Howard University
National HIV Curriculum Integration Project

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TOT EXPERT FACULTY:

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MODULE 5 – PREVENTION OF HIV

CASE STUDY #1:
PREEXPOSURE PROPHYLAXIS (PrEP)

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COPPIN STATE UNIVERSITY

PATIENT OVERVIEW

A 19-year-old African American male patient comes back to the University Community Health Center for sports clearance to play intramural football. At the end of the visit he asks for an HIV test. After discussion, the patient reveals that he is sexually active with men on campus. He says he is not "out". He has a girlfriend but has occasional sex with men. Further discussion reveals a total of 4 male partners since starting at the University two years ago. He admits to inconsistent condom use with his girlfriend and male partners. He reports having a rapid HIV test and STI screen the first week of school on a mobile testing van on campus. Results were negative.

The provider begins a discussion about PrEP and asks the patient if he has heard of the medication. He says he has seen the commercials but does not think he needs it. After highlighting the benefits of PrEP, the patient verbalizes concerns about anonymity. He is worried about his parents and suitemates finding out he is on the medication. In addition, he is concerned about the treatment regimen due to the frequency of monitoring. He would be off campus, living with his parents at this time. He is concerned his parents would find out from the insurance company that he is being tested. He then expresses concerns about the side effects.

OPEN DISCUSSION

1. How can the provider address the concerns about his privacy?
2. What key components of behavioral risk reduction counseling are appropriate in this case?
3. What tests if any should be done while the patient is in office?
4. What regimen would be appropriate for this patient?

CASE STUDY #2:
PREVENTING PERINATAL HIV TRANSMISSION

GEORGE NAWAS, PHARMD, BCPS
XAVIER UNIVERSITY COLLEGE OF PHARMACY

PATIENT HISTORY

Kathy is a 32 y/o African American dental hygienist who lives in the Southern U.S. She was diagnosed with HIV in 2017, after contracting it sexually from an ex-boyfriend who did not know (or did not disclose) his status to her at the time. Her VL was 121,000 copies/mL and CD4 count was 342 upon diagnosis. Her HLA-B*5701 result was positive. She was started on Genvoya by her ID physician at the time. Kathy's been doing well on Genvoya and mentions that she is very happy with the one pill/day situation (in comparison to her friend who takes 2 pills twice a day for his HIV which she tells you that she would not be able to do).

Kathy's VL has been undetectable for >3 years now. She reports no major side effects while taking the Genvoya besides occasional headaches, which are tolerable and infrequent. The only other medication that she currently takes is pantoprazole 40 mg BID, which she was prescribed by her PCP recently for her confirmed stomach ulcer.

PATIENT HISTORY CONT'D

Kathy comes to the clinic today for her regular 6-month checkup and mentions that she would like to stop taking her oral contraceptive soon, as she and her current HIV-negative partner want to have their first child. Kathy's partner knows of her status and she tells you that they have exclusively used condoms so far. She wants to discuss the risks of vertical transmission and if there is anything that she can do, besides taking her daily pill, to prevent the transmission of HIV to both her partner and future child.

OPEN DISCUSSION

1. What would you tell Kathy about her risk of perinatal transmission (knowing that she has been UD for >3 years)?
2. Would you suggest Kathy's partner to be on PrEP? What is the rationale for your decision? Does he qualify for it?
3. Would you keep Kathy on Genvoya pre-conceptionally?
4. Kathy asks you if she should deliver via caesarian section. What would you advise?

If Kathy remains UD throughout pregnancy and has no issues with compliance

5. Would IV zidovudine be indicated to be given to her during labor?
6. Would Kathy's child need to be on any ARVs after birth? If so, which one(s) and for how long?

CASE #3:
OCCUPATIONAL POSTEXPOSURE PROPHYLAXIS (PEP)

DOROTHY GLISSON, MSN, RN
BOWIE STATE UNIVERSITY

PATIENT HISTORY

Sheeba is a 23-year-old female. She is a new graduate registered nurse and sustained a needle stick injury while giving an IM injection to a patient who is HIV+. She reports the patient moved his arm backward and the needle remained exposed when it stuck her finger. She attempts to report to employee health following the incident for an evaluation but had to wait until the end of her shift due to another patient who coded immediately following the needle stick. Sheeba washed the area thoroughly with soap and water. Unfortunately, by the time she was able to get away, employee health was already closed for the day. She decides to do nothing for now but plans to go directly to employee health center when she returns to work the next day. Sheeba returns to employee health the next morning.

ASSESSMENT AND FINDINGS

- T 99.2 HR 100 RR 20 B/P 117/62 sats 99%
- Sheeba reveals during the visit she has been attempting to conceive and had a planned OB visit schedule in a few days. She returns to employee health for an initial evaluation.
- Pregnancy test negative, WNL: CBC, creatine, LFTs,
- Baseline HIV testing to document HIV is negative
- Prescribed: Tenofovir DF-emtricitabine plus raltegravir and follow up in three days
- Upon return for testing in 12 weeks, Sheeba +pregnancy test.

