Review 2009

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Annual review

- HIV and treatment – new understandings
- IL-2 – studies of immune treatment
- DART and monitoring
- Guidelines: EACS, USA, WHO
- HIV and aging

Pathogenesis = study of this disease

- Viral evolution on treatment (when viral load <50 copies/mL)
- How low can you go?
- Immune recovery – baseline CD4
- Functional ‘cure’ – one person

HIV evolution on treatment

- Technique called phylogenetic analyses
- New virus different to start of trial
- Conclusion “virus originates from reactivated, latently infected cells rather than from a cellular pool or compartment engaged in low-level replication.”

Swiss-Spanish TI Trial (SSITT). HTB Jan/Feb09

How low can you go

- Viral load cut-offs - <50 copies/mL
- Actual level often <5 copies/mL
- Can treatment be more powerful?
- Design: add either raltegravir/placebo
- No effect – therefore virus from sleeping cells

Ghandi 5th IAS. HTB Sep/Octb09

Study design

N=53 people – all undetectable

12 week cross-over study

Measure viral load and changes in VL

Found no differences between groups

CD4 increases on raltegravir

Ghandi 5th IAS. HTB Sep/Octb09

IL-2 studies

- IL-2 is a cytokine in your body, benefit – increases CD4 cells
- SILACAAT/ESPRIT (low/high CD4)
- Treatment cycles… difficult side effects
- After 7 yrs – no benefit
- Conclusions

SILCAAT/ESPRIT. 16th CROI. HTB Mar/Apr09

Other news

- HIV cure after stem cell transplant
- Transmission cases – ie Iowa man
- USA HIV entry restrictions ended
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Guidelines

- EACS – management
- USA – all treatment CD4 <500 cells/mm3
  - no new evidence, esp on risks - START
- WHO – CD4 <350; no d4T
- South Africa?

EACS: HTB Nov/Dec09, USA/WHO/SA HTB JanFeb 2010

Theme: HIV and aging

- New theme and focus
- HIV and the brain
- Bone health
- Risk of heart disease, cancer etc
- Looking after your health for the long-term

Aging: viral replication

- Why is life expectancy not the same as HIV-negative – still about 10 years less
- theory: ‘ongoing viral replication’
- [a] higher risk of heart disease, liver disease etc but ARVs reduce this risk
- SMART study and START study

Aging: long-term care

- Many age-related diseases may occur a bit earlier if you are HIV-positive
- Many are reduced by diet and exercise:
  - heart disease – what helps?
  - bone health & frailty
  - diabetes