

# Update on HIV

Dr Gary Brook

Clinical Lead HIV/GUM

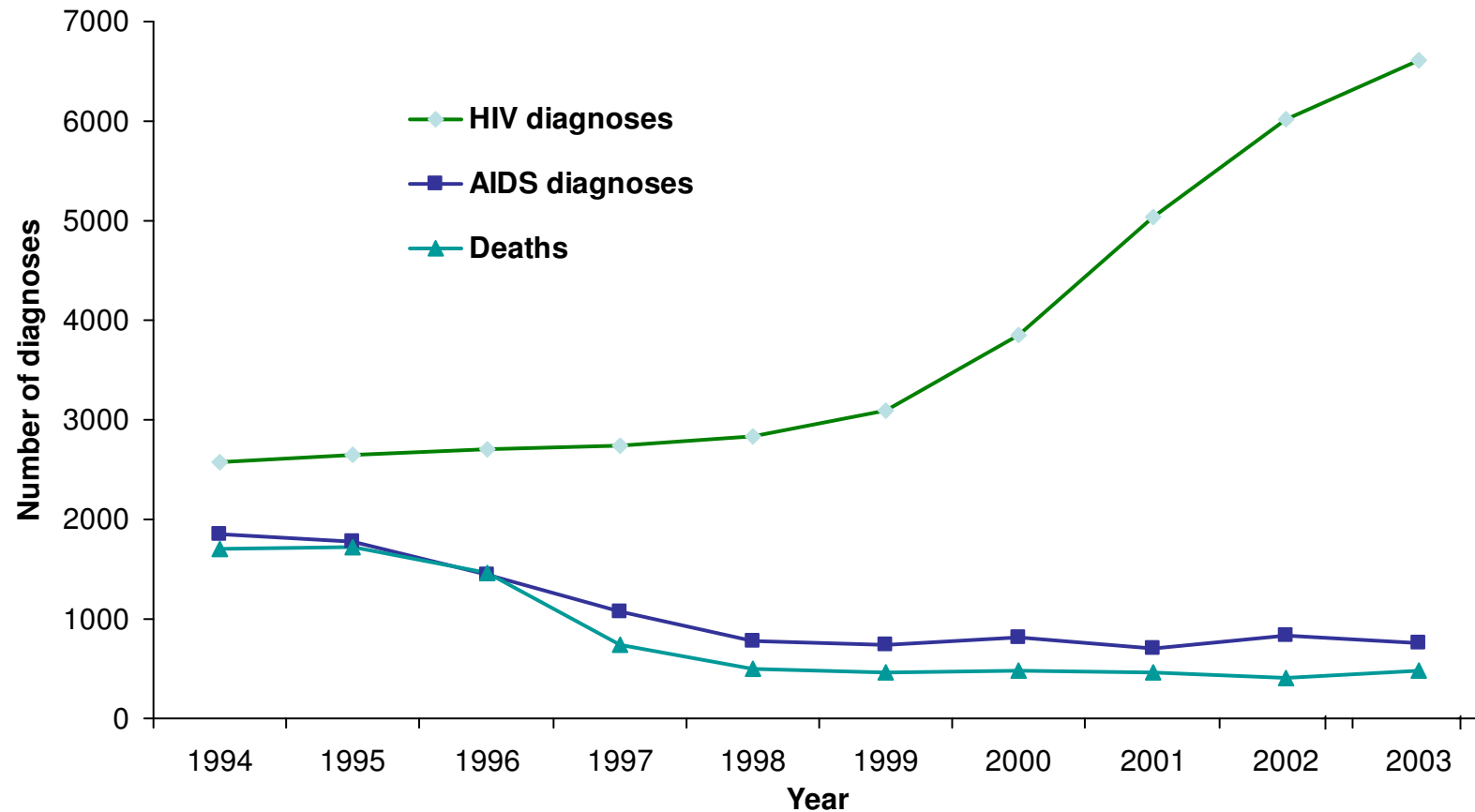
Central Middlesex Hospital, London

# What's New?

- New Drugs
- New ways of giving treatment
- Greater understanding of the long-term side effects of medication
- Importance of hepatitis co-infection and its treatment
- Pregnancy



# HIV and AIDS diagnoses and deaths in HIV-infected individuals by year of diagnosis, United Kingdom, 1994-2003



<sup>1</sup> Numbers will rise, for recent years, as further reports are received.

