PrEP Updates Newsletter
Volume 4, Issue 1, September 2023
Infectious Diseases Group Practice (IDGP) PrEP Clinic

Editors:
Katherine Frasca, MD
Donna McGregor, NP
Alexa Van Epern, PharmD
Lisa Lawrence

In this issue:

Available PrEP Medications, Financial Assistance Programs & EPIC tools

- PrEP is Pre-Exposure Prophylaxis, medication to prevent HIV acquisition before an exposure
- There are three FDA approved medications for PrEP with Grade IA recommendation by the CDC:
    - Daily oral PrEP
        - **Emtricitabine 200mg/tenofovir disoproxil fumarate 300mg, F/TDF, Truvada®**
            - FDA approved for all genders at risk of sexually acquired HIV and also for HIV risk related to use of injection drugs
            - Available as a generic medication with no copay under most plans
        - **Emtricitabine 200 mg/tenofovir alafenamide 25 mg, F/TAF, Descovy®**
            - FDA approved for cisgender men & transgender women, not approved for cisgender women/vaginal sex/injection drug use
            - Brand only, copay assistance cards available
    - Injectable PrEP
        - **Cabotegravir 600 mg, Apretude®**, a long acting IM injection every 2 months
            - FDA approved for all genders at risk of sexually acquired HIV
            - Dosing: 600 mg IM, repeat in one month then every 2 months
            - Brand only, challenging to obtain regarding insurance coverage and availability, must be given in a clinic setting
- PrEP is a Grade A recommendation by the USPSTF for at-risk populations for HIV prevention
    - PrEP is required to be covered as a preventative care under most insurance plans
- PrEP and associated medical costs can be covered, even for uninsured patients, in Colorado
    - Colorado PHIP Program can cover medical visits, labs, STI testing
    - Gilead Advancing Access Program & Viiv Patient Assistance Program for medications
- IDGP TelePrEP Program**:** virtual clinic visits with free home testing kits for Colorado residents
    - If interested contact our IDGP PrEP coordinator at **303-724-8245**
- **UCHealth EPIC tools:** Did you know we have **PrEP SmartSets** w/diagnosis codes, medications, labs per CDC guidelines, sexual health vaccines and follow up?
    - Find the *SmartSet* icon directly under the Plan tab in a visit encounter or under the Triage tab in telephone encounter (note this is not located in the usual orders tab)
    - Search "*Oral or Injectable PrEP for HIV Prevention*", right click to favorite

DoxyPEP: Review of the Data

- As some individuals and clinicians may be using off-label use of doxycycline as bacterial sexually transmitted infection (STI) post-exposure prophylaxis, known as DoxyPEP, here is CDC guidance:
    - Data supports off-label use in cisgender men who have sex with men (MSM) and transgender women (TGW) with a recent STI, not effective in cisgender women
    - *Doxycycline 200 mg x 1 within 24-72 hours of condomless sex* was the regimen used in this study, do not use other antibiotics for PEP
    - Providers should counsel patients on the STI prevention benefits of doxy-PEP as well as potential adverse side effects: phototoxicity, GI upset, rare esophageal ulceration
    - Providers should continue to screen and treat for bacterial STIs in accordance with CDC's STI Treatment Guidelines and CDC's PrEP for the Prevention of HIV guidelines

- **Data supporting use:** DoxyPEP Study: randomized, open label trial by Luetkemeyer et al (*NEJM*)
    - DoxyPEP in cisgender MSM + TGW in Seattle and San Francisco with a recent STI→ found decreased incidence of gonorrhea, chlamydia & syphilis by two-thirds
        - *Dosing:* Doxy 200 mg within 24 hours and no later than 72 hours after any condomless sex (anogenital, vaginal or oral); no more than one dose in 24 hours
        - *Study population:* persons on HIV PrEP and persons living with HIV (PLWH) with an STI in the past year and report of condomless sex with one or more partners
        - *Methods*: randomized 2:1 to receive doxy-PEP or no PEP (standard-care) and followed with quarterly visits for STI screening
        - *Results:* Primary endpoint → incidence of at least 1 STI each quarter
            - Reduction of incident STIs was *65% overall* per quarter
                - STIs per quarter in those on DoxyPEP vs. no PEP, respectively:
                    - 10.7% vs 31.9% in PrEP cohort, NNT = 4.7
                    - 11.8% vs 30.5% in PLWH cohort, NNT = 5.3
            - Most common STI: gonorrhea, higher proportion of incident gonorrhea with tetracycline resistance in the doxy groups vs control groups
                - Suggests potential decreased protection against circulating tetracycline-resistant N. gonorrhoeae isolates
            - Microbiome impact: no significant difference in doxycycline-resistant S. aureus isolated in doxy vs control groups (5% and 4%, respectively)
                - Unclear what long-term impacts may be, warrants further study

- **Data against use**: no benefit of Doxy-PEP in cisgender women in Kenya in randomized OL trial
    - Population: 18-30 year old cisgender women on HIV PrEP, doxy-PEP vs standard of care
    - Primary outcome
        - Incidence of gonorrhea, C trachomatis or early syphilis quarterly for 1 year
        - 17.9% prevalence of STIs with C trachomatis being the most common

- **References:**

- Luetkemeyer, Anne F., et al. "Postexposure Doxycycline to Prevent Bacterial Sexually Transmitted Infections." *New England Journal of Medicine*, vol. 388, no. 14, 6 Apr. 2023, pp. 1296–1306, https://doi.org/10.1056/nejmoa2211934.
- Oware, Kevin, et al. "Characteristics of Kenyan Women Enrolled in a Trial on Doxycycline Post-Exposure Prophylaxis for Sexually Transmitted Infection Prevention." *Doxycycline Post-Exposure Prophylaxis for Prevention of Sexually Transmitted Infections among Kenyan Women Using HIV Pre-Exposure Prophylaxis: Study Protocol for an Open-Label Randomized Trial*, 1 Apr. 2022, https://doi.org/10.1101/2022.04.01.22273292. Accessed 27 Apr. 2023.

