

The 34th Annual Meeting of
the Asian Pacific Association for the Study of the Liver

APASL 2025 BEIJING

Multidisciplinary Collaboration For Elimination & Cure

26-30 March 2025 | China National Convention Center Beijing

State-of-The-Art lecture
(28th Mar 2025)

From Hepatitis to Liver Cancer

George Lau

MBBS (HKU), M.D. (HKU), FRCP (Edin, Lond), FHKAM (Med), FHKCP,
FAASLD (USA)



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Research interest

- Immunotherapy in liver diseases

Selected awards

- Royal Society Award (UK) - 1998
- Ten Most Outstanding Young Persons 2002 (HKSAR) - 2002
- HKU Medical Faculty Outstanding Research Output Award - 2006
- National Science and Technology Progress Award (State Science and Technology Prizes) - Technological advancement in Chronic hepatitis B infection management - 2015
- Chief Executive's Commendation for government service -2022
- APASL Okuda-Omata Distinguished Award - 2023

Academic output

- Publications: 300+, Citations: 47,000+, H-index: 98 (source: google scholar until Feb 2025)
- First/corresponding author for original articles in NEJM, Lancet, Lancet GH, Gastroenterology, J Hepatol, Hepatology, Hepatol Int, NEJM Evid, et al

Disclosure of Conflict of Interest

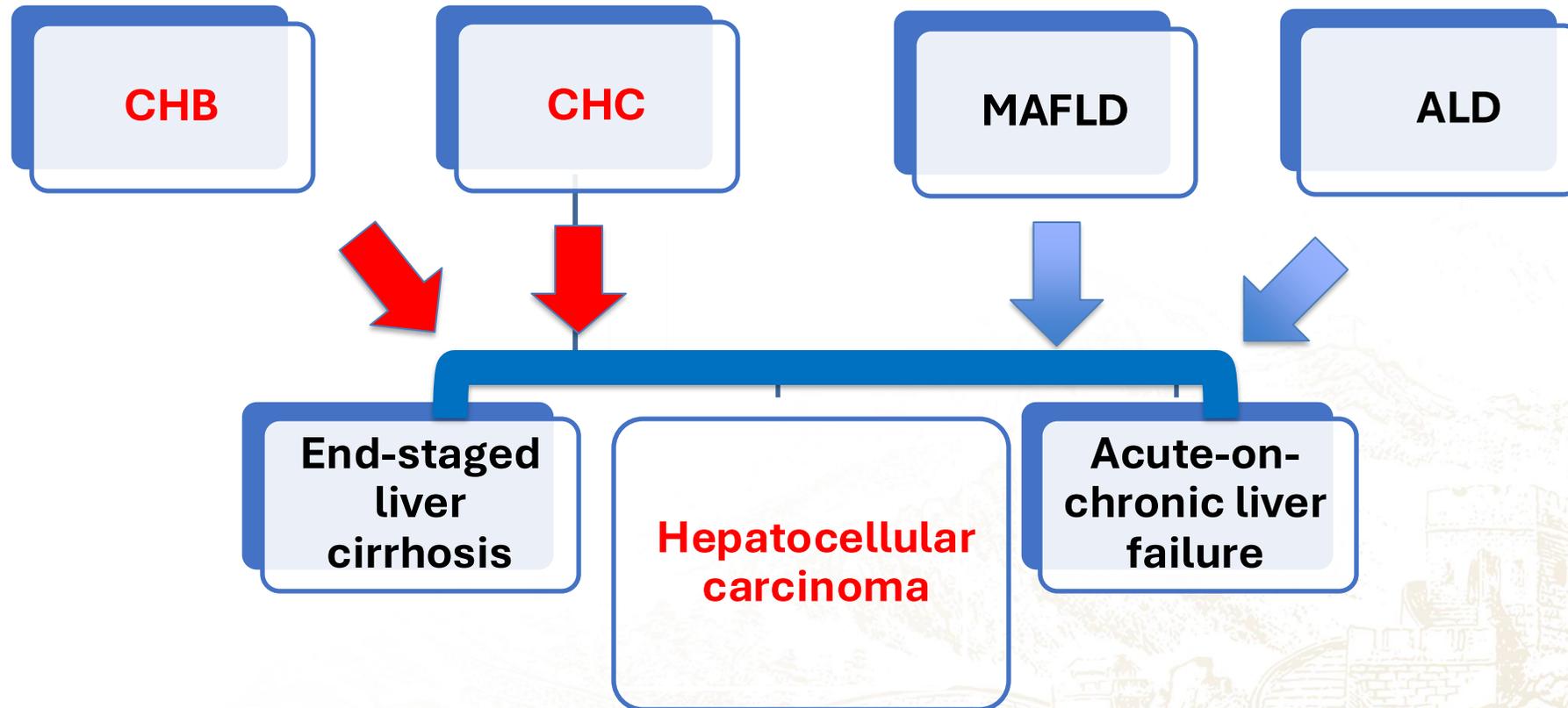
Consulting or advisory role

AstraZeneca, Biegene

Leadership

- Chairman and Senior Consultant in Gastroenterology and Hepatology, Humanity and Health Medical Group
- Independent Non-Executive Director, JD Health International Inc
- Chair Professor and Senior Consultant, Zhongshan Hospital, Fudan University, *Shanghai 200032*, China
- Distinguished Professor, Shulan International Medical College, Hangzhou, Zhejiang Province, China
- Visiting Professor, Qingdao University, Shandong Province, China
- Senior Member of Steering Committee, Asian Pacific Association for the Study of the Liver (APASL)
- Executive Member, Board of Directors, Asian-Pacific Digestive Week Federation (APDWF)
- HKU Foundation board member

