HIV Opportunistic Infections & Prophylaxis

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HIV Opportunistic Infections

Opportunistic Infections & Prophylaxis

Opportunistic Infections

- Infections that occur more frequently and more severely in immunocompromised individuals

Types of prophylaxis

- **Primary prophylaxis –** therapy to prevent onset of disease
- **Secondary prophylaxis –** (maintenance therapy) therapy to prevent relapse of treated opportunistic infection

HIV Opportunistic Infections

- **Respiratory**
  - Pneumonia (bacterial, pneumocystis)
  - Toxoplasmosis
  - Tuberculosis
  - Mycobacterium avium complex
- **Neurological**
  - Cryptococcosis (meningitis)
- **Oncological**
  - Lymphomas
  - Kaposi's sarcoma
  - Cervical cancer
- **Gastointestinal**
  - Aphthous ulcers
  - Candidiasis (oral, oesophageal)
  - Necrotising ulcerative gingivitis
  - HIV associated diarrhoea
- **Dermatological**
  - Herpes simplex ulcers
  - Herpes zoster (shingles)
  - Papular pruritic eruption
  - Seborrheic eczema
  - Fungal infections (skin, nails)

Isoniazid Prophylaxis

- **Isoniazid preventive therapy (IPT)**
- **Prevents**
  - Tuberculosis (TB)
- **Indications**
  - HIV any CD4
- **Contraindications** (exclude active TB)
  - Active cough
  - Fever
  - Night sweats
  - Weight loss
- **Doses**
  - Start IPT with ARVs
  - Isoniazid 300mg PO daily for 12 months
  - Pyridoxine 25mg PO daily for 12 months
- **Adverse effects**
  - Hepatotoxicity – nausea, vomiting, jaundice, brown urine, RUQ abdominal pain

Cotrimoxazole Prophylaxis

- **Prevents**
  - Pneumocystis pneumonia (PCP)
  - Bacterial pneumonia
  - Toxoplasmosis
  - Isosporiasis
- **Indications**
  - CD4 <200 cells/mm^3
  - HIV stage 2/3/4
- **Dose**
  - Cotrimoxazole 160/800 mg PO daily
  - Until CD4 >200 cells/mm^3 for >6 months
- **Adverse effects**
  - Hypersensitivity – maculopapular rash

Fluconazole Prophylaxis

- **Prevents**
  - Cryptococcosis (meningitis)
- **Indications**
  - CD4 <100 cells/mm^3
  - CRAG+
- **CD4 <100 cells/mm^3 → Serum Cryptococcal antigen (CrAg) test**
  - Serum CrAg negative → Start ART
  - Serum CrAg positive → LP to exclude cryptococcal meningitis

Serum CrAg+ & CSF CrAg–
No Meningitis Symptoms

Induction Phase

- Fluconazole 1200mg PO daily for 2 weeks

Consolidation Phase

- Fluconazole 800mg PO daily for 2 months
- Start ART after 2 weeks of antifungal treatment

Maintenance Phase

- Fluconazole 200mg PO daily for 1 year (until CD4 >200)

Serum CrAg+ & CSF CrAg+
Cryptococcal Meningitis

Induction Phase

- Amphotericin B 1 mg/kg/day
- Fluconazole 1200mg PO daily for 2 weeks

Consolidation Phase

- Fluconazole 800mg PO daily for 2 months
- Start ART after 4-6 weeks of antifungal treatment

Maintenance Phase

- Fluconazole 200mg PO daily for 1 year (until CD4 >200)

Pre-Exposure Prophylaxis (PrEP)

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- Definition: Use of antiretrovirals by HIV-negative individuals before potential exposure to HIV in order to prevent them from acquiring HIV

Indications

- HIV negative – with no suspicion of acute HIV infection
- Substantial risk of HIV infection
- Willing & able to adhere to regimen
- Prepared to undergo 3-monthly testing
- No contraindications to agents which are to be used

Contraindications

- HIV positive
- GFR <60
- Concurrent use with nephrotoxic agents
- Young individuals with a weight <35kg
- Under age 15 (with a Tanner stage <4)
- Unwilling to adhere to PrEP

Work-Up

- Voluntary counselling & testing (VCT)
- Creatinine clearance
- Hepatitis B surface antigen
- Pregnancy test
- RPR
- Syndromic STI screening

Initiation

- 1 month supply
  - Tenofovir 300mg PO daily
  - Emtricitabine 200mg PO daily

- Counselling
  - HIV prevention
  - STI prevention
  - Pregnancy risk
  - Intimate partner violence

Ongoing Care

- At first visit
  - HIV test
  - STI screen
  - Counselling (including screening for intimate partner violence)
- 3 monthly review
- Repeat creatinine clearance at 7 month visit – thereafter annually

Post-Exposure Prophylaxis (PEP)

HPCSA Annexure H

- Universal precautions
- Education programmes
- Protocol from employer
- Insurance: staff and students

Testing for HIV

Documentation

Exposure

- HIV positive, negative, unknown
- Occupational
- Non-occupational – inadvertent, sexual assault

Exposure

Occupational

- Needlestick/"sharps" injury
- Contact with skin & mucous membranes
- Consider all fluids hazardous
- Doctors, dentists, nurses, physiotherapy, paramedics, auxiliary staff etc.

Non-Occupational

- Sexual assault
- Consensual sex
- "Sharps"
- Other
  - Breastmilk (wet nursing, breastmilk in hospital)
  - First-aid
  - Contact sports
  - Human bites
  - Pre-mastication of food

Baseline Bloods

- FBC
- U&E
- Hepatitis B surface antigen & Hepatitis B surface antibody
- Hepatitis C antibody
- RPR
- HIV rapid **plus** ELISA

- Documentation

Which Agents?

- Up to 72 hours – preferably in first 2 hours
- 3 agents should be used for 1 month
- Adults (TLD)
  - Tenofovir 300mg PO daily
  - Lamivudine 200mg PO daily
  - Dolutegravir 50mg PO daily

Exceptions

- Pregnant women <6 weeks
  - Tenofovir 300mg PO daily
  - Emtricitabine 200mg PO daily
  - Atazanavir/Ritonavir 300/100mg PO daily **or**
    Lopinavir/Ritonavir 200/50mg 2 tabs PO BD
- If patient known to be failing tenofovir-based regimen give for 1 month
  - Zidovudine 300mg PO BD
  - Lamivudine 150mg PO BD
- Neonates
  - Consult paediatric infectious diseases specialist
- Children
  - Zidovudine
  - Lamivudine
  - Lopinavir/Ritonavir

Monitoring

- 2 weeks
  - U&E if on tenofovir
  - FBC if on zidovudine
- 6 weeks
  - ELISA
- 4 months
  - ELISA

See national guidelines for hepatitis B & C, syphilis etc.

References

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