HIV Treatment and innovations in care



5th UK Conference of people living with HIV 11 June 2022

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ART in 2022: 10 single tablets + 1 injectable ART



Limited access to some based on pricing.

Looking forward...

- 1. Pipeline: new drugs and formulations.
- 2. Guidelines, standards & national commissioning.
- 3. Care: long-term health (ageing) and changes to the NHS.

...plus monkeypox (MPX)



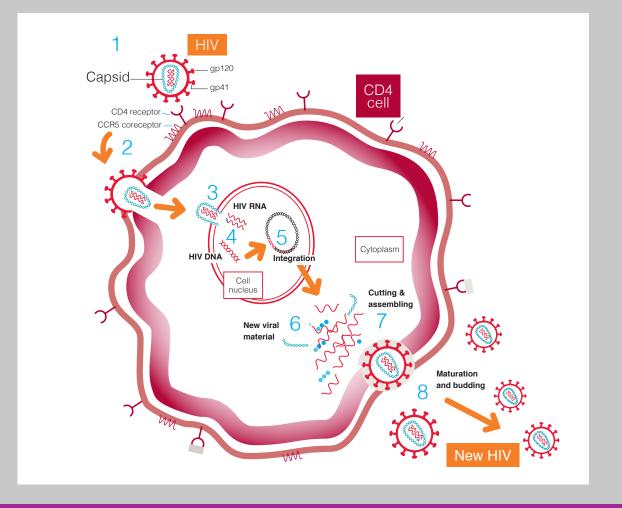
1. Treatment pipeline

- New drugs: lenacpavir, islatravir, maturation inhibitor, bNAbs.
- New formulations: weekly or monthly oral pills, long-acting injections, implants and infusions (3-6 monthly).
- Immune-based treatments bNAbs might allow breaks from ART.



HIV lifecycle

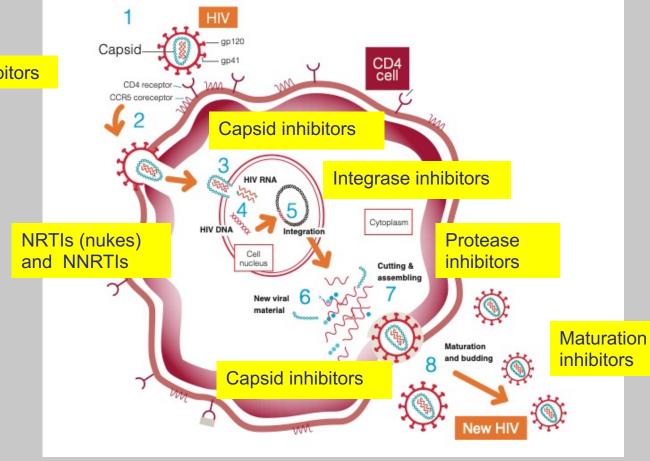
Stages where drugs can work

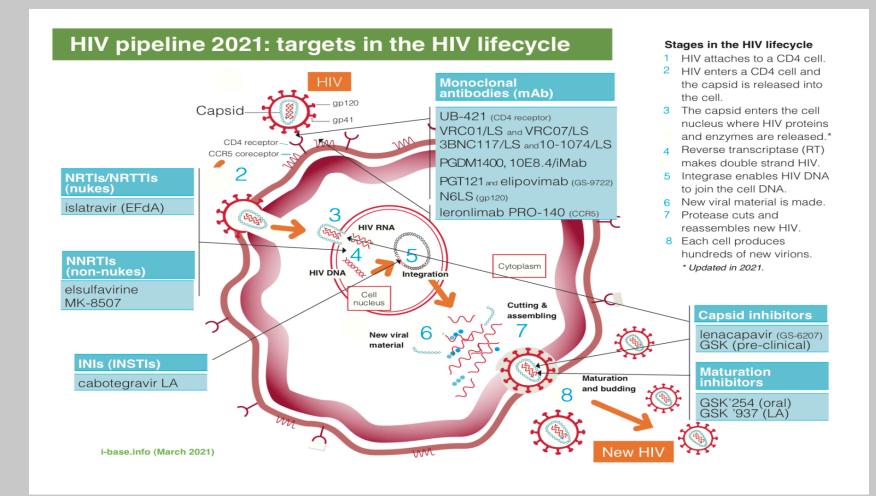


Drug targets

Entry inhibitors

- 1. Entry inhibitors.
- 3. Capsid inhibitors.
- NRTIs (nukes) and NNRTIs.
- 5. Integrase inhibitors
- 6. Protease inhibitors
- 7. Capsid inhibitors
- 8. Maturation inhibitors





bNAbs

Broadly neutralizing monoclonal antibodies

- Isolated from people with strong immune responses to HIV. Adapted in long-acting formulations
- Active against HIV and boost immune system.
- Used as treatment and for prevention

