

# Hormones and ART Interactions

Dr Nneka Nwokolo

Consultant in HIV/GUM

56 Dean Street, Chelsea and Westminster  
Hospital NHS Foundation Trust

# Case

- BA
- Age 35
- Originally from Senegal
- Diagnosed HIV +ve 2001 in pregnancy
- CD4 at diagnosis 402 cells/ $\mu$ L
- VL 40,000 copies/ml

# Treatment

- Started on treatment with ABC/3TC/NFV
- Continued till birth of child, then stopped mid 2002
- CD4 count on stopping 530 cells/ $\mu$ L
- VL <50 copies/mL

# What happened next?

- Restarted treatment March 2004 because feeling non-specifically unwell
- CD4 302 cells/ $\mu$ L
- VL 100,000 copies/ml
- ABC/3TC/Kaletra
- Intolerant of Kaletra

# Next

- Kaletra switched to NFV
- Continued this till became pregnant again in 2007
- Switched to atazanavir/r
- Took this till end of pregnancy but unhappy with jaundice
- Switched to darunavir/r

# Currently

- ABC/3TC/DRV/r
- Tolerating this well
- CD4 650 cells/ $\mu$ L
- VL <20 copies/ml

# Social history

- Same man is father of her 2 children; HIV positive; lives abroad; no longer together
- New partner; serious relationship
- Does not want any more children
- Does not want to use condoms

# What are her contraceptive options?





# Options

- Does not want an intrauterine method
- Does not want Depo-Provera
- Interested in pill and potentially the vaginal ring (CHC)

# Combined HC

- Ethinylestradiol (EE) – synthetic oestrogen

+

- Progestogen – many different kinds
- Pill, patch, ring, (injection)

# NuvaRing

- Ethinylestradiol

+

- Etonogestrel

# Progestogen only contraceptives

Various progestogens derived from progesterone or testosterone

- Pill
- Implant
- Injection

CHC vs POP?

Can she have either of these?

# PI interactions

- EE and progesterone metabolized by CYP and glucuronidation
- Darunavir – inhibits CYP
- Ritonavir – inhibits CYP and induces glucuronidation
- **CANNOT GIVE CHC WITH THIS**

Would you switch her  
antiretroviral treatment?

What do you need to know?



# What do you need to know?

- Wild type virus throughout
- Treatment interruptions for pregnancy and intolerance only
- Health good; no contraindications to combined hormonal contraception

	DTG	EVGc	RAL	EFV	RPV	DRVr	ATVr	TDF	ABC	(X)TC
Drospirenone	◆	■	◆	■	◆	■	■	◆	◆	◆
Ethinylestradiol	◆	■	◆	■	◆	■	■	◆	◆	◆
Etonorgestrel	◆	■	◆	■	◆	■	■	◆	◆	◆
Levonorgestrel	◆	■	◆	■	◆	■	■	◆	◆	◆
Medroxyprogesterone(o)	◆	■	◆	■	◆	■	■	◆	◆	◆
Northisterone (Norethindrone)	◆	■	◆	■	◆	■	■	◆	◆	◆
Ulipristal	◆	■	◆	■	◆	■	■	◆	◆	◆

# Options

- Integrase inhibitor – already on Kivexa so could have dolutegravir (Triumeq) or with current constraints Kivexa/raltegravir
- NNRTI – rilpivirine (+ Kivexa - cost); Eviplera (2 switches)
- Atazanavir? (jaundice)

# Outcome

- Switched to Triumeq
- Tolerating it well

Tailor HAART to contraception  
not the other way round!!!

All options should be available  
to WLHIV

<http://www.hiv-druginteractions.org/>

Tittle, V., Bull, L., Boffito, M. et al. *Clin Pharmacokinet* 2015 54: 23-34