Perspective from a practicing academic hepatologist in Asia



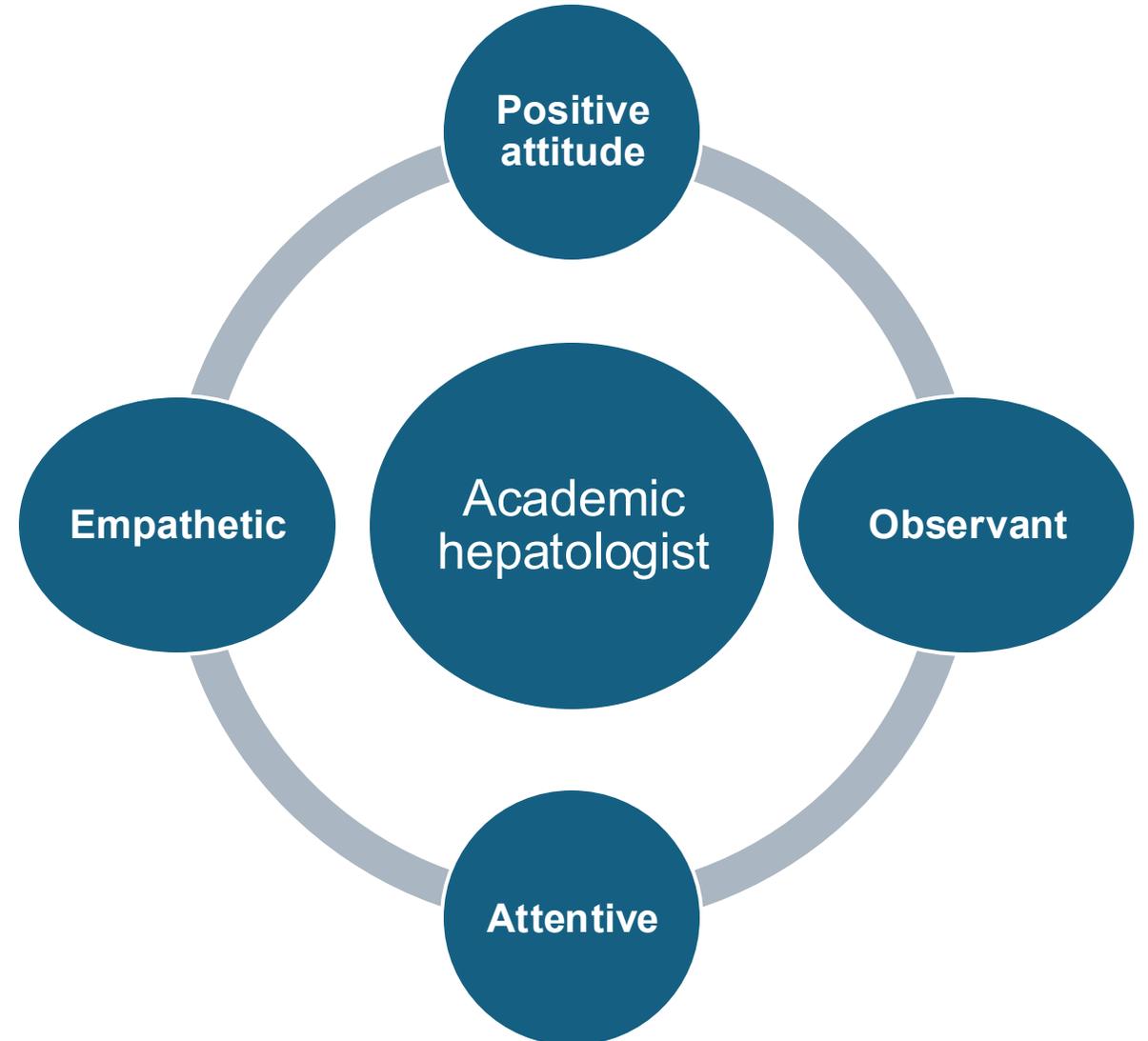
My journey as an academic hepatologist in China

From 1990 till now and beyond

Late Professor Sir David Todd (1928-2017)



Intellectual growth should commence at birth and cease only at death



Two and half decades ago.....





To arouse
Public awareness and knowled
about **viral hepatitis** in China
Since 1998



Hepatitis Free Generation

世代无肝炎



Clinical Practice Changing original publications

Hepatitis B reactivation (HBVr)

Anti-viral therapy

- Hepatitis B virus (HBV)
- Hepatitis C virus (HCV)

Hepatocellular carcinoma (HCC)

With Late Professor Roger Williams

- **“We know what we are, but know not what we may be.”**
- William Shakespeare



•⁺ Hepatitis B reactivation (HBVr)⁺

HBVr remains a major cause of ACLF

Hepatology International (2019) 13:353–390
<https://doi.org/10.1007/s12072-019-09946-3>

GUIDELINES



Acute-on-chronic liver failure: consensus recommendations of the Asian Pacific association for the study of the liver (APASL): an update

