Post-exposure prophylaxis-in-pocket for HIV prevention

Maxime J. Billick MDCM FRCPC Jordana Sheps MD FCFP Isaac I. Bogoch MD MS FRCPC DTM&H

Tremendous advances have been made in HIV prevention, including preexposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP). Both modalities use antiretroviral (ARV) drugs to reduce the risk of HIV acquisition. Preexposure prophylaxis is a proactive approach, usually consisting of a 2-drug medication combining tenofovir disoproxil fumarate and emtricitabine taken either daily or in an event-driven ("on-demand") manner for anticipated sexual events.[1] In contrast, PEP is a retroactive approach that prevents HIV by initiating ARVs within 72 hours of a potential exposure. Post-exposure prophylaxis consists of 3 medications taken for 28 days, and patients typically present to an emergency department (ED) or urgent care centre to obtain a prescription or starter kit following exposure.[1] However, important barriers to HIV prevention care remain, including medication side effects, medication cost, pill burden, stigma, knowledge gaps, and wait times in EDs and in urgent care centres.[2]

Post-exposure prophylaxis-in-pocket (PIP) is an HIV prevention modality for those with infrequent, and often unanticipated, HIV exposures.[3-5] Individuals who have few (ie, 0 to 4) potential HIV exposures per year are provided with a full 28-day course of guideline-approved PEP prior to an exposure occurring.[3,4] They are counselled on when to self-initiate medications after a potential exposure and to seek follow-up care within 7 days on a less urgent basis.[3,4] This approach avoids long and often stressful ED or urgent care visits, and it provides patients with agency over HIV prevention. Proactive ARV prescribing allows time for referrals to social workers or community partners to help navigate any potential financial barriers.

Examples of people who use PIP include sex workers, who might not be able to negotiate condom use with clients; men who have sex with men with unknown serostatus who are mostly using condoms but have infrequent or unanticipated exposures; and people who inject drugs who usually do not share paraphernalia.

Advance considerations

Many individuals using PIP have transitioned to it from PEP or PrEP care. It is important to clarify risk factors for HIV acquisition, including history of sexually transmitted infections (STIs) and prior PEP or PrEP use.[1] We also explore risk factors related to sexual activity or drug use (eg, receptive or insertive anal sex, shared injection paraphernalia, sex with those of unknown HIV serostatus or detectable viral load) and the frequency of potential HIV exposures. We consider patients who have up to 4 exposures per year as potential candidates for PIP use.[3]

It is relevant to clarify the patient's medical history, including the presence of renal disease, metabolic bone disease, liver disease, or obesity.[1,6] While PIP is not prohibited for patients with these diagnoses, medications for these conditions might require adjustment if PIP is also prescribed. Presence of conditions that impair absorption of oral medications (eg, gastric bypass surgery, short bowel syndrome, uncontrolled inflammatory bowel disease) should also be clarified, due to the potential for decreased efficacy of ARV medications if they are not absorbed fully in the gastrointestinal tract. Common medications that interact with ARVs include antiepileptic medications (eg, phenytoin, carbamazepine), rifamycin-based medications, proton pump inhibitors, and St John's wort. Consultation with a practitioner with advanced expertise in treating patients with HIV might be warranted if the patient has a history of these conditions or is taking medications that could interact with PIP and is unable to discontinue them safely.

Baseline tests

Before PIP is prescribed, the following baseline tests and vaccinations should be administered:

- complete blood count;
- serum creatinine level;
- liver enzyme levels (aspartate aminotransferase, alanine aminotransferase, alkaline phosphatase, bilirubin);
- β-human chorionic gonadotropin levels (if appropriate);
- screening for STIs (syphilis serology as well as chlamydia and gonorrhea testing using pharyngeal, rectal, and urine samples);
- HIV testing;
- vaccination for mpox if clinically indicated; and
- screening for hepatitis A, B, and C infections and vaccination against hepatitis A and B if the patient is nonimmune.[1]

Patients with positive STI or HIV test results should be treated and linked to care in accordance with local guidelines. For those with abnormal bloodwork results, consultation with a specialist might be warranted prior to PIP initiation.

Prescription of PIP

Our first choice for PIP is the 3-drug combination medication of 50 mg of bictegravir, 200 mg of emtricitabine, and 25 mg of tenofovir alafenamide taken as a single pill daily for 28 days, as per guideline recommendations.[1,7]

For individuals who might become pregnant, we prescribe instead the once-daily regimen of the following 3 medications: 50 mg of dolutegravir in addition to the co-formulation of 300 mg of tenofovir disoproxil fumarate and 200 mg of emtricitabine, given its safety profile in those of childbearing potential.[3,4] We counsel patients about typically mild and self-limiting side effects that might include diarrhea, nausea, and headache.[1]

We also advise patients about the importance of initiating ARV medications as soon as possible, and within 72 hours, after a potential HIV exposure. For this reason, we encourage patients to fill their prescriptions prior to exposure occurring and to keep the medications in a safe, accessible location. Patients are asked to follow up in clinic within 7 days of an exposure for baseline HIV and STI screening and for linkage to additional care if needed (eg, further testing or psychosocial support if they have experienced sexual assault).

Follow-up

We see patients who take PIP approximately every 6 months if they have had no exposures or as needed if they have had a potential exposure.

At routine follow-up visits we repeat STI screening for HIV, syphilis, hepatitis C virus, chlamydia, and gonorrhea infection. We also inquire about frequency of potential exposures and whether PIP had been used without clinic follow-up, and together we determine whether PIP is still the most appropriate HIV prevention modality. If patients have more than 3 or 4 exposures per year, we discuss whether daily or on-demand PrEP would be a better option for them.[3,4]

Conclusion

Post-exposure prophylaxis-in-pocket is an HIV prevention strategy targeted to those who have lower frequencies (ie, 0 to 4) of higher-risk, and typically unanticipated, HIV exposures per year. The PIP strategy has the benefit of decreasing enormous barriers to PEP care, allows patients time to navigate any aspects related to financial coverage in advance, and provides patients with autonomy and agency over their care.

Dr Maxime J. Billick is a general internist in Toronto, Ont. **Dr Jordana Sheps** is a family physician in Toronto with a focus on women's health and sexual health. **Dr Isaac I. Bogoch** is Associate Professor in the Department of Medicine at the University of Toronto, a staff physician in the Division of Internal Medicine and Infectious Diseases with the University Health Network in Toronto, and the lead physician at the HIV Prevention Clinic at Toronto General Hospital.

Competing interests

Dr Isaac I. Bogoch consults to the Weapons Threat Reduction Program, Global Affairs Canada.

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