HIV Care and Treatment....30 Years Later

Tonya Green, MPH, ACRN
MNA 2011 Annual Convention
October 22, 2011
Objectives

• To understand the historical perspective of HIV/AIDS from 1981-present
• To discuss pre/post test counseling of HIV testing, types of HIV tests and resources for testing, care and treatment in Mississippi
• To verbalize the evolvement of HIV care and treatment in the clinical setting by discussing current clinical guidelines and Highly Active Antiretroviral Therapy (HAART)
Objective 1

History of HIV/AIDS
History of HIV/AIDS

- 1981-First cases diagnosed in LA-5 young, gay men with PCP
- 1982-AIDS is used for the first time
- 1986-First ARV approved-AZT (zidovudine, Retrovir)
- 1987-US banned HIV infected immigrants & travelers
- 1990-President Reagan offered apology for neglect of HIV/AIDS during his presidency; Ryan White CARE Act is passed by Congress
History of HIV/AIDS cont.

- 1991: More than 1 million infected in the US
- 1992: FDA began “accelerated approval” of ARVs
- 1993: CDC revised AIDS definition to include OIs
- 1996: Era of HAART begins
- 1997: First combo drug, Combivir, is approved
- 2004: President Bush’s Emergency Plan for AIDS Relief (PEPFAR)
- 2006: First one-a-day treatment, Atripla, approved
- 2009: President Obama lifts HIV travel ban and the first National HIV/AIDS Strategy was developed
HIV/AIDS in the United States

• 1.1 million infected
• Every 9 ½ minutes, someone is infected = 56,000 new infections/yr
• About 1:5 of population is HIV+ but don’t know their status - account for 54-70% of new infection
The Face of HIV/AIDS in the U.S.

• African-Americans (AA)- 14% of US population but account for 44% of new infections (2009)
• 49% of new AIDS diagnoses-2007
• 3rd leading cause of death in AA males and females aged 35-44 (2007)
• AA females-61% of new infections
• AA Males who have sex with other males (MSM)-63% of new infections
• New infections occur more among young AA MSM, ages 13-29
HIV/AIDS in Mississippi

- 9,546 living with HIV @ the end of 2010
- 550 new cases in 2010
- 78% African-American
- 76% Males
- 24% Females
- 48% between the ages of 25-44
- Top 5 Counties (2010)-Hinds, Harrison, Rankin, Forrest & Jackson
- #6 for HIV infection out of 40 states with confidential name based reporting (2010)
Objective 2

HIV Testing
CDC’s 2006 HIV Testing Recommendations

• Who should be screened?
  • **All** patients aged 13-64 years, all pregnant women, anyone starting TB treatment and seeking treatment for STDs
  • Clinical signs or symptoms consistent with HIV infection or an opportunistic infection (AIDS)

• Where should one be screened?
  • **All** health-care settings: hospitals, EDs, urgent care clinics, primary care clinics, correctional health-care facilities, mental health facilities, etc.
  • *Non-traditional settings: health fairs, churches, night clubs
2006 CDCs HIV Testing Recommendations, cont.

• When does one get tested:
  – High risk—once a year
  – Occupational exposure
  – Prenatal care (two tests in Mississippi)
  – Before starting a new relationship
HIV Testing Consent

- Voluntary-no coercion
- Inform patient orally or in writing that testing will be performed
- May decline (opt-out)
- Declination should be documented in the medical record; address reasons for the declination
- HIV testing should be a part of the general informed consent
Types of HIV Tests

• HIV antibody tests - adults and children >18mos
• 3-6 weeks of infection
• Most seroconvert by 12 weeks
• Blood, Oral mucosal transudate, and urine
• Only 1 FDA-approved home collection test kit (The Home Access [Express] HIV-1 Test System - uses fingerstick and transfers blood to filter paper
• All require confirmation by Western Blot (WB)
Rapid HIV Tests
HIV Testing Counseling

Pretest Counseling

• Assess risk factors
• Make appropriate referrals if needed
• Determine support system
• Educate on reducing risk factors (safer sex practices, cleaning syringes, limit sexual partners, etc.)