Shiv Kumar Sarin¹ · Ashok Choudhury¹ · Manoj K. Sharma¹ · Rakhi Maiwall¹ · Mamun Al Mahtab² · Salimur Rahman² · Sanjiv Saigal³ · Neeraj Saraf³ · A. S. Soin³ · Harshad Devarbhavi⁴ · Dong Joon Kim⁵ · R. K. Dhiman⁶ · Ajay Duseja⁶ · Sunil Taneja⁶ · C. E. Eapen⁷ · Ashish Goel⁷ · Q. Ning⁸ · Tao Chen⁹ · Ke Ma⁸ · Z. Duan⁹ · Chen Yu⁹ · Sombat Treeprasertsuk¹⁰ · S. S. Hamid¹¹ · Amna S. Butt¹¹ · Wasim Jafri¹¹ · Akash Shukla¹² · Vivek Saraswat¹³ · Soek Siam Tan¹⁴ · Ajit Sood¹⁵ · Vandana Midha¹⁵ · Omesh Goyal¹⁵ · Hasmik Ghazinyan¹⁶ · Anil Arora¹⁷ · Jinhua Hu¹⁸ · Manoj Sahu¹⁹ · P. N. Rao²⁰ · Guan H. Lee²¹ · Seng G. Lim²¹ · Laurentius A. Lesmana²² · Cosmas Rinaldi Lesmana²² · Samir Shah²³ · V. G. Mohan Prasad²⁴ · Diana A. Payawal²⁵ · Zaigham Abbas²⁶ · A. Kadir Dokmeci²⁷ · Jose D. Sollano²⁸ · Gian Carpio²⁸ · Ananta Shrestha²⁹ · G. K. Lau³⁰ · Md. Fazal Karim³¹ · Gamal Shiha³² · Rino Gani³³ · Kemal Fariz Kalista³³ · Man-Fung Yuen³⁴ · Seema Alam³⁵ · Rajeev Khanna³⁵ · Vikrant Sood³⁵ · Bikrant Bihari Lal³⁵ · Viniyendra Pamecha³⁶ · Ankur Jindal¹ · V. Rajan¹ · Vinod Arora¹ · Osamu Yokosuka³⁷ · Madunil A. Niriella³⁸ · Hai Li³⁹ · Xiaolong Qi⁴⁰ · Atsushi Tanaka⁴¹ · Satoshi Mochida⁴² · Dominic Ray Chaudhuri⁴³ · Ed Gane⁴³ · Khin Maung Win⁴⁴ · Wei Ting Chen⁴⁵ · Mohd. Rela⁴⁶ · Dharmesh Kapoor²³ · Amit Rastogi³ · Pratibha Kale⁴⁷ · Archana Rastogi⁴⁸ · Chhagan Bihari Sharma⁴⁸ · Meenu Bajpai⁴⁹ · Virender Singh⁶ · Madhumita Premkumar⁶ · Sudhir Maharashi⁵⁰ · A. Olithselvan⁵¹ · Cyriac Abby Philips⁵² · Anshu Srivastava⁵³ · Surender K. Yachha⁵³ · Zeeshan Ahmad Wani⁵⁴ · B. R. Thapa⁵⁵ · Anoop Saraya⁵⁶ · Shalimar⁵⁶ · Ashish Kumar¹⁷ · Manav Wadhawan⁵⁷ · Subash Gupta⁵⁸ · Kaushal Madan⁵⁹ · Puja Sakhuja⁶⁰ · Vivek Vij⁶¹ · Barjesh C. Sharma⁶² · Hitendra Garg⁶³ · Vishal Garg⁶³ · Chetan Kalal⁶⁴ · Lovkesh Anand⁶⁵ · Tanmay Vyas⁶⁶ · Rajan P. Mathur⁶⁷ · Guresh Kumar⁶⁸ · Priyanka Jain⁶⁸ · Samba Siva Rao Pasupuleti⁶⁸ · Yogesh K. Chawla⁶⁹ · Abhijit Chowdhury⁷⁰ · Shahinul Alam² · Do Seon Song⁷¹ · Jin Mo Yang⁷¹ · Eileen L. Yoon⁷² · APASL ACLF Research Consortium (AARC) for APASL ACLF working Party.

(Citation-819)

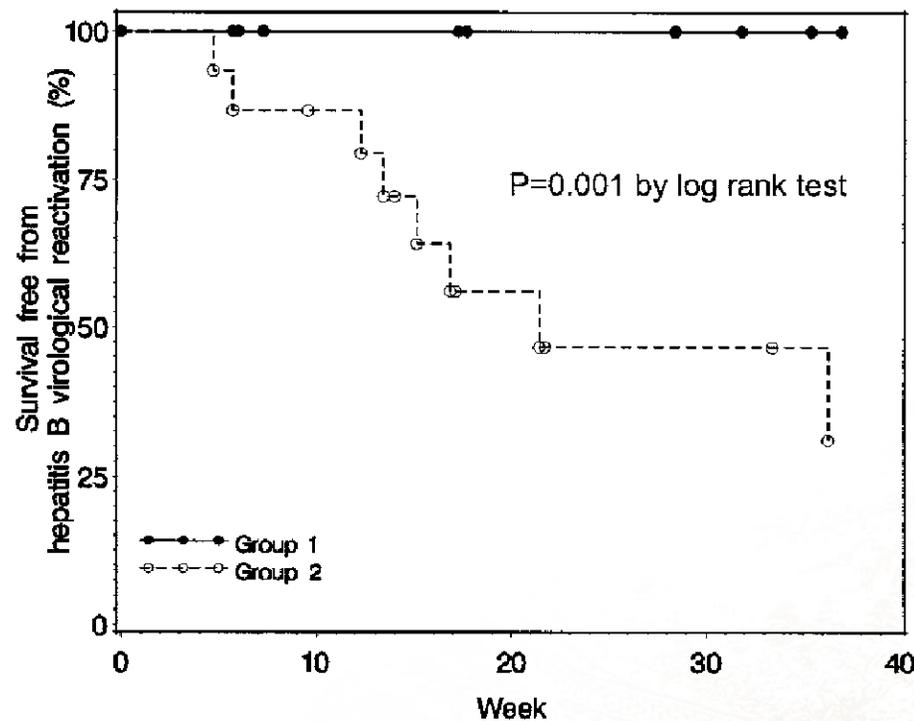
Early Is Superior to Deferred Preemptive Lamivudine Therapy for Hepatitis B Patients Undergoing Chemotherapy

GEORGE K. K. LAU,* HARRY H. Y. YIU,† DANIEL Y. T. FONG,§ HOI-CHING CHENG,†
WING-YAN AU,|| LYDIA S. F. LAI,* MICHEAL CHEUNG,† HAI-YING ZHANG,* ALBERT LIE,||
ROGER NGAN,† and RAYMOND LIANG||

*Division of Gastroenterology and Hepatology; †Department of Clinical Oncology; and §Clinical Trials Centre and ||Division of Hematology, University Department of Medicine, Queen Mary Hospital, Hong Kong Special Administrative Region, China

(Citation - 588)

First randomized controlled trial (RCT) which laid the foundation on the use of pre-emptive anti-HBV NUCs in HBV-infected patients treated with immunosuppressive therapy for prevention of liver-related morbidity and mortality due to HBVr



Numbers at risk

Group 1 15 10 10 0 0

Survival free from hepatitis due to HBVr in HBsAg+ lymphoma patients who received intense chemotherapy and were treated with early (group 1, -●-●) and deferred (group 2, -○-○) pre-emptive lamivudine therapy

