A case that changed my practice

- John Quin  FRCP
- BSMS Brighton
The Spectator April 2014

- ‘As a doctor I can tell you that, medically speaking, I’d rather have HIV than diabetes’

- Max Pemberton
Why?

- Outlook much improved in HIV
- Near normal life expectancy in UK?
- Longer??
- Outcomes in DM still leave a lot to be desired
- D.A.D. study (data on adverse effects of anti-HIV drugs): incidence of diabetes increases with cumulative exposure to HAART
Changes in glucose homeostasis

- Insulin resistance (IR) not deficiency
- Concomitant Hep C may play a role
- Growth hormone?
- HIV on the beta cell?
Changes associated with HIV therapy

- Type 2 DM appears to 4x as common in HIV+ men than HIV- cohort.
- Protease inhibitors – can cause IR
- Reduce insulin secretion
- Interfere with GLUT-4 mediated glucose transport
- Inhibit PPAR gamma
- NRTI’s
- Combinations
HAART and IR

- Effect on adiponectin/leptin
- Effect on mitochondria
Excess Nutrients → Adiponectin ↓ AMPK → mTOR → p70S6K → IRS Degradation

Cytokines TNFα ↑ PKC, JNK, NFkB

Insulin Receptor → pS → pS → IRS1/2

PI3K → Akt → GLUT4

Reduced Glucose Transport
HIV lipodystrophy syndrome

- Ill defined
- ‘crix’ belly
- Facial wasting
- Buffalo hump: Pseudo Cushingoid
Screening

- Fasting glucose – at diagnosis, 3/6m after HAART
- annually
- HbA1?
Treatments

- Diet/exercise
- Metformin
- Sulphonylureas
- Thiazolidinediones? – disappointing re LD
- Insulin
Psychological challenges

- Twin burden
- Pill burden
- Depression
Confusions

- Night sweats
- Retinal changes
- Weight loss
- Drug interactions
Political lessons from HIV

- Patients
- Carers
- Lobbying!
Key points

- Mortality from HIV has significantly improved but patients with co-existing diabetes face major health challenges.

- Some forms of antiretroviral therapies may be associated with insulin resistance (IR) and pharmacological vigilance is required by carers.

- There is a rise in incidence of Type 2 diabetes in the HIV+ population.

- Optimised treatment to reduce CV risk could be provided at joint HIV/DM clinics.