OPEN DISCUSSION

1. Management of Care after initiation of PEP
2. Delay in follow up post exposure implications
3. Resources to guide treatment since Sheeba if pregnant (Expert consultation can be obtained by calling the National Clinician Consultation Center's Post-Exposure Prophylaxis PEPline at 888-448-4911.)
4. Recommendations for follow up testing: presence of HIV antibodies at baseline and following the exposure at 6, 12, and 24 weeks. If, however, an HIV-1/2 antigen-antibody immunoassay is utilized for follow-up HIV testing, the testing can be performed at 6 and 16 weeks.
5. What are the treatment recommendations now Sheeba is + pregnancy test?

MODULE 6 – KEY POPULATIONS

CASE STUDY #4:
HIV AND OLDER ADULTS

ETHLYN GIBSON, DNP, MSN, RN-BC
HAMPTON UNIVERSITY

PATIENT HISTORY

Ms. Taylor is a 68-year-old African American female who had previously been living independently in her own low-income apartment in Jacksonville, FL until sustaining a cerebral vascular accident (stroke). Her only source of income is Social Security benefits of $828 per month and Medicare Part A & B.

Prior to her hospitalization Ms. Taylor started dating a family friend that she had known for years, they became quite close and the relationship became sexual. Because she was not worried about pregnancy, she did not think about using a condom, and because she has known her male family friend for so many years, she did not think to ask him about his sexual history. George died suddenly, and one-month later Ms. Taylor received the diagnosis of HIV, she was shocked!!! The patient never told her family of the diagnosis and she had not sought medical care prior to the stroke. Following an inpatient stay, three weeks in rehabilitation, she will need to move into her single adult daughter, recently recovering from COVID-19, along with two grandchildren ages 6 and 8.

PATIENT HISTORY CONT'D

The daughter is arriving for the discharge planning meeting which will involve a review of current medical diagnoses and current medication regimes. The mother is hesitant and fearful to divulge her "new" HIV diagnosis with her daughter for many reasons. Her CD4 count is 400 cells/mm^3 and her viral load is undetectable. During her hospital stay she has refused to start antiretroviral therapy, stating "I am too old to have HIV, I believe your blood testing is not right. I will just wait it out and you will see that my results will change, and I will get better. Please do not tell my daughter that I am HIV positive? Plus, I don't have the money to pay for all these additional medications for a diagnosis that may or may not be true?"

In addition to her HIV diagnosis, she also has the following chronic diseases hypertension, hyperlipidemia and type 2 diabetes. Her medication regime for these diagnoses are lisinopril 20 mg daily, simvastatin 20 mg daily, Metformin 1000 mg twice daily and Jardiance 25 mg daily.

MANAGEMENT AND OUTCOMES

1. Persons who are older than 50 years of age tend to underestimate HIV risk acquisition.
2. Review with patient the rationale for starting anti-retroviral therapy: (1) older persons with HIV have greater risk of developing non-AIDS complications than younger persons with HIV, (2) older persons with HIV often have a blunted immunologic response to antiretroviral therapy, (3) chronic HIV infection may cause accelerated development of comorbid conditions, and (4) persons older than 50 years may have significant risk of HIV transmission due to unfavorable changes in mucosal surfaces and infrequent use of condoms (due to lack of concern for pregnancy). the mortality benefit conferred by antiretroviral therapy was in large part due the prevention of cardiovascular, renal, and hepatic events (and not just due to the prevention of AIDS-related events), a finding particularly important with older patients.
3. The Adult and Adolescent ARV Guidelines recommend the same regimens for older adults with HIV as for younger persons with HIV. Any antiretroviral regimen that includes either ritonavir or cobicistat can potentially cause significant interactions with other medications.
4. Management of cardiovascular disease is important in adults with HIV. They typically experience higher rates of both myocardial infarction and hospitalization doe coronary heart disease compared to similar-aged adults without HIV.

OPEN DISCUSSION

1. Is there rationale for starting Ms. Taylor on antiretroviral therapy at her age?
2. What regime is typically prescribed for older adults with a CD4 count < 500
3. Should Ms. Taylor disclose her HIV status with her daughter, now serving as her caregiver, why would this be important?
4. Should there be any concerns regarding drug interactions and polypharmacy with the other medications she is taking for chronic disease management? How might the added costs for medications and ongoing management of the patient's HIV affect the financial burden in her daughter's home? What resources are available to assist this family?
5. Should Ms. Taylor be referred to Social Services for counseling and a medication assistance program to increase adherence?
6. Is Ms. Taylor a suitable candidate for clinical trials based on her age?
7. Should we be concerned with her diagnoses of cardiovascular disease and diabetes, why?
8. How do we address informing her daughter of her mother's infectious disease and managing any accidents that may occur in a home with young children?