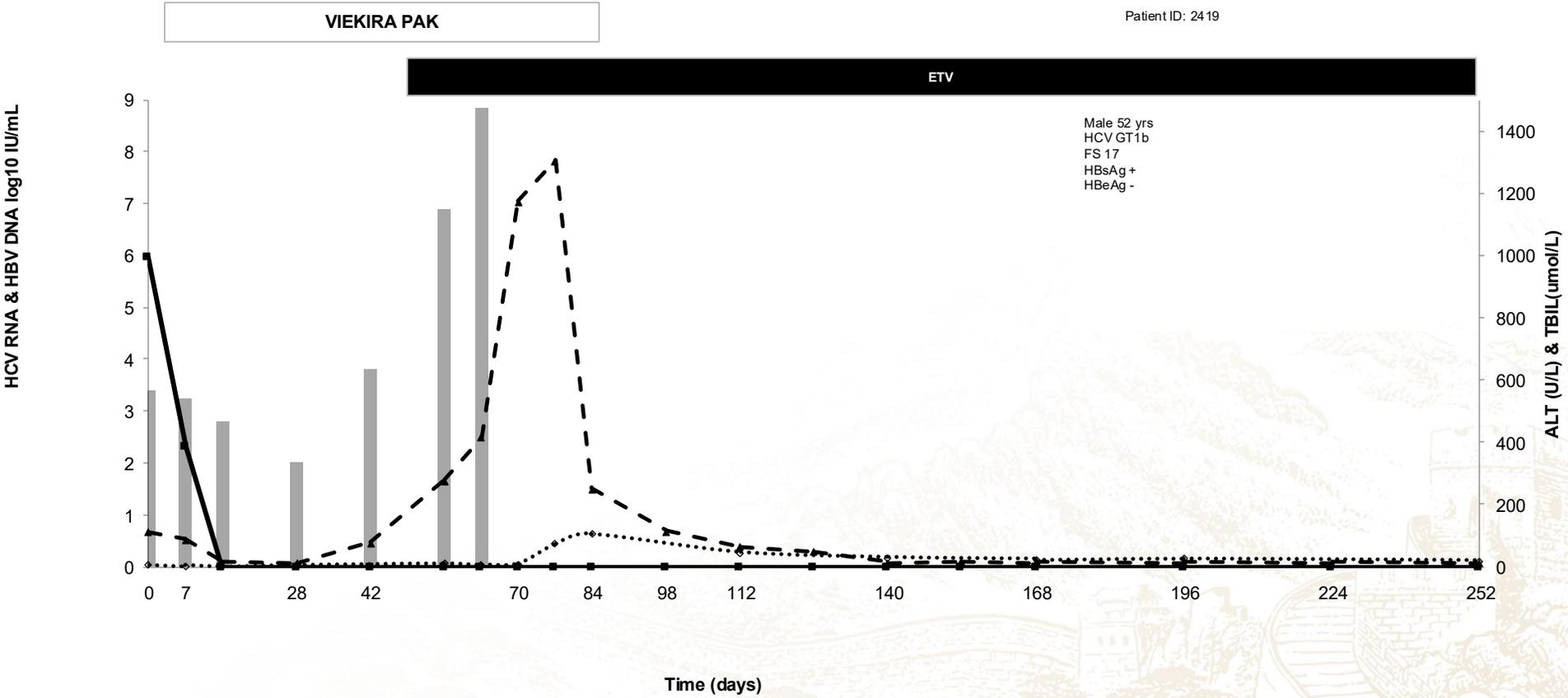
Hepatitis due to Reactivation of Hepatitis B Virus in Endemic Areas Among Patients With Hepatitis C Treated With Direct-acting Antiviral Agents



Cheng Wang,^{*,‡} Dong Ji,^{§,||} Jing Chen,^{*} Qing Shao,[§] Bing Li,[§] Jialiang Liu,[§] Vanessa Wu,^{*} April Wong,^{*} Yudong Wang,^{*} Xiaoyong Zhang,[‡] Lei Lu,^{*} Chris Wong,[¶] Stella Tsang,[¶] Zheng Zhang,[#] Jian Sun,[‡] Jinlin Hou,[‡] Guofeng Chen,[§] and George Lau^{*,§,#}

**Division of Gastroenterology and Hepatology, Humanity and Health Medical Centre, Hong Kong SAR, China; ‡State Key Laboratory of Organ Failure Research, Guangdong Provincial Key Laboratory of Viral Hepatitis Research, Department of Infectious Diseases, Nanfang Hospital, Southern Medical University, Guangzhou, China; §Second Liver Cirrhosis Diagnosis and Treatment Center, 302 Hospital, Beijing, China; ||Liver Failure Treatment and Research Centre, 302 Hospital, Beijing, China; ¶Hong Kong Molecular Pathology Diagnostic Centre, Hong Kong SAR, China; and #Institute of Translational Hepatology, 302 Hospital, Beijing, China*