RIO study

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- 70 participants diagnosed early and started early ART.
- Undetectable viral load for >6 months.
- Randomise to bNAb or placebo for 24 weeks.
- Stop ART until viral load is either >1000 for sic weeks or confirmed >100,000.
- Maybe undetectable off-ART for >6 months.

Formulations

Long acting injections or infusions.

Slow release microneedle patches.

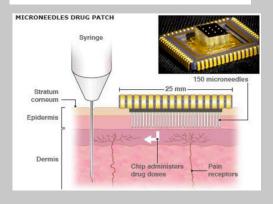
Implants etc.



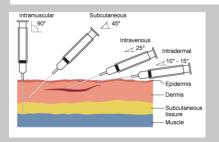
Already used for *contraception* (*choice*), bone health (*convenient*) and schizophrenia (*adherence*),

Alternatives to oral pills

Microneedle drug patch



Long-acting depot injections



Implants



Vaginal rings



Thanks to Kim Scarsi

2. Guidelines...

Standards of Care for recept Lung with MV 2818

UK BHIVA (2022) - ie:

Integrase-based ART



EACS (2021)

 Practical management: ageing, depression, mental health, sexual health, diabetes, exercise etc.



UK Standards of care

8 sections covering different aspects of care.

Plus suggested audits.



3. Future care, ageing...

UK BHIVA (2022) - ie:

• Integrase-based ART Starting, switch, options.



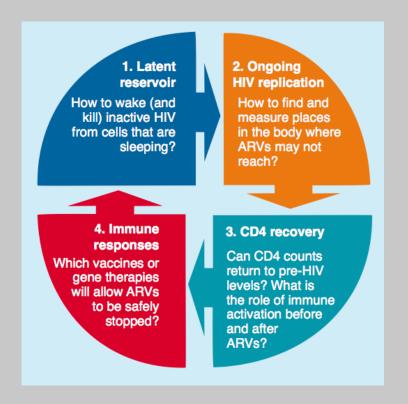
EACS (2021)

 Practical management: ageing, depression, mental health, sexual health, diabetes, exercise etc.

Cure...?

New international focus on cure-related research.

- (i) Eradication (cure) or
- (ii) Remission (where viral load stays undetectable without need for ART).



Monkeypox...(new name)?

Outbreak in May.

~1500 globally, 366 in the UK. Mostly mild. Some hospitalised.

Symptoms (fever, tired, rash) one week after exposure. resolves by 2-4 weeks without treatment.

Important to isolate.

Q&A: i-base.info/monkeypox/





1. Treatment summary

 Is there either need or demand for alternatives to daily oral ART.

Define population.

How to ensure access?

2. Guidelines summary

Are their benefits or gaps in guidelines?

How do we influence these?

How to engage and protect NHS.

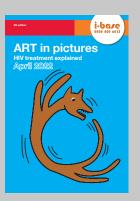
3. Ageing and future care summary

 What are our biggest concerns and needs for long-term care?

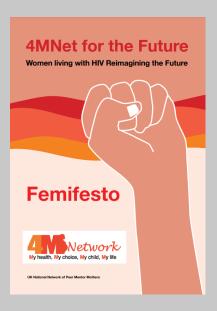
What new services need to be developed or expanded?

Questions?







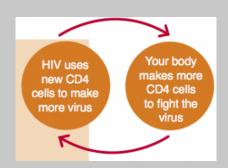




Additional slides



The immune system in overdrive



When not on ART your immune system is steadily worn down.

High viral load increases risk of heart attacks, cancers and other serious problems.



On ART the immune system rests

HIV treatment (ART) stops the virus lifecycle. This lets your immune system recover and become stronger again.

ART lets your immune system rest.

Even a really low CD4 count can return to much safer levels.