HAN
HEALTH ALERT NETWORK

Increase in Extensively Drug-Resistant (XDR) Shigellosis in the United States & Colorado

- **What?**
  - Shigellosis is an acute enteric infection that is an important cause of domestically acquired and travel-associated bacterial diarrhea in the United States.
  - Shigellosis usually causes inflammatory diarrhea that can be bloody and may also lead to fever, abdominal cramping, and tenesmus.
- **How?**
  - Shigella can be transmitted by the fecal-oral route, directly through person-to-person contact, and indirectly through contaminated food, water, and other routes. Outbreaks tend to occur among people in close-contact settings.
  - Shigella can also be transmitted sexually related to fecal-oral spread with certain sexual practices, as can other pathogens that cause infectious diarrhea.
- **Who?**
  - **Consider shigellosis in the differential diagnosis of acute diarrhea**, especially for patients at higher risk for Shigella infection:
    - Young children
    - MSM
    - People experiencing homelessness
    - International travelers
    - Immunocompromised persons
    - People living with HIV
- **Diagnosis and treatment:**
  - Diagnosis is by *Stool GI PCR* (UCHealth lab) or stool culture.
  - Infections are generally self-limiting; however, antimicrobial treatment may be indicated to prevent complications or shorten the duration of illness.
  - In 2022, about 5% of Shigella infections reported to CDC were caused by XDR strains (resistant to azithromycin, ciprofloxacin, ceftriaxone, TMP-SMX, and ampicillin) compared with 0% in 2015--- prompting a CDC HAN alert in February of 2023.
  - Colorado has seen increasing rates of Shigella over the past five years, with 373 cases (32 XDR cases) reported in 2022. Shigella is a reportable condition in Colorado and all culture or PCR positive cases of Shigella must be reported to CDPHE.
- **If shigellosis is suspected:**
  - Ask about relevant exposures, sexual activity, housing status, and international travel.
    - If suspicious for sexually acquired shigella, screen for STIs & HIV.
  - Most patients recover from shigellosis without antimicrobial treatment, those who do not improve without treatment, are immunocompromised, or have severe disease warrant treatment with antibiotics.
  - Obtain a stool culture and request anti-microbial susceptibility testing for patients who will require antimicrobial treatment, refer suspected XDR cases to Infectious Diseases.

- **Patient Counseling for Shigellosis**
    - Stay home from school or from healthcare, food service, or childcare jobs while sick or until the health department says it's safe to return.
    - During diarrhea and for 2 weeks after it ends:
        - Abstain from sex (anal, oral, penile, or vaginal)
        - Practice meticulous hand hygiene
        - Do not prepare food for others, if possible
        - Stay out of recreational water, including swimming pools, hot tubs, water playgrounds, oceans, lakes, and rivers
        - Closely follow safer sex practices for at least 2 weeks after resuming sex to prevent the spread of *Shigella* bacteria that may remain in stool

***Source: CDC HAN February 2023**

Mycoplasma genitalium: Testing & Treatment Updates

- CDC STI 2021 Guidelines address recommendations for testing and treatment of an organism that can be sexually transmitted and is often multi-drug resistant, *Mycoplasma genitalium.*
- **Symptoms:** predominantly causes infection in the genitourinary tract and can cause persistent or recurrent non-gonococcal urethritis (NGU), cervicitis and pelvic inflammatory disease (PID).
    - Consider testing in patients with persistent or recurrent STI or vaginitis symptoms who have had a negative work up or treatment for typical pathogens.
        - Drug resistance is increasingly with *M. genitalium* and macrolide-resistance testing is recommended if available (a send out lab).
- **Diagnosis**: FDA-cleared Nucleic Acid Amplification Tests (NAATs) are recommended for detection of *M. genitalium,* as it does not usually grow in routine cultures.
    - UCHealth lab now offers this test in house with a faster turnaround time of 24-72 hours, than our prior send out test which could take a week to return!
        - *Name of lab: Mycoplasma Genitalium* Amplification (aka mgenamp)
        - *Accepted specimens:*
            - **Urine:** HOLOGIC Aptima® **Urine Specimen Collection Kit**.
                - Also, acceptable: 2 mL of urine in a Clear Top (non-additive, sterile container) received in lab within 24 hours of collection.
                - First morning, non-clean catch urine specimen preferred.
            - **Genital:** HOLOGIC Aptima® **Unisex Swab Specimen Collection Kit** *-or-* Aptima® **Multitest Swab Collection Kit**.
                - For persons with a vagina, vaginal swab preferred to urine.
- **Treatment:** *Treatment requires dual therapy in sequence due to drug resistance*
    - CDC Guidelines are based on whether sensitivity testing is done/available (available only as a send out, therefore recommend the first treatment approach below):
        - **If macrolide resistant or sensitivity testing not available**: Doxycycline 100 mg orally 2 times/day for 7 days followed by moxifloxacin 400 mg orally once daily for 7 days.
        - **If sensitivity testing available and sensitive to macrolides:** Doxycycline 100 mg orally 2 times/day for 7 days, followed by azithromycin 1 g orally initial dose, followed by 500 mg orally once daily for 3 additional days (2.5 g total).