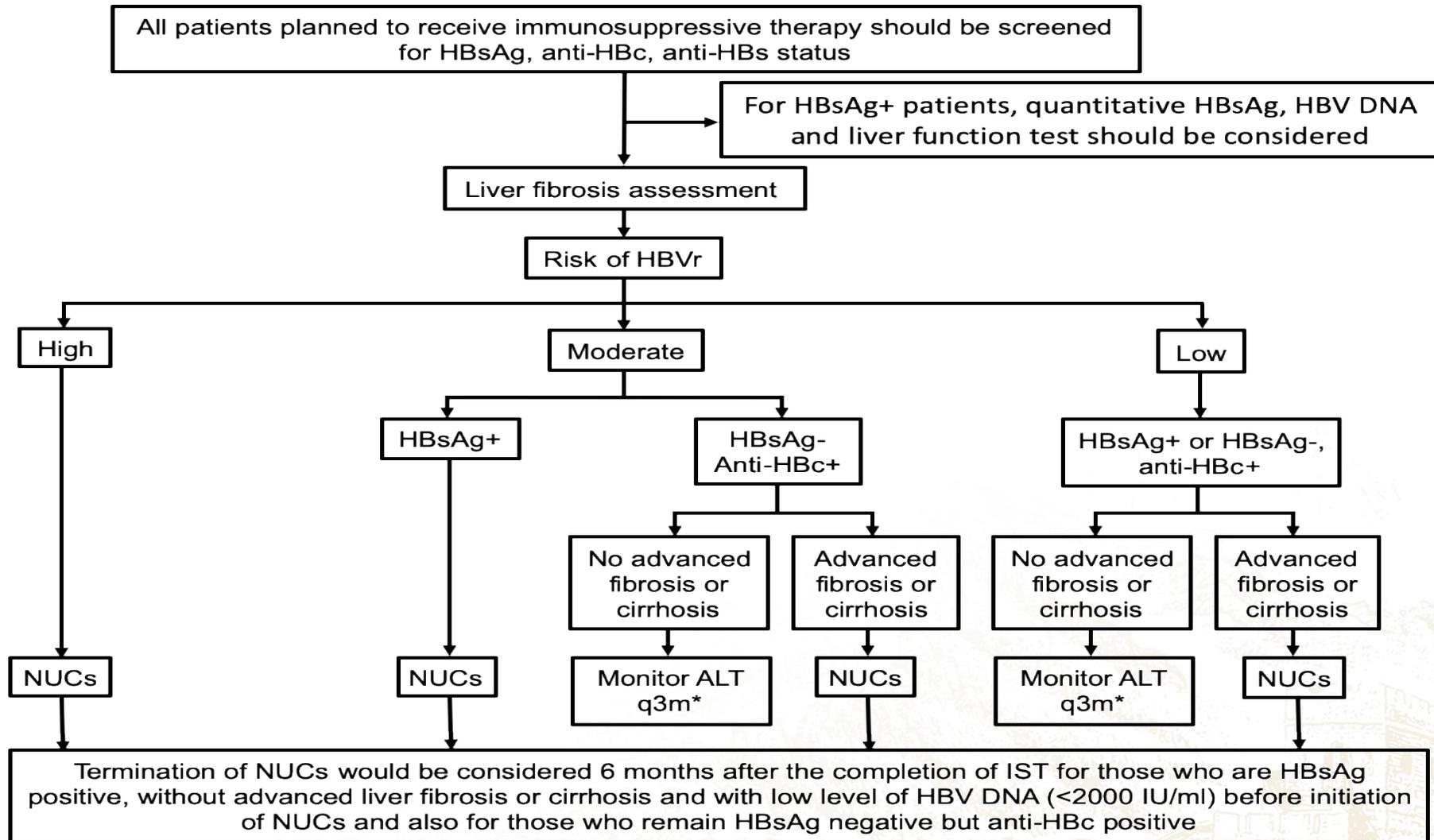
First single cohort study which demonstrate the occurrence of hepatitis due to HBV reactivation in HBV-HCV coinfectd patients treated with DAAs. This led the US FDA EMA to issue a “black- box” warning which change the DAAs management algorithm in HCV patients





APASL clinical practice guideline on hepatitis B reactivation related to the use of immunosuppressive therapy

George Lau^{1,2} · Ming-Lung Yu³ · Grace Wong⁴ · Alexander Thompson⁵ · Hasmik Ghazinian⁶ · Jin-Lin Hou⁷ · Teerha Piratvisuth⁸ · Ji-Dong Jia⁹ · Masashi Mizokami¹⁰ · Gregory Cheng^{2,11} · Guo-Feng Chen¹² · Zhen-Wen Liu¹³ · Oidov Baatarkhuu¹⁴ · Ann Lii Cheng¹⁵ · Woon Leung Ng¹⁶ · Patrick Lau¹ · Tony Mok¹⁷ · Jer-Ming Chang¹⁸ · Saeed Hamid¹⁹ · A. Kadir Dokmeci²⁰ · Rino A. Gani²¹ · Diana A. Payawal²² · Pierce Chow²³ · Joong-Won Park²⁴ · Simone I. Strasser²⁵ · Rosmawaiti Mohamed²⁶ · Khin Maung Win²⁷ · Tanwandee Tawesak²⁸ · Shiv Kumar Sarin²⁹ · Masao Omata^{30,31}



* If ALT increase is >2x baseline, check HBsAg, HBV DNA and start NUCs treatment for patients with HBsAg sero-reversion or > 2 log increase in HBV DNA.



Anti-viral therapy HBV and HCV



Global phase 3 clinical trials which led to the registration of pegylated interferon-a2a as a form of treatment for CHB infection

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Peginterferon Alfa-2a Alone, Lamivudine Alone, and the Two in Combination in Patients with HBeAg-Negative Chronic Hepatitis B

Patrick Marcellin, M.D., George K.K. Lau, M.D., Ferruccio Bonino, M.D., Patrizia Farci, M.D., Stephanos Hadziyannis, M.D., Rui Jin, M.D., Zhi-Meng Lu, M.D., Teerha Piratvisuth, M.D., Georgios Germanidis, M.D., Cihan Yurdaydin, M.D., Moises Diago, M.D., Selim Gurel, M.D., Ming-Yang Lai, M.D., Peter Button, M.Sc., and Nigel Pluck, M.D., for the Peginterferon Alfa-2a HBeAg-Negative Chronic Hepatitis B Study Group*

N Engl J Med. 2004; 16;351(12):1206-17.

(Citation-1545)

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Peginterferon Alfa-2a, Lamivudine, and the Combination for HBeAg-Positive Chronic Hepatitis B

George K.K. Lau, M.D., Teerha Piratvisuth, M.D., Kang Xian Luo, M.D., Patrick Marcellin, M.D., Satawat Thongsawat, M.D., Graham Cooksley, M.D., Edward Gane, M.D., Michael W. Fried, M.D., Wan Cheng Chow, M.D., Seung Woon Paik, M.D., Wen Yu Chang, M.D., Thomas Berg, M.D., Robert Flisiak, M.D., Philip McCloud, Ph.D., and Nigel Pluck, M.D., for the Peginterferon Alfa-2a HBeAg-Positive Chronic Hepatitis B Study Group*

N Engl J Med. 2005;352(26):2682-95.

