</td>
<td></td>
<td>Systolic &gt;130 or diastolic &gt;85 mmHg,</td>
</tr>
<tr>
<td>Glucose</td>
<td>Fasting plasma glucose≥ 110 mg/dl</td>
<td></td>
<td>Fasting plasma Glucose≥100 mg/dL</td>
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New Face of HIV
Treating MedS in HIV

Same Guidelines/ Caution with med Interaction

Lipid Lowering Agents

• Do NOT Use
  – Simvastatin  Lovastatin

• Use with Caution
  – Atorvastatin  Rosuvastatin

• OK To Use
  – Pravastatin  Fluvastatin
  – Omega 3  Niacin
  – Fenofibrate  Gemfibrozin

Hyperglycemic Agents

• Safe To Use ALL
  – Metformin
  – Sulfonylureas
  – Pioglitazone
  – Acarbose
  – Exenatide
  – Liraglutide
  – Insulin (NPH/Lantus)
The most difficult component regarding the treatment of common primary care conditions in an HIV + individual is

A. Considering the altered immune system and its effect on disease presentation and treatment
B. The potential for HIV transmission during care
C. The interaction between HAART and other pharmaceuticals
D. The lack of information regarding HIV disease progression, monitoring and management
To safely treat HIV+ individuals, the provider must:

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<th>Percentage</th>
<th>Requirement</th>
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<tr>
<td>25%</td>
<td>A. Advance training/Education in infectious disease</td>
</tr>
<tr>
<td>25%</td>
<td>B. Access to numerous health care resources/services</td>
</tr>
<tr>
<td>25%</td>
<td>C. Collaboration of staff and willingness of providers</td>
</tr>
<tr>
<td>25%</td>
<td>D. Specific certification/licensure</td>
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Just call us
Make the connection with local HIV care provider

- **LA HIV 411**
- **Louisiana {HIV} Health Access Program (LA HAP)**
- **Delta’s AETC list of Louisiana HIV Care Providers**
  - 504-826-2186 or tnewto@lsuhsc.edu
- **National HIV Clinician Consultation Center**
  - (800) 933-3413 M-F, 9 a.m. – 8 p.m. EST
- **Christine Brennan, NP**
  - 504 905 7765