Pediatric HIV Management for the Pharmacist

Post-test/Rationale

1. Which of the following are TRUE statements about PEP:
   A. PEP is pre-exposure prophylaxis
   B. PEP is post-exposure prophylaxis
   C. PEP should be started within 72 hours of exposure to be effective
   D. B and C***

Correct Answer: D

Post-exposure prophylaxis (PEP) can be defined as the use of combination antiretroviral therapy (ART) to prevent infection after a single high-risk exposure to HIV infection. It is most effective if started within 72 hours of exposure to HIV.

2. Which of the following is the most common mode of transmission of pediatric HIV infection:
   A. Mother to child transmission (MTCT)***
   B. Needlestick injuries
   C. Sexual transmission
   D. Sharing drug injection equipment with someone with HIV

Correct Answer: A

The most common mode of transmission of pediatric HIV infection is mother-to-child transmission (MTCT). Transmission can occur during pregnancy (intrauterine), during labor and delivery (intrapartum), or postnatal during breast-feeding.

3. The following statements about PrEP are TRUE:
   A. PrEP is recommended for HIV-negative sexual partners of HIV-positive individuals
   B. PrEP is pre-exposure prophylaxis
   C. Truvada (TDF + FTC) is approved for use as PrEP
   D. All of the above***

Correct Answer: D

Pre-exposure prophylaxis (PrEP) is recommended to prevent infection in people who are HIV-negative and at substantial risk for acquiring HIV infection. Tenofovir-emtricitabine is approved for use as PrEP.
4. Interventions to decrease the incidence of MTCT of HIV infection include which of the following:
   A. Testing of all pregnant women for HIV infection
   B. Use antiretrovirals (ARVs) to treat pregnant women who are HIV-infected
   C. Use of postnatal zidovudine for infants born to pregnant women who are HIV-infected
   D. All of the above***

Correct Answer: D

All of the above statements about the prevention of MTCT are true. These interventions have all contributed substantially to the decrease in number of cases of neonatal HIV infection.

5. Which of the following statements is FALSE about HIV infection:
   A. Children usually have a milder disease course than adults***
   B. Risk of opportunistic infections increases with decreasing CD4 T-lymphocyte counts
   C. The risk of transmission of HIV infection is highest during acute infection
   D. All infants diagnosed with HIV infection should be started on combination antiretroviral therapy (cART)

Correct Answer: A

Children are at the highest risk of rapid disease progression.

6. A newborn born to an HIV-infected mother is identified as being HIV infected. Which of the following statements is FALSE:
   A. Defer treatment until the CD 4 count is less than 500 cells/µL***
   B. Lopinavir-ritonavir should not be administered to infants younger than 42 weeks postmenstrual age
   C. ARV regimen should contain at least 3 medications, from 2 different classes
   D. Prophylaxis against Pneumocystis pneumonia (PCP) should be administered to all infants during the first year of life

Correct Answer: A

All infants diagnosed with HIV infection should be started on cART. It is not possible to predict which infants would have rapid disease progression.

7. Which one of the following statements about HIV drug resistance is FALSE:
   A. Resistance to HIV medications most often is a result of nonadherence
   B. Protease inhibitors (PIs) have a low barrier to resistance and failure develops rapidly with nonadherence***
   C. HIV drug resistance tests should be performed prior to initiating therapy and in patients with virologic failure
   D. Young adults with perinatal HIV infection frequently have extensive drug resistance and multiple drug resistance mutations
Correct Answer: B

PIs have a high barrier to the development of drug-resistance mutations and may be a good choice for patients with less than optimal adherence.

8. Which one of the following statements about drug-drug interactions with HIV medications is FALSE:
   A. The potential for drug-drug interactions with ARVs is significant because many of these agents are potent inducers or inhibitors of metabolism of other medications
   B. The non-nucleoside transcriptase inhibitors (NNRTIs) are generally considered enzyme inhibitors and increase the plasma concentrations of other medications***
   C. Cobicistat and ritonavir are potent inhibitors of cytochrome P450 (CYP)3A4 enzymes
   D. Over-the-counter medications, such as fluticasone, can interact with PIs and patients receiving PIs should be cautioned about using inhaled corticosteroids

Correct Answer: B

The NNRTIs are generally considered enzyme inducers and may cause significant decreases in plasma concentrations of other medications that are metabolized by CYP3A4 enzymes.

9. Ways to improve adherence include which of the following:
   A. Automatic refills
   B. Blister packs for medications
   C. Pill reminder phone apps
   D. All of the above***

Correct Answer: D

All of the above interventions can assist patient with medication adherence.

10. Challenges in the management of children with HIV infection include which of the following:
    A. Poor palpability of liquid formulations
    B. Issues with HIV diagnosis disclosure and secrecy
    C. Pill burden, difficulties with pill swallowing, and pill “fatigue”
    D. All of the above***

Correct Answer: D

All of the above are additional challenges in the management of children with HIV infection.