(Citation-2049)



Drug	CHB	Primary Endpoint	Publications
LAM	HBeAg+/-	> two points in ↓Knodell NI score	Lai CL NEJM 1998
ADV	HBeAg+	> two points in ↓Knodell NI score*	Marcellin P NEJM 2003
	HBeAg-	> two points in ↓Knodell NI score*	Hadziyannis SJ NEJM 2003
<u>piFNα2a</u>	<u>HBeAg+</u>	<u>HBeAg seroconversion</u> <u>Serum HBV DNA < 10⁵ copies/ml</u>	<u>Lau G NEJM 2005</u>
	<u>HBeAg-</u>	<u>normalization of ALT; HBV DNA < 20,000 copies/ml</u>	<u>Marcellin P NEJM 2003</u>
LDT	HBeAg+/-	serum HBV DNA < 5 log ₁₀ copies/ml; loss of HBeAg normalization of ALT	Lai CL NEJM 2007
<u>TDF</u>	<u>HBeAg+/-</u>	<u>HBV DNA < 400 copies/ml</u> <u>> two points in ↓Knodell NI score*</u>	<u>Marcellin P NEJM 2008</u>
<u>ETV</u>	<u>HBeAg-</u>	<u>> two points in ↓Knodell NI score*</u>	<u>Lai CL NEJM 2006</u>
	HBeAg+	> two points in ↓Knodell NI score*	Chang TT NEJM 2006
CLV	HBeAg+	HBV DNA < 300 copies/mL; HBeAg seroconversion	Lau G Korean J Hepatol 2009
<u>TAF</u>	<u>HBeAg+</u>	<u>HBV DNA < 29 IU/mL</u>	<u>Chan HL Lancet GH 2016</u>
	HBeAg-	HBV DNA < 29 IU/mL	Buti M Lancet GH 2016

*with no worsening of Knodell fibrosis score

Anti-HBV drug approved by 2016



**Faculty Members and Participants of Asian Pacific Consensus for Diagnosis and Treatment of Chronic Hepatitis B and C,
Kyoto, Japan, 6-7 September 1999**

(Back row from left to right) J Lau , M Robertson, J McDonald, P Desmond, C Hum, Y Shiratori, J Fawcett, KC Tan, K Preston, E Tanaka, BE Wang, J Humphries, A Yan, M Preston (3rd row from left to right) J Kaldor, J Chen, ST Fan, NH Stace, E Gane, M Zeniya, O Yokosuka, GKK Lau, H Furukawa, CL Lai , K Tanaka (2nd row from left to right) M. Sinclair, H Yatsuhashi, A Chutaputti, R Guan, I Merican, K Shiraki, J-H Kao, GB Yao (1st row from left to right) C-M Chu, M Atkins, C-J Chen, M-Y Lai, WC Chow, D-S Chen, M Yano, K Okuda, G Farrell, Y-F J

GUIDELINES

Asian-Pacific clinical practice guidelines on the management of hepatitis B: a 2015 update

S. K. Sarin¹ · M. Kumar¹ · G. K. Lau^{2,27} · Z. Abbas³ · H. L. Y. Chan⁴ ·
C. J. Chen⁵ · D. S. Chen⁶ · H. L. Chen⁷ · P. J. Chen⁸ · R. N. Chien⁹ ·
A. K. Dokmeci¹⁰ · Ed Gane¹¹ · J. L. Hou¹² · W. Jafri¹³ · J. Jia¹⁴ · J. H. Kim¹⁵ ·
C. L. Lai¹⁶ · H. C. Lee¹⁷ · S. G. Lim¹⁸ · C. J. Liu⁷ · S. Locarnini¹⁹ ·
M. Al Mahtab²⁰ · R. Mohamed²¹ · M. Omata²² · J. Park²³ · T. Piratvisuth²⁴ ·
B. C. Sharma²⁵ · J. Sollano²⁶ · F. S. Wang²⁸ · L. Wei²⁹ · M. F. Yuen³⁰ ·
S. S. Zheng³¹ · J. H. Kao³²

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(Citation-2860)

Current guidelines on eligibility for antiviral treatment in CHB patients

Limitations

- New/more sensitive biomarkers-qHBsAg, rHBcAg, HBV RNA, HBV DNA
- Non-invasive liver fibrosis assessment
- Co-morbidity factor-MAFLD

NR-nor required; *IU/ml

Guidelines	No liver cirrhosis						Cirrhosis	
	HBeAg+			HBeAg-			Compensated	Decompensated
	HBV DNA*	Serum ALT	Histology	HBV DNA*	Serum ALT	Histology		
AASLD ¹	>20,000	≥2 x ULN	NR	≥2000	≥2XULN	NR	HBV DNA+	ALL
	>20,000	1-2X ULN	≥F2 or ≥A2	>2000	>ULN	≥F2 or ≥A2		
APASL ²	>20,000	≥2 x ULN	NR	>2000	>ULN	NR	HBV DNA*>2000 /HBV DNA+ALT>ULN	HBV DNA+
	>20,000	1-2xULN	≥F2 or ≥A2	>2000	≥2XULN	≥F2 or ≥A2		
EASL ³	>20,000	>2xULN	NR	>20,000	>2xULN	NR	HBV DNA+	
	>2000	>ULN	≥F2 or ≥A2	>2000	>ULN	≥F2 or ≥A2		

