Oral PrEP Cases

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PrEP Case 1

The importance of early identification of HIV infection during PrEP use in high incidence settings
PrEP case 1

• 20 year old woman
• Sero-discordant relationship
• Initiated PrEP in a demonstration project in October 2017
• Despite good adherence she tested HIV antibody positive at M9 of PrEP use (2 third generation rapids)
• No reported seroconversion symptoms at any visits
• Retrospective testing showed fourth generation rapid testing positive at MONTH 1
• Sequencing confirmed a dominant wild type at month 1 with dual therapy resistance patterns emerging by MONTH 3
• Referred for ART and initiated on a tenofovir- sparing first line regimen (AZT/3TC/ EFV)
• Virally suppressed and doing well a year after seroconversion – still on first line therapy
PrEP Case 1

Confirmation of HIV infection

- Seroconversion confirmed by PCR at M9 visit
- Viral load 31730 copies/ml
- No screening or enrolment samples were stored
- Retrospective testing on stored samples showed increasing viral load from M1
- Retrospective testing using a 4th generation rapid (Alere HIV combo) was positive from M1

PrEP Case 1

- Researchers noted that all remaining participants on study were tested with both 3rd and 4th generation HIV antibody tests to avoid masked HIV test results

PrEP Case 1

Drug level monitoring

- TDF-DP levels were retrospectively measured from DBS samples
- Not done in real time
- Levels ranged from 1100 – 1200 fmol/punch corresponding to 6-7 pills per week

PrEP Case 1

HIV drug resistance testing

• M9: M184V + K65R
  3TC and TFV resistance
• No protease, integrase or NNRTI resistance
• Deep sequencing of M1 sample showed wild type virus with no mutations
• By M2 M184V had become dominant
• By M3 dual resistance was observed with detection of K65R mutations
• K65R mutation has increased susceptibility to AZT
PrEP Case 1

Partner Testing

• Partner was tested at M9 when the participant was diagnosed
• He was virally suppressed on first line treatment.
• Resistance testing not possible (virally suppressed)
• No mention in the paper about when the partner started his ARV’s
PrEP Case 1 – Lessons

• HIV antibody tests may not perform well in the presence of TDF – based PrEP

• 4th generation antigen/antibody tests may be more effective at diagnosing early HIV infection

• Important to check for seroconversion symptoms and maintain high index of suspicion in high incidence areas especially during initiation of PrEP

• Prompt resistance testing and initiation of appropriate ARV’s is crucial when the rapid comes back positive
PrEP Case 2

• A 23 year old man presents for an HIV test
• He is sexually active > 50 partners per year
• He has no medical history and takes no medications
• His last HIV test was a year ago
• He last had sex 2 weeks ago

How quickly can he start PrEP, assuming he does not have HIV?
PrEP Case 2 – Same day start

NYC Sexual Health Clinics, Jan 2017-June 2018

PrEP Candidates
N=1437

- Kidney disease history
- HBV infection history
- Acute HIV signs/symptoms

iPreP
N=1387 (97%)

- GFR<80 ml/min
- HIV NAAT positive

dPreP
N=50 (3%)

- GFR<60 ml/min
- HIV NAAT positive
- HBV SAg positive

Continue PrEP
N=1383 (>99%)

Stop PrEP
N=4 (<1%)

No PrEP
N=7 (14%)

PrEP Eligible
N=43 (44%)
Start Prep (35%)

Mikati. CROI 2019. Abstract #962
PrEP Case 2 – Same Day start – Take home

• Start PrEP as soon as possible
• Reduce barriers to starting
• Deferring PrEP often means that this is a lost opportunity to prevent an HIV infection.
PrEP Case 2 – Same day start: removing barriers to access

- Provide PrEP in non traditional venues (pharmacies, mobile vans, courier)
- Reduce barriers and targets harder to reach groups
PrEP Case 2 – Same day start: Medical issues

- Check for medical contra-indications
- Take a good history + examination
- Renal issues
- Concomitant medications
- Symptoms of acute HIV infection
- When was last potential exposure
- Window period concern – do you wait to initiate?
PrEP Case 2: PrEP vs PEP

Not for this case BUT consider...

• Possible recent HIV exposure
• Consider offering 3 drug PEP for 28 days
• Then convert to oral PrEP with a negative HIV test
• Also consider offering PrEP to anyone who is using PEP frequently
PrEP Case 3

• A 17 year old young woman presents with a vaginal discharge
• She is sexually active and says she sometimes uses condoms
• She is using Net- EN and her last HIV test was a year ago when she initiated contraception
• She asks about PrEP because her older sister is taking it

• Questions: Would you prescribe PrEP to an adolescent at risk for HIV infection? What special considerations apply to PrEP use in this population?
PrEP Case 3 – Adolescent PrEP

• ~ 4500 new HIV infections daily in South Africa
• A third are in AGYW aged 15-24
• PrEP can be offered to adolescents who weigh > 35kgs
• PrEP should be offered as part of a package of combination prevention
• Including STI treatment, counselling about effective use and stopping and starting PrEP, partner testing, condoms and contraception
PrEP Case 3 – Considerations: Consent

- Should be allowed to consent independently
- Provider needs to ensure that the adolescent understands the risks and benefits of taking PrEP
- Need to understand that there maybe stigma associated with taking PrEP
- Need to understand effective use and how PrEP will be integrated into daily life
  * Consider that persistence may improve with parent/family support
PrEP Case 3 – Considerations: Effective use

- Adolescents may struggle with taking pills and persistence
- May need more support: More frequent visits, peers, parents
- Discontinuations frequently seen in first month and can be related to side effects
- Can be managed with reassurance and symptomatic management
PrEP Case 3 – Take home

• Adolescents at risk for HIV should be offered PrEP
• May need more support than adults
• Providers need to ensure that the young person understands what PrEP is and can consent
Consortium formed to expedite and sustain access to antiretroviral-based HIV prevention products for women in sub-Saharan Africa.
PrEP resources
Thanks !