**Data Source:** HIV/AIDS reports. Reports received by the end of June 2004.

# What Matters in HIV Treatment?

- Adherence: >95% of doses required long-term to be successful
- Effective drugs
- Lack of side effects and long-term problems
- Pill burden

# New Drugs

- Fewer side effects
- Novel/Better resistance profile
- More convenient dosing

Drugs Recently Licensed or Close to Licensing:

- Fusion Inhibitors: T20
- CCR5 inhibitors
- Protease Inhibitors (PI) with higher barriers to resistance:  
Tipranavir, TMC 114
- PI with less lipid problems: Atazanavir
- NNRTI active against resistant strains e.g. TMC 125

# Alternative Treatment Strategies

- Once daily therapy – 8 current ARVs suitable and more to come
- Structured Treatment Interruptions: SMART trial stopped Jan '06 due to doubling of AIDS events in 'drug conservation' arm
- Dual PIs
- PI monotherapy
- Induction/Maintenance: 4 to 3 or Standard Triple to Triple NRTI

# Long-term problems of medication

- Raised lipids : increased risk of coronary heart disease
- Lipodystrophy: lipoatrophy and fat redistribution
- Other metabolic problems: diabetes, neuropathy, hyperlactataemia etc

# Hepatitis Co-infection

- 5X higher mortality than either infection alone
- Now a major cause of morbidity and death
- Treatment of HBV is simple
- Treatment of HCV improving
- Liver transplantation now an option

# Pregnancy

- Standard regimen: ART from 28/40 or before, LSCS, Bottle feeding
- Some belief that with triple ART and undetectable viral load, vaginal delivery and option
- Breast feeding strongly discouraged:  
?Triple ART for those women who insist

# Case Study 1

- 30yo HIV+ African woman. Speaks little English
- Past history of :
  - Mental health problems
  - Poor adherence to anti-retroviral therapy in the past
  - Concerns about her parenting skills – one other child in the UK (HIV negative) on at-risk register
- Presents 20/40 pregnant
  - CD4 60 Viral load 500,000
  - Says she does not want to take therapy
  - Mental status generally OK but unrealistic belief in her ability to cope with the situation

# What are the potential problems?

- Failure to adhere to any treatment strategy increasing the risk of her baby being born HIV+
  - Will she take anti-retrovirals?
  - Will she agree to LSCS?
  - Will she bottle feed
  - Will she give the baby prophylactic ART?
- Does she have drug-resistant virus?
- Her own health risk? – CD4 count only 60

# What do we do?

- Viral resistance test
- Work with her through people she trusts to agree a management plan
- Multi-disciplinary team meeting
  - Mental Health team
  - Primary Care
  - Social Services
  - Midwives
  - Paediatrics
  - HIV team
  - Health Visitor
  - Obstetrician

# First Steps

- Multi-resistant virus.
- She agreed to a 'simple' therapy of AZT, Tenofovir, Ritonavir/Atazanavir (N.B. uncertainty of safety in pregnancy)
- Therapy supervised by Health Visitor – delivery of drugs in dosette box
- She agreed to LSCS
- Agreed to admission to mother and baby (mental health)unit post-partum for one month
- Other child to be temporarily placed with a known foster carer
- Plans in place in case of mental health deterioration and need for section

# What happened next

- She attended clinic and took her treatment : viral load became undetectable, CD4 rose
- One week prior to planned LSCS admitted to stopping ART two weeks ago because of nausea. In established labour
- Urgent LSCS

# What are the problems?

- Viral load likely to be raised increasing the risk of vertical transmission
- Urgent LSCS not as protective against HIV as planned LSCS
- Does the change in adherence indicate a change in mental status and willingness to adhere to the management plan?

# Post-partum

- Admitted to Mother and baby unit and other child placed with foster carer as planned
- Baby placed on triple ART supervised by ward staff- monotherapy more usual if the mother has an undetectable viral load
- Patient resumes ART

# The future

- ? Baby infected- need 3 negative viral loads
- Unknown risk to baby of unusual ART regimen
- Will mother continue to take ART? – if not she will become very ill with implications to care of the children
- What about risk of future pregnancies?