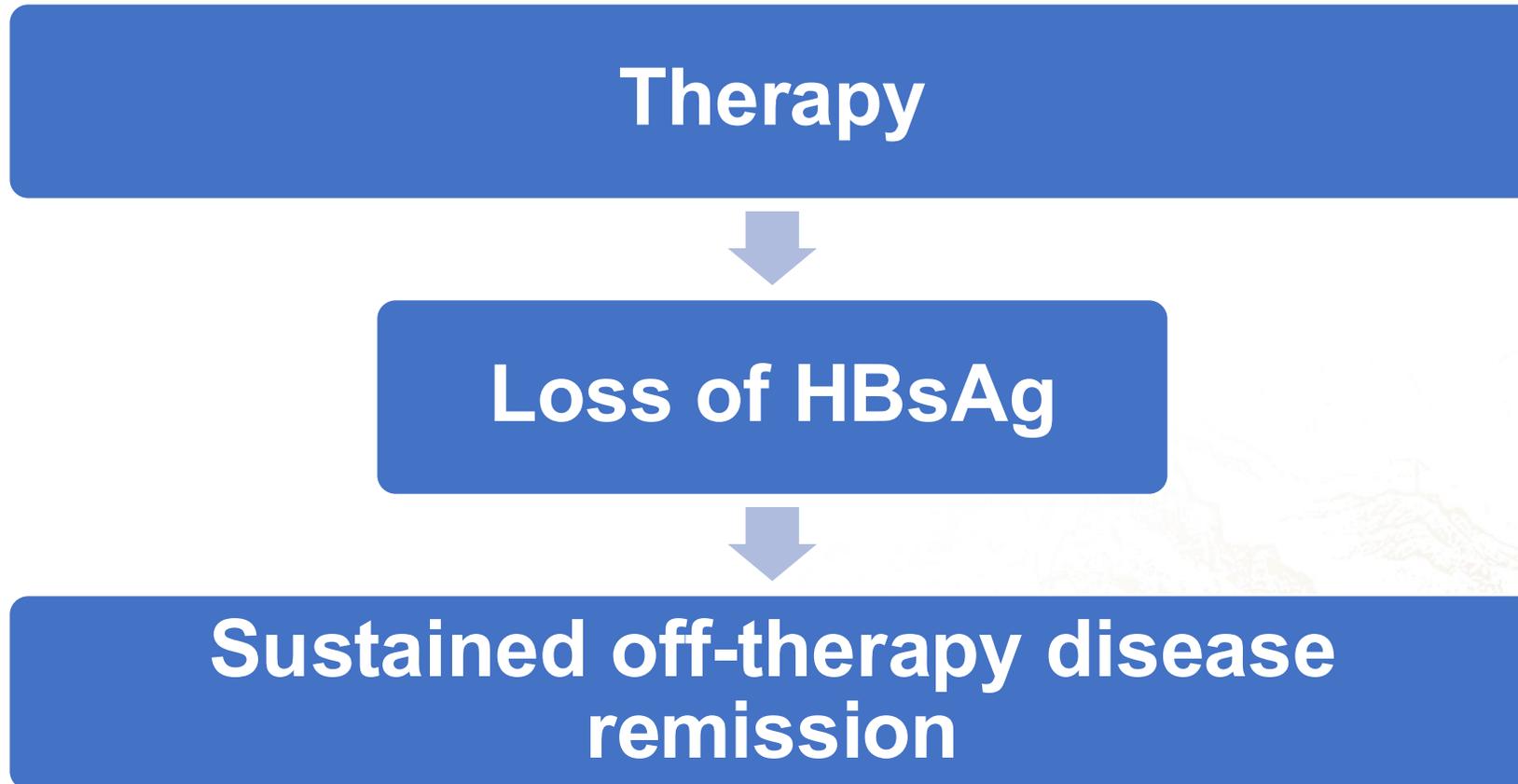
¹Terrault, N. A. et al. Update on prevention, diagnosis, and treatment of chronic hepatitis B:AASLD 2018 hepatitis B guidance. *Hepatology* 67, 1560–1599 (2018).

²Sarin, S. K. et al. Asian-Pacific clinical practice guidelines on the management of hepatitis B: a 2015 update. *Hepatol. Int.* 10, 1–98 (2016).

³European Association for the Study of the Liver. EASL 2017 Clinical Practice Guidelines on the management of hepatitis B virus infection. *J. Hepatol.* 67, 370–398 (2017).

CHB “Functional CURE”

Definition of “Cure”



- To make someone with an illness healthy again
 - Cambridge dictionary
- To make a person healthy again after an illness
 - Oxford learner dictionary

Functional “Cure”- current registered anti-HBV therapy

Monotherapy

- pIFN α 2a x 48 wks:3-8 %

Lau 2005, Marcellin 2004

- High-resistant barrier NUCs:<1%/yr

Combination therapy

- De novo: 1-15% at wk 24-720

Ahn 2018, Yim 2020, Lok 2011, Hagiwara 2018, Zheng 2019

- Add-on:1-11% at wk48-226

Jindal 2018, Bouriliere 2017, Van Campenhout 2019, Li 2015

- Switch:1-33% at wk 48-72

Ning 2014, Hsu 2018, Yoshida 2021, Lim 2020

96-week pIFN α 2a to CHB on NUCs

HBcrAg <4 log₁₀U/ml and HBsAb >2 log₁₀IU/L at EOT
PPV -100% for SVR with an AUROC of 0.822 (0.684-0.961, p = 0.001)

