

Management of Non-Occupational Exposure to HIV (reviewed 12/8/2005)

The CDC released guidelines 1/21/2005 that recommend providing antiretroviral medication following non-occupational exposure to HIV. The preferred regimens recommended for non-occupational post-exposure prophylaxis (nPEP) are identical to those recommended by the Department of Human Health Services for initial therapy in HIV-infected patients (e.g. lopinavir/ritonavir + AZT + (3TC or FTC) or efavirenz + (FTC or 3TC) + (AZT or tenofovir). The CDC document can be found at:

<http://aidsinfo.nih.gov/Guidelines/GuidelineDetail.aspx?MenuItem=Guidelines&Search=Off&GuidelineID=11&ClassID=3>

I Introduction

Studies that show PEP is feasible following unsafe sex or needle sharing¹, but there is no published proof of efficacy of PEP in this setting. Therefore, one must extrapolate from the experience with PEP in occupational exposures and vertical transmission to support the use of PEP for non-occupational exposures. There are a number of differences that distinguish the uses of ARVs for these purposes and the proposed use in non-occupational exposures. Often, the time to presentation in non-occupational exposures is significantly longer than in occupational exposures. Secondly, non-occupational exposures may involve multiple exposures over time rather than one discrete exposure. One frequently cited concern is that providing PEP for non-occupational exposures may promote unsafe behaviors. However, this has not been shown to be true when studied.²

II Risk of transmission

In instances when the source patient is HIV-positive, the risk of acquiring HIV from a single intravenous needle exposure is estimated at 0.67%. The risk of HIV acquisition per episode of receptive anal intercourse is estimated at 0.5% and the estimated risk per episode of insertive anal intercourse is 0.065%. The risk of HIV acquisition per episode of receptive vaginal intercourse is estimated at 0.1% and the estimated risk per episode of insertive vaginal intercourse is 0.05%. As a point of comparison, the risk of HIV following a percutaneous needle stick is 0.3%. In other studies, it has been shown that HIV is transmitted more efficiently sexually when the source has a high viral load³.

III Considerations for treatment

Primate studies demonstrate that the animals are viremic by day 5 after intravenous injection with SIV suggesting that PEP should be administered within a few days post-exposure to prevent infection. However, similar studies in humans have obviously not been performed, and it is not known how long after exposure that initiation of PEP would no longer be effective. The CDC guidelines do not recommend providing nPEP if care is sought >72 hours following exposure. The CDC does not recommend nPEP if the exposed patient continues to engage in high-risk behavior, because nPEP would reduce only slightly the patient's long term probability of acquiring HIV. In these patients, risk reduction counseling is a more effective use of resources than nPEP.

In choosing PEP regimens following non-occupational exposures, the CDC recommends the identical preferred and alternative regimens as the DHHS recommends for treating ARV-naïve HIV-infected patients. One option is efavirenz combined with [3TC or FTC] plus [AZT or tenofovir]. Alternatively, kaletra can be combined with AZT and [FTC or 3TC]. If available, information regarding the source patient's virus (e.g. resistance pattern and treatment history) should be considered when making treatment decisions for the exposed patient. It is to be noted that for occupational exposures to HIV the CDC recommends risk stratifying the exposure and offering a two drug "basic" regimen for lower risk exposures and a 3 drug "expanded" regimen for higher risk exposures. This approach was not adopted for nPEP, because, according to the CDC, this risk stratification would be too complex for non-occupational exposures to HIV.

If the HIV status of the source patient is unknown the CDC recommends making decisions regarding nPEP in a case-by-case fashion based on the probability of the source patient having HIV.

At Madison, if PEP is initiated, there are standing orders for laboratory monitoring for non-occupational exposures that should be included in the patient's paperwork. For more details on the protocol for lab monitoring, etc. following a non-occupational exposure please see the section "PEP protocol" in the protocol section on this webpage.

IV Note on dosing of antiretrovirals for the inexperienced HIV provider:

lopinavir/RTV (Kaletra) - 2 tablets (400mg/100mg) po twice daily
emtricitibine/tenofovir (Truvada) - 1 tablet (200mg/300mg) po once daily
zidovudine/lamivudine (Combivir) - 1 tablet (300mg/150mg) po twice daily
efavirenz (Sustiva) - 1 tablet (600mg) at bedtime

V References

¹ Kahn, JO et al, Feasibility of postexposure prophylaxis (PEP) against human immunodeficiency virus infection after sexual or injection drug use exposure: the San Francisco PEP Study, JID 183:707-14.

² Martin JN et al, Use of postexposure prophylaxis against HIV infection following sexual exposure does not lead to increases in high-risk behavior, AIDS 2004 Mar 26;18(5):787-92.

³ Quinn TC et al, viral load and heterosexual transmission of human immunodeficiency virus type 1, NEJM 342:921-929.