# Main Points

- Management of pregnancy
- New drugs and their toxicities
- Difficulties of managing someone who is HIV+ with mental health problems

# Case Study 2

- 30 yo Indian man presented with cough and fever
- Speaks no English
- PH of pulmonary TB diagnosed at TB clinic but went to India before completing therapy
- Smelt of alcohol
- Agrees to an HIV test which is positive

# What are the potential problems

- Probable TB
- Incomplete TB treatment previously –risk of resistance
- ? Alcohol misuse
- Contact tracing- HIV and TB
- At risk of other HIV-related problems

# What do We do?

- Pulmonary TB confirmed (smear positive)
- Was found drunk in his hospital bed on several occasions having absconded from the ward and persuaded another patient to buy drink for him
- CD4 150 needs ART
- Wife in India –he was asked to inform her.
- Shared a room with others – contact tracing attempted for TB
- Discharged after two weeks quadruple TB Rx

# What Happened Next?

- Community support provided- TB nurses, HIV community nurse, social services, voluntary organisations
- Found a place to stay
- Started on ART
- Attended HIV and TB clinic irregularly
- Reports of him being seen drunk in the street. He declined referral to the alcohol support unit

# Second Admission

- Disappeared for a while and then admitted as emergency with fever, cough and visual problems
- Smear positive TB again with CMV retinitis
- PCR +ve for Rifampicin resistance
- Still evidence of heavy drinking
- CD4 50

# How to deal with the new problems?

- Treatment for MDRTB
- CMV – iv ganciclovir followed by sub-scleral implant
- Enhanced follow-up
- Support to stop drinking
- Review of anti-retroviral treatment

# Progress

- 5 drug MDRTB regimen including IM Amikacin. Daily visits from TB nurse or HIV nurse. Over 50% of doses observed
- Antiretroviral therapy recommenced on the basis of resistance testing N.B. interaction with TB drugs
- Regular eye reviews
- Agreed to attend Gujarati-speaking alcohol support group

# Outcome

- Took 18/12 TB Rx at levels enough to eradicate the infection (subsequently confirmed rifampicin and pyrazinamide resistance)
- This level of adherence was too low for ART – more HIV treatment failure, falling CD4
- Returned to drinking.
- Developed HIV-associated dementia
- In a nursing home. ART succeeding now he is having supervised therapy.

# Main Points

- Management problems of HIV+ alcohol misuser
- Drug adherence problems and the effect on TB and HIV drug sensitivities
- Risks of under-treated HIV
- Resources required for managing patients with drug/alcohol problems

# Case Study (3)

- 30yo HIV+ Somali woman.
- Past history of :
  - Intravenous drug use (heroin mainly)
  - Recurrent bacterial infections
- Presents
  - With bacterial pneumonia 2001. Takes HIV test – positive
  - CD4 count 200
  - Hepatitis C positive

# What are the potential problems

- IVDU – problems of adherence to therapy and visits to clinic
- IVDU-related infections
- Managing the drug use
- Housing

# What do We do?

- Link her in to the drug-misuse service
- Contact with social services
- Investigate her for HCV-related liver damage
- Follow-up for HIV

# What Happened Next?

- Housing and money found for her
- Visited drug-misuse centre
- Declined liver biopsy
- However- soon disappeared –lost contact with all services
- Over the subsequent years a recurrent pattern developed of her being admitted with bacterial infection (usually pneumonia) but soon disappearing from the system after being re-linked into services for a while on each occasion
- Still injecting heroin but also on oral methadone

# Most Recent Problems

- Admitted with pneumonia
- Homeless after her flat was burnt down (probable arson by someone else, another resident died)
- CD4 50 – has not taken any anti-retrovirals
- No money, no family

# How to deal with the new problems?

- Weaned from heroin was occasional user anyway so agreed to stick to methadone
- Place found in sheltered accomadation
- Somali community organisation involved- they helped locate several family members previously unknown to us. They have been supportive
- Has successfully started antiretorvirals
- Hepatitis C not treated yet but being considerd for the future.

# Main Points

- Management of HIV+ IDU. Chaotic lifestyle, poor attendance.
- She seems eventually to have reached a stage where she is more settled and can be treated successfully
- So don't give up!