Side-Effects from Antiretroviral Therapy and Switch Strategies

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Learning Objectives

1) Identify Common Short-term side effects seen with ARV therapy
2) Provide Effective Patient Counseling
   - Including Remedies
3) Describe switch strategies if need to adjust ARV regimens
Case Presentation

- 25 yo man recently diagnosed with HIV
  - CD4 789
  - VL 3459 (repeat is 6895)
- Treated for Latent Syphilis
- Worried may have recurrent herpes
- Has spent last 6 months considering starting ARV therapy
  - Lives with parents who are unaware of HIV diagnosis
- Started Acyclovir 2 months ago, no other meds
- Concerned about side-effects from ARV therapy
Nausea

• Common Short-Term side-effect starting ARV therapy
• Although related to any potential therapy
  – Commonly seen with:
    • Zidovudine
    • Ritonavir-boosted PI
    • elvitegravir/cobicistat
Pt Counseling Considerations: Nausea

• Take medications with food (if appropriate)
• May continue for days – weeks, but resolves over time with good adherence
• Ginger-containing foods/beverages/snacks offer natural remedies
When to Call Provider

• Nausea continues for weeks despite self-management strategies
• Missing doses of ARV due-to nausea
• Nausea is accompanied by other systemic symptoms (fever, rash, abdominal pain)
Management Strategies

• Prescription Antiemetics
  – Prochlorperazine or Promethazine
  – Ondansetron
  – Dronabinol vs Medical Marijuana
    • Particularly helpful if patients also having anorexia symptoms
  – Lorazepam 0.5mg 30 min prior to dose
    • Particularly helpful if anticipatory nausea symptom
Hyperbilirubinemia

• Atazanavir inhibits UGT1 – responsible for glucuronidation of bilirubin
• Leads to increased levels of unconjugated bilirubin
• Higher atazanavir AUC associated with higher bilirubin levels
Patient Counseling

• Increased bilirubin is not a sign of toxicity
• Increased bilirubin is expected and a sign of adherence
• May result in clinical jaundice w/in 1-10 days of start
• Use patient-specific preference to decide if need to stop therapy
• Reversible upon discontinuation
CNS Effects

- Efavirenz has been associated with a variety of CNS effects
  - Dizziness
  - Mood changes
  - Confusion
  - Depression
- Studies suggest >50% of pts on efavirenz may describe symptoms
Patient Counseling

• Symptoms most notable first days/weeks of therapy
• Will abate with continued adherence
• Take before bedtime to minimize effects
• Take on empty stomach
  – Food – high fat food – increases efavirenz levels and side-effects
• Resolve with discontinuation
Common Short Term Side Effects
Is Your Medication Helping or Hurting You?
Long-Term Side-Effects

• Renal Toxicity
  – Tenofovir

• Dyslipidemia
  – Protease Inhibitors (Ritonavir Boosted)

• Kidney Stones
  – Atazanavir
Switch Strategies

• Consider urgency of need to switch
  – Prefer to move from one regimen to the next without gaps
  – Prefer to maintain single trip to pharmacy each month

• Consider pharmacokinetics of ARV if discontinue with gaps
  – NNRTI have long half-lives vs NRTI
  – Risk NNRTI resistance
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Case Presentation

• Considered options of preferred regimens over 9 month period
• 1 month ago started efavirenz/tenofovir/emtricitabine FDC
• Described dizziness, “heat”, strange dreams over first few weeks
• Taking ARV 2 hours after last meal and before bedtime
• Symptoms have resolved and pt continues regimen
Case Presentation 2

- 62 yo man with HTN, CRI
- HIV well controlled for years on abacavir/lamivudine FDC, atazanavir, ritonavir
- Routine UA – hematuria
- Atazanavir-related kidney stones
  - Pt asymptomatic
- At next refill, discontinue atazanavir, start darunavir, continue ritonavir, abacavir/lamivudine FDC
Case Presentation 2 Cont

• Discontinue zidovudine/lamivudine, atazanavir, ritonavir
• Start rilpivirine/tenofovir/emtricitabine FDC
Summary

• Side-effects can affect adherence to therapy
• Effective patient counseling and support can often lead to continuation of effective therapies
• Many side-effects resolve with discontinuation
• Thoughtful switch strategies can help adherence and optimize pharmacy services
References

• HRSA Clinical Guide
  – [http://www.aidsetc.org/aidsetc?page=cg-00-0](http://www.aidsetc.org/aidsetc?page=cg-00-0)