Gender Affirming Hormone Therapy and Antiretrovirals

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Disclosures

- Honorarium from Liverpool University, IAS 2023
- Honoraria from Gilead, ViiV, MSD
- Advisory boards Gilead, ViiV
“There has probably never been a population both more heavily impacted and less discussed at scientific meetings than the transgender population around the world.”

Dr. Tonia Poteat, Conference on Retroviruses and Opportunistic Infection (CROI), 2016
Key Considerations

- Trans people are likely to prioritise GAHT over ART
- Both are likely to be lifelong therapies
- There are only a few important interactions
- Type of oestrogen is important
- Access to GAHT can be challenging
- Self-sourcing of hormones is common
Clinical Scenario

- Alia, 55 year old Colombian trans woman with HIV
- Attends sexual health clinic for first time
- “just need my antiviral scripts”
- Had been having her medications posted to her but last shipment never arrived
PMHx

- HIV Dx 1998
  - Commenced ART 2004, several Rx interruptions
  - No history of VF (no GRA available)
  - Undetectable VL since 2009 (letter from previous dr)
- Asthma, frequent exacerbations
- GAHT intermittently since 1995
- Breast augmentation 1997
- Smokes 15 cigarettes/day
Medications

- ART: Tenofovir DF/emtricitabine + atazanavir/ritonavir
- GAHT: (sourced without prescription)
  - Microgynon 50 (ethinyl oestradiol 50mcg) 2/day
  - Spironolactone 100mg 1-2/day intermittently
- Fluticasone/vilanterol inhaler

Red flags???
# Liverpool Website DDI Checker

- **Do Not Coadminister**: Red Circle
- **Potential Interaction**: Orange Square
- **Potential Weak Interaction**: Yellow Triangle
- **No Interaction Expected**: Green Diamond

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<th>ATV/r</th>
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<td>Ethinylestradiol</td>
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Plan

• Risk of steroid-induced Cushing’s
• Decision to switch off boosted regimen
• Commenced bictegravir/TAF/FTC
• VL remained undetectable 4/52 after switch
One Month Later.....

- Been visiting family in Colombia
- Dyspnoea and slight chest pain 3 days after arrival home
- Usual asthma puffers not providing relief

...what has happened?
Investigations

- CTPA – *multiple bilateral PTEs*
- Venous duplex doppler scan – extensive DVT L calf
- CXR hyperinflated
- VL <20 copies/ml
- CD4 890 (43%)
- Oestradiol 42, Testosterone 2, LH <5
## Contraceptive Treatment Selector

Charts revised March 2023. Full information available at www.hiv-druginteractions.org

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*Notes:*
- a: Usually not used in women.
- b: Consider alternative contraception for women as increased risk of adverse effects.
- c: No interaction data available.
- d: No clinically significant interaction observed.
- e: Increased risk of adverse effects in women.

*For personal use only. Not for distribution.*
• VTE risk depends on type of oestrogen, total dose and mode of delivery

  • Oral ethinyl oestradiol
  
  • Oral oestradiol valerate
  • Transdermal oestradiol
    • Patches
    • Gel
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**Interactions with CAB/RPV long acting injections**
Pharmacokinetic interactions shown are mostly with RPV.
QT interactions shown are with RPV.

**Interactions with Lenacapvir**
Residual LEN may affect exposure of sensitive CYP3A4 substrates

**Interactions with Abacavir (ABC), Lamivudine (3TC), Tenofovir-DF (TDF) or Zidovudine (ZDV)**
ABC: No clinically relevant interactions expected.
3TC: No clinically relevant interactions expected.
TDF: No clinically relevant interactions expected.
ZDV: No clinically relevant interactions expected.
New Plan!

- Cease Microgynon 50
- Anticoagulation with a NOAC
- Switch to transdermal oestradiol gel
- Counsel re smoking cessation
- Test for coagulopathies
- Ask a haematologist ?lifelong anticoagulation
Six Months Later...

- Alia’s sister aged 47 diagnosed with breast cancer
  - BRCA2+
- She is worried about her risk
- “should I be tested doc?”
- She’s never had a mammogram or a PSA test
Feminising GAHT and cancer risk

- Increased risk of breast cancer
- 47-fold increase cf. cis men
- Still 3x < than cis women
- Decreased risk of prostate cancer but ALSO lowers the PSA

BRCA+ Risks

• Breast cancer – 45-70% absolute risk (in cis women)
  • Prophylactic mastectomy can be offered
  • Followed by breast reconstruction

• Prostate cancer – 20-40% absolute risk
  • Regular PSA testing +/- prostate exam
Next steps for Alia

• Referral for genetic counselling re BRCA testing
• If positive then best managed within an MDT with expertise from clinicians experienced in GAHT, and may offer:
  • Mastectomy + reconstruction or regular mammograms
  • Regular PSA and DRE
  • Consider reduction in oestradiol dose in consultation with Alia
• If negative then offer routine screening as above
Takeaway Messages

• VTE is actually not that common
• When switching ARVs, think about ALL medications affected
• Cancer screening in trans people on hormones requires an individualised approach
• Linking access to GAHT and ART will help the clinician to be more aware of prevent potential DDIs
Thank You

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