Post Test Counseling

• Nonreactive: retest in 3 months if high-risk, telephone call or face-to-face, and HIV prevention education
• Indeterminate: retest in 3 months, maybe in window period, face-to-face, and HIV prevention education
Reactive (Positive) Results

- HIV antibodies present
- Face-to-face ONLY!
- Must have the reactive HIV antibody and the positive WB results
- Link to care—very vital
- Communicate chronic illness, not terminal
- Offer support in nonjudgmental manner
HIV Resources for testing, care and treatment in MS

- District I-Adult Special Care Clinic @ UMMC (largest provider) and CMCF (Rankin County)
- District II-GA Carmichael Family Health Center (Canton, Belzoni, and Yazoo City)
- District III-Crossroads Clinic North (Greenville)-newest provider and Parchman
- District IV-Deporres Clinic (Marks)
- District V-North MS Medical Center/Garfield Clinic (Tupelo)
- District VI-Magnolia Medical Clinic (Greenwood)
- District VII-Greater Meridian Health Clinic and Choctaw Clinic
- District VIII-Southeast MS Rural Health Initiative (Hattiesburg)-2nd largest provider, Crossroads Clinic South (McComb) and South MS Correctional Institution (Leakesville)
- District IX-Coastal Family Health Center (Biloxi, Gulfport, and 7 other sites)
- District X-no Ryan White funded or HIV specialty clinics

Objective 3

Clinical Guidelines

HAART

Case Scenarios
Guidelines for HIV/AIDS Care

- Developed by a panel of top HIV/AIDS providers for the Department of Health and Human Services (DHHS)
- Initial Assessment: complete medical history and physical exam
- Labs: HIV antibody, CD4 count, viral load (VL), CBC, Hepatitis panel, Lipid panel, Chemistry panel, Hepatic Function panel, U/A, IGRA, Toxoplasmosis IgG, Cytomegalovirus IgG and Genosure
- STD screenings: RPR and G&C
- Immunizations: Pneumococcal, Influenza, Tetanus, Hep A/B
- Females: Pap test every 6 mos x 2 and then annually
- Office visit frequency—every 3-6 mos (varies)
Highly Active Antiretroviral Therapy (HAART)

- Initiate when CD4 count is <350 or have AIDS-defining illness; recommended for CD4 counts between 350-500 (panel 55%/45% for strong to moderate recommendation)
- Start HAART regardless of CD4 count: pregnancy, HIV-associated nephropathy, Hepatitis B coinfection or diagnosed with OI
- Reduce HIV morbidity, restore and preserve immune system, suppress viral load (VL) and prevent HIV transmission
- Must have genosure results before HAART can be prescribed
- Educate pt that taking HAART is a *lifelong* commitment and the risks and benefits of therapy.
Highly Active Antiretroviral Therapy (HAART), cont.

- May defer treatment based on patient, medical and/or psychosocial factors
- Pill burden, lifestyle, cost, pt’s readiness, and side effects
- CD4<200-will take TMP-SMX daily for PCP prophylaxis
- CD4<50-will take Azithromycin weekly for *Mycobacterium avium* complex (MAC) prophylaxis
- 5 classes of HAART: each affects the life cycle of HIV
HIV Life Cycle
## Nucleoside/Nucleotide Reverse Transcriptors Inhibitors/Non-nucleoside RT Inhibitors

