



HBV Forum Surrogate Endpoint Working Group

Co-chairs

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Working group members

- Ryan Taylor Anderson, MS Forum Intern
- Nat Brown, MD Hepatitis B Foundation Advisor
- Henry LY Chan, MD- Chinese University of Hong Kong
- Gavin Cloherty, PhD Abbott
- Eric Donaldson, PhD US FDA
- Geoffrey Dusheiko, MD -UCL
- Robert Gish, MD Stanford
- Bettina Hansen, PhD U Toronto
- Pietro Lampertico, MD, PhD U Milan
- Oliver Lenz, PhD Janssen
- Uri Lopatin, MD Assembly Biosciences
- Eduardo Bruno Martins, MD, DPhil Eiger

- Brian McMahon, MD Alaska Native Medical Center
- Veronica Miller, PhD –Forum for Collaborative Research
- Charu Mullick, MD US FDA
- Jeffrey Murray, MD, MPH US FDA
- Michael Ninburg, MPA Hepatitis Education Project
- Sandra Palleja, MD PPD Inc.
- Jean-Michel Pawlotsky, MD, PhD Henri Mondor Univ. Hospital
- Marion Peters, MD UCSF
- Leland Ross Pierce, MD US FDA
- Andrew Vaillant, PhD Replicor
- Hwai-I Yang, PhD Academia Sinica



Presentation Overview

- Objective of the working group
- Update on progress and collaborations
- Expansion of scope of the working group



Aims and Objectives

- Assess the relationship of specific surrogate endpoints with long-term clinical outcomes, identify gaps, and recommend research to fill gaps to advance the regulatory process for HBV therapeutic interventions.
- 2. Review, discuss and formulate evolving consensus on HBV cure definition and appropriate surrogate endpoints for HBV Ph2b and Ph3 clinical studies.



First step

Perform a systematic literature review/metaanalysis describing links between **surrogate endpoints** and **long term clinical outcomes**.

- Starting with:
 - Functional Cure: HBsAg seroclearance.
 - Partial Cure: Undetectable HBV DNA, normal ALT, low HBsAg.



Status and next steps: literature review

- >100 papers (representing 175,298 patients and 1,104,027 person-years of follow-up) have been selected and data extracted
 - Summary spreadsheet, PowerPoint file with key figures and EndNote library



Status and next steps: literature review

- Ensure relevant papers are included
 - Literature review assessed by working group members
- Additional curation/check of the literature data
- Start meta-analyses



Beyond the literature review

 Organize a data base with patient level data to allow a better assessment of links between surrogate endpoint and long term clinical outcomes



Patient level Data

- Database owned by the HBV Forum and located at UC Berkeley.
 - Bettina Hanssen (U. Toronto)
- Scientific oversight committee (comprised by HBV Forum members and data contributors) "controls" database and decides on analyses to be performed.



Patient level Data: Update and next steps

- Produce a project concept paper
- Design a data collection template (i.e. which data to include)
- Develop preliminary statistical analyses plan
- Formalize the collaboration (e.g. confidentiality agreement, data transfer agreements)
- Reach out to industry and academic partners with relevant data to assess willingness to collaborate on this project.



Patient level Data: Update and next steps

Any suggestions on who might have data to contribute?



Collaborations

- Multiple collaborations under development:
 - Industry partner to join efforts on literature review/metaanalyses
 - Multiple industry partners have been approached to share patient data
 - Generally positive response received
 - REVEAL (Prof. Hwai I Yang): agreed to share data
 - Bettina Hanssen (U Toronto): Perform literature metaanalyses and analyze patient level data



Extension of the working group scope

- The Diagnostics/Biomarkers WG will integrate with the Surrogate Endpoints WG
 - The Diagnostics/Biomarkers WG has assembled comprehensive matrix of available diagnostic tests.
- Scope and organizational set up of expanded group to be determined;
 - Potential topics include:
 - Value of novel markers (HBV RNA, HBcrAg) as clinical endpoints
 - Standardization of assays assessing novel markers (virologic, immunologic and liver disease markers)
 - Your favorite topic...



Summary

- Literature review is well underway with metaanalyses beginning soon
- Patient level data base is being set up
- Multiple collaborations are being explored
- Expanded scope of working group is being assessed





Thank You!