CASE STUDY #5 :
HIV AND OLDER ADULTS

HERSHAW DAVIS, JR., MSN, RN
MORGAN STATE UNIVERSITY

PATIENT HISTORY

Patient is a 63 y/o old African American male presenting to the ED with generalized body aches fever and chills with night sweats for the past week. He has been taking Advil to relieve his symptoms. Endorses dysuria and foul-smelling urine for the past 2 weeks. Endorses associated dry cough and decrease exercise tolerance and being easily winded over the past week, along with easy bloating, no nausea, no vomiting, no diarrhea, no back pain, endorses dull flank pain on left side a week ago then came back this week to right flank currently resolved. Denies any sexual partners for several years, no IVDU. Last admitted to the hospital for PCP on 3 months ago. Attempted to re-established care with HIV clinic 2 months ago.

MEDICAL HISTORY

- **v/S**: BP 130/80 mmHg | Pulse 86 | Oral Temp: 37 °C (98.6 °F) | Resp 20 | SpO2 93% on RA
- **Home Medications:** azithromycin (ZITHROMAX) 600 MG tablet. Take 2 tablets (1,200 mg total) by mouth daily/dapsone 100 MG tablet.Take 1 tablet (100 mg total) by mouth daily.
- **Allergies**: NKA
- **Review of Systems**: Positive for fever, chills and fatigue. Negative for unexpected weight change. HENT: Negative for rhinorrhea, sore throat and trouble swallowing. Respiratory: Positive for shortness of breath. Negative for cough and chest tightness. Cardiovascular: Negative for chest pain, palpitations and leg swelling. Gastrointestinal: Negative for nausea, vomiting, abdominal pain, blood in stool and abdominal distention. Genitourinary: Positive for dysuria, urgency, frequency, flank pain and testicular pain (minimal testicular pain). Negative for decreased urine volume, discharge and penile swelling. Foul smelling urine. Skin: Negative for pallor and rash. Neurological: Negative for dizziness, light-headedness and headaches.
- **Past Medical/Surgical History:** HIV (human immunodeficiency virus infection/CD4 0f 48 from 2 months ago), Gonorrhea (Age 27), Pneumocystis jiroveci pneumonia (3 months ago)
- **Past Surgical History**:Tonsillectomy (Age 9)
- **Substance Abuse**: Smoking status: Never Smoker /Smokeless tobacco: Never Used / Alcohol Use 1.2 oz/week/2 Cans of beer per week/Comment: couple of drinks every couple of weeks/Drug Use: Non currently however some past marijuana years ago
- **Sexual Activity**: Partners: Male. Birth Control/ Protection: Condom/ Most recent partner 6 years ago; receptive anal.
- **Living Situation:** Lives alone. No family
- **Medical Insurance:** None. Lost insurance 5 years ago. Stopped taking all medication.

CHALLENGES AND BARRIERS

- Patient needs insurance
- Patient needs some assistance between PCP visits to help with adherence

MANAGEMENT AND OUTCOMES

- **Hospital Stay**: Patient was admitted for a UTI. Patient was treated IV antibiotics and told to continue with ciprofloxacin while at home. Patient's oxygen levels were low from dapsone. It was stopped and the patient was started on Bactrim for prophylaxis. Patient was also started on HIV treatment.

- **Medications**: Ciprofloxacin HCl (CIPRO) 500 MG tablet. Take 1 tablet (500 mg per dose) by mouth every 12 (twelve) hours for 3 days. /Darunavir (PREZISTA) 600 MG tablet. Take 1 tablet (600 mg per dose) by mouth 2 (two) times daily with meals/Dolutegravir (TIVICAY) tablet. Take 1 tablet (50 mg per dose) by mouth daily/Emtricitabine-tenofovir alafenamide, DESCOVY, 200-25 mg Tab. Take 1 tablet by mouth daily/Nystatin (MYCOSTATIN) 100,000 unit/mL suspension. Swish and spit 5mLs (500,000 Units per dose) 4 (four) times daily/Ritonavir (NORVIR) 100 mg Tab tablet. Take 1 tablet (100 mg per dose) by mouth 2 (two) times daily with meals/Sulfamethoxazole-trimethoprim (BACTRIM) 400-80 mg per tablet. Take 1 tablet by mouth daily. /Azithromycin (ZITHROMAX) 600 MG tablet. Take 2 tablets (1,200 mg per dose) by mouth every 7 days.

- **Insurance:** State AIDS Drug Assistance Program application was completed so patient could begin treatment.
- **Case Management**: Patient was offered a free hospital program where a nurse visits free of charge for 30 days post d/c to assist patient. Patient was also assigned a Community Social Worker to assist with community program, possible home services and transportation assistance.
- Patient was given a PCP follow up to continue the establishment of care in the Infectious Disease Clinic.

OPEN DISCUSSION

1. What education can we provide to assist with adherence to a medication regimen?
2. What support can the patient be given to assist with management of their comorbidities between PCP visits?
3. How can we encourage the patient to designate a durable power of attorney for health care and complete an advance healthcare directive or discuss end of life care?
4. Should this patient be recommended for an elderly support group?

Howard University National HIV Curriculum Integration Project (HNIP)

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