Update to the HBV Forum 6
7 November 2019
Boston
Massimo Leverro
2019 Milestones

• Publication of the Global Scientific Strategy to Cure CHB in Lancet GH and media launch (April)
• EASL & ICE-HBV Think Tank on HBV Cure in Vienna (April)
• Launch of ICE-HBV open access research protocols database on ICE-HBV.org (April) and collaboration with NIH to set-up the HBV reagents repository (ongoing)
• Final results of the ICE-HBV concerted harmonization efforts for HBV cccDNA quantification presente at the HBV meeting in Melbourne (October)
• HBV Cure 101 Presentations in Cairo and Melbourne (Sept-Oct)
• *in-vivo* models for HBV cure workshop in Melbourne (October)
• Serum Biomarkers group set-up (October)
• Collaboration with the HBV meeting for the 2019 Public Forum and Cure Symposium in Melbourne (October)
• Global Fund to Fight AIDS, TB and Malaria Replenishment Conference, Side event on Viral Hepatitis in Lyon (October)
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A global scientific strategy to cure hepatitis B

Peter A Revill, Francis V Chisari, Joan M Block, Maura Dendi, Adam J Gehring, Haitao Guo, Jianming Hu, Anna Kramvis, Pietro Lampertico, Harry L A Janssen, Massimo Liverato, Wenhui Li, T Jake Liang, Seng-Gee Lim, Fengmin Lu, M Capucine Penicaud, John E Tavis, Robert Thimme, Members of the ICE-HBV Working Groups*, ICE-HBV Stakeholders Group Chairs*, ICE-HBV Senior Advisors*, Fabien Zoulim

A comprehensive shared scientific roadmap to HBV cure
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Final results of the concerted harmonization efforts for HBV cccDNA quantification
2019 Milestones

DNA was extracted with 2 methods and distributed to the labs

4 different nuclease digestions were compared to reduce cDNA amounts

Study design

Total DNA (Epicentre) → Hirt DNA

HapG2-MTCP, PHAe, HapRG (+/- NUC treatment)
(+/- MycRex-0)

Total DNA (Epicentre) → Hirt DNA

HBV infected human liver chimeric mice (+/- NUC treatment)

Total DNA (Epicentre) → Hirt DNA

Artificial mix of genomic DNA + rcDNA from serum + HBV plasmid

+/– nuclease digestions:

No digestion          PSD          T5  20U Exo I +
30U/200µl/2h          10U/20µl/6h  5U/20µl  25U Exo III
+/– heat denaturation +/– heat denaturation 0.5h
20µl/1h

Analysis by qPCR & Southern blotting:
Column-purification & qPCR for cccDNA (taqman primer/probe Malmström et al.)
total HBV DNA, beta globin (cellular marker), NDZ (mitochondrial marker)
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Universal Health Coverage and HIV. The Potential Impact of Collaborative Innovations with Viral Hepatitis Elimination

Where: H7, 70 Quai Perrache, 69002 Lyon
When: 8 October, 1pm to 2:30pm

4,000 people die from viral hepatitis every day. Many of them are co-infected with HIV or tuberculosis (TB). Through improved integration between the viral hepatitis response and existing HIV, TB and malaria programmes, we have an opportunity to strengthen health systems and save more lives.

Join us for a session that will explore how a more collaborative approach can help us better utilize health resources and achieve optimal health outcomes.
Global Fund Conference Session Partners
Collaborative Biomedical Innovations for Viral Hepatitis Elimination

Prof. Massimo Levrero
Board member, International Coalition to Eliminate HBV

Treats: in a global perspective the need for scaling up diagnosis and treatment

Costs are more evenly split between diagnostics and medicines

Opportunities: shared manpower/platforms/initiatives (with HIV)

Research or can we do better?
One shot / one pill for cure

Global Fund Replenishment Conference
Lyon – Oct-8, 2019
Summary: We have the will, the tools, and examples of how to address this public health emergency right now

Global health programmes are more effective with a people-centered approach than with a diseases-centered/vertical approach

- The global mortality from viral hepatitis exceeds that of HIV, TB or malaria and would exceed the toll from the 3 diseases combined by 2040 under status quo
- Testing and treatment for hepatitis is affordable and high impact: +1% in UHC price tag for +10% additional healthy life years
- Hepatitis elimination meets all criteria for inclusion in Universal Health Coverage
- Access to combined prevention and treatment services for people who use drugs is key to reducing HIV and HCV incidence and to achieving HCV elimination
- Pricing for diagnostics and treatment commodities fell dramatically for most LMICs and could fall much further with forecasting, increased volumes, and pooled procurement
- Meaningful partnerships with civil society and the affected communities enhances the impact of the response
Next steps: How can the Global Fund catalyze viral hepatitis elimination within the UHC approach?

- Involve viral hepatitis stakeholders in Global Fund processes, including CCMs and partnership meetings. Standard integration of HCV and HBV into GF-sponsored data systems and GF-sponsored professional trainings.
- Commit to reaching elimination goals for HCV and HBV among people with TB and people living with HIV.
- Make sure that GF-funded services to key populations provide integrate prevention and treatment services for all relevant diseases (e.g., integrated prevention and treatment for HIV, TB and HCV for PWIDs).
- Widely offer procurement support for TDF, TAF, Entecavir, DAAs and diagnostics for HBV and HCV to ensure optimized forecasting and procurement to reduce commodity prices.
- Use coinfection as a way to catalyse hepatitis plans, particularly on the optimized procurement of commodities.
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ICE has agreed to prepare a note for the Global Fund and other donors on how they can best contribute to viral hepatitis elimination, as well as short videos to summarize these points, and a FAQ for countries and patients on how to use global procurement systems.
ICE-HBV Next Activities

- *In-vivo* models consensus statement (2019)
- Messaging briefing finalization (2019)
- POC diagnostics group kick-off (2019)
- Serum biomarkers review (2020) and symposium at APASL
- Global health donors follow-up note (2020)
- EASL & ICE HBV Think Tank on HBV Cure in London (2020)
Thank You

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