<table>
<thead>
<tr>
<th>Brand Name</th>
<th>Generic Name</th>
<th>Abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NRTIs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emtiva</td>
<td>emtricitabine</td>
<td>FTC</td>
</tr>
<tr>
<td>Epivir</td>
<td>lamivudine</td>
<td>3TC</td>
</tr>
<tr>
<td>*Hivid</td>
<td>zalcitabine</td>
<td>ddC</td>
</tr>
<tr>
<td>Retrovir</td>
<td>zidovudine</td>
<td>AZT or ZDV</td>
</tr>
<tr>
<td>Videx/Videx EC</td>
<td>didanosine</td>
<td>ddl</td>
</tr>
<tr>
<td>Zerit</td>
<td>stavudine</td>
<td>d4T</td>
</tr>
<tr>
<td>Ziagen</td>
<td>abacavir</td>
<td>ABC</td>
</tr>
<tr>
<td><strong>NNRTIs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustiva</td>
<td>efavirenz</td>
<td>EFV</td>
</tr>
<tr>
<td>Viramune/Viramune XR</td>
<td>nevirapine</td>
<td>NVP</td>
</tr>
<tr>
<td>*Rescriptor</td>
<td>delavirdine</td>
<td></td>
</tr>
<tr>
<td>Intelence</td>
<td>etravirine</td>
<td>EFV</td>
</tr>
<tr>
<td>Edurant (8/2011)</td>
<td>rilpivirine</td>
<td></td>
</tr>
</tbody>
</table>
Protease Inhibitors (PIs)

<table>
<thead>
<tr>
<th>Brand Name</th>
<th>Generic Name</th>
<th>Abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Agenerase</td>
<td>amprenavirir</td>
<td>APV</td>
</tr>
<tr>
<td>Aptivus</td>
<td>tipranavir</td>
<td>TPV</td>
</tr>
<tr>
<td>Crixivan</td>
<td>indinavirir</td>
<td>IDV</td>
</tr>
<tr>
<td>Invirase</td>
<td>saquinavirir</td>
<td>SQV</td>
</tr>
<tr>
<td>Kaletra</td>
<td>lopinavir + ritonavir</td>
<td>LPV</td>
</tr>
<tr>
<td>Lexiva</td>
<td>fosamprenavirir</td>
<td>FPV</td>
</tr>
<tr>
<td>Norvir</td>
<td>ritonavirir</td>
<td>RTV</td>
</tr>
<tr>
<td>Prezista</td>
<td>darunavirir</td>
<td>DRV</td>
</tr>
<tr>
<td>Reyataz</td>
<td>atazanavirir</td>
<td>ATZ</td>
</tr>
<tr>
<td>Viracept</td>
<td>nelfinavirir</td>
<td>NFV</td>
</tr>
</tbody>
</table>
Other Classes of HAART

- Fusion Inhibitors: Fuzeon (enfuvirtide), ENF; injectable
- Entry Inhibitors: Selzentry (maraviroc)-must have T rofile testing done to determine if pt has CCR5 co-receptor
- Integrase Inhibitors: Isentress (raltegravir)

Combination HAART
- Combivir (zidovudine + lamivudine)
- Epzicom (abacavir + lamivudine)
- Truvada (tenofovir DF + emtricitabine)
- Trizivir (abacavir + zidovudine + lamivudine)
- Atripla (efavirenz + tenofovir DF + emtricitabine)
- Complera (emtricitabine + tenofovir DF + rilpivirine)-approved in 8/2011
Major HAART Side Effects

- NRTIs: hepatotoxicity, lactic acidosis, lipodystrophy, and skin rash
- NNRTIs: hepatotoxicity and skin rash
- PIs: hepatotoxicity, hyperglycemia, hyperlipidemia, lipodystrophy, osteonecrosis, osteoponita, osteoporosis and skin rash
Goals for HIV Treatment

• Improve immune system function and status-prevent OIs
• Control replication of virus
• Improve overall quality of life
• Prevent transmission
• Recommended Regimen: 1 NNRTI + 2 NNRTIs or PI (boosted) + 2 NRTIs
• At least 95% adherence to HAART
• Undetectable VL on HAART (<20, <50 or <75-varies per lab)
• Optimal CD4 count: >=350 or >=500
Future of HIV

• HIV Vaccine-??

• New drugs that interfere with the HIV life cycle

• Immune therapies-gene therapies (produce immune cells that are genetically resistant to HIV) and immune modulators (cytokines that increase the immune system’s response to HIV

• A CURE!
Thank you for your time and attention!

5 WAYS TO BE GREATER THAN AIDS

KNOW
Get the facts about HIV/AIDS

TALK
Start the conversation

PROTECT
Use a condom

GET TESTED
Find an HIV testing center

TAKE ACTION
Get involved locally