257 CHB on NUCs (1-5 yrs) with serum HBV DNA <-1,000 copies/ml and HBsAg <-3,000 IU/ml (ANCHOR)



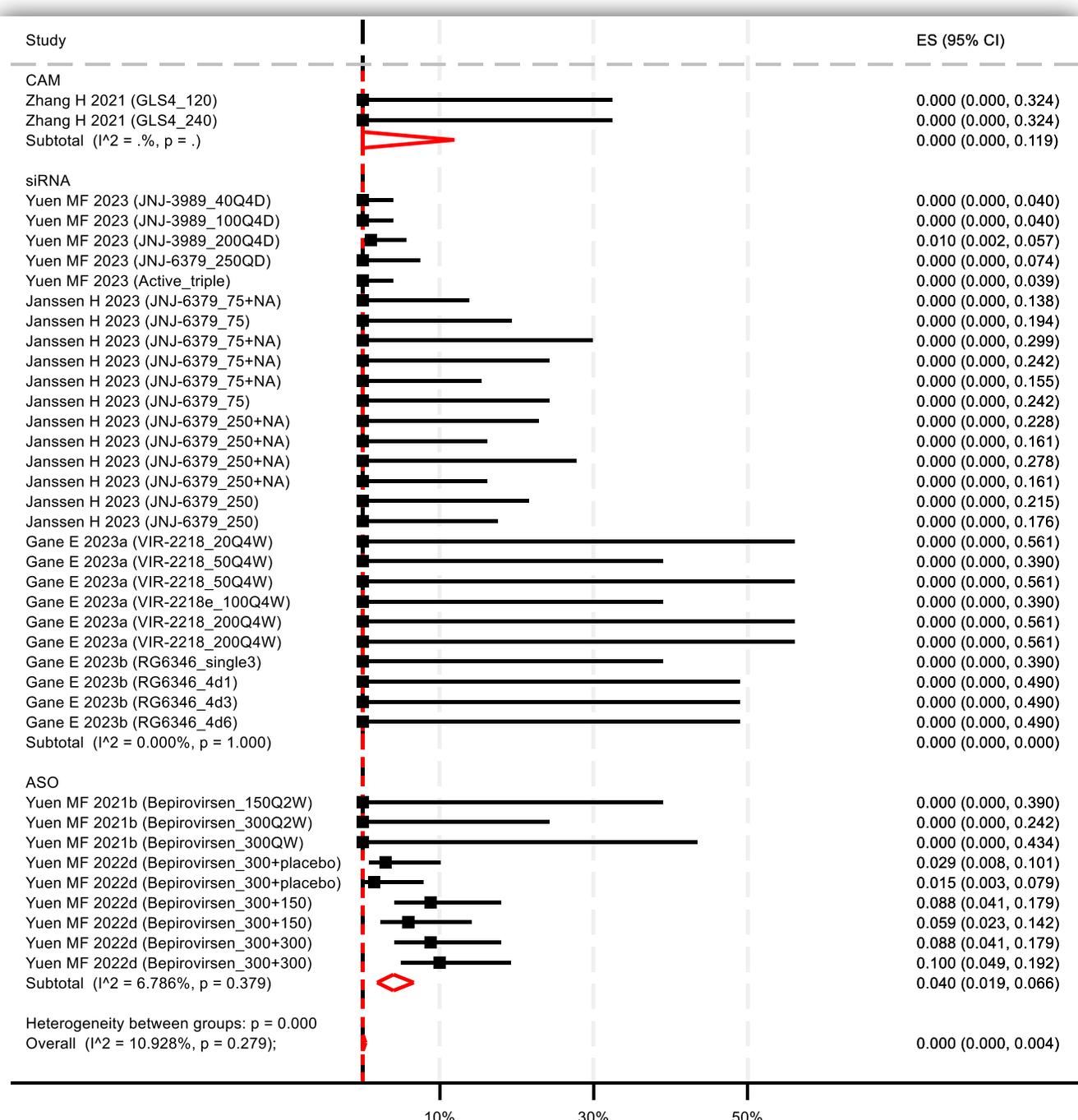
80 randomly assigned to 96-week p-IFN- α -based Rx with 24-week off-Rx FU



21 (26.3%) sustained HBsAg loss (SVR)

Functional cure with new antiviral therapy for hepatitis B virus: a systematic review and meta-analysis

Chen J, Ji D, Jia JD, Zhuang H, Zhang X, Wang FS, Zhang WH, Dou XG, Tanwandee T, Sarin SK, Maiwall R, Kumar M, Goh GBB, Hasmik G, Chutaputti A, Chen PJ, You H, Yu ML, George J, Omata M, Wang GQ, Lau G* , On behalf of APASL Viral Elimination Taskforce



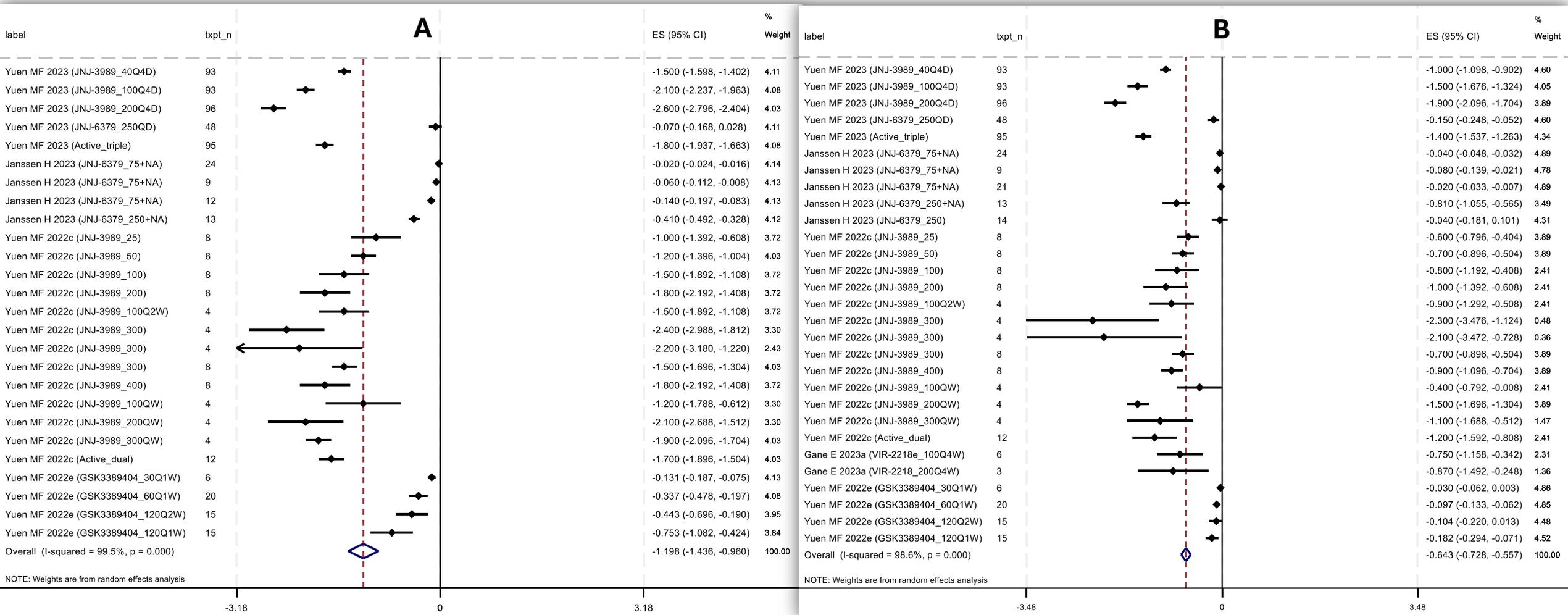
**Rate of functional cure-
very low**

Though numerically higher, rate in ASO was not statistically significant than that in CAM (p=0.81) and siRNA (p=0.35)

P values were estimated by meta regression

Reported rate of functional cure by compounds categories.

Decline In HBsAg Level-not durable



HBsAg change from baseline measured at (A) EOT and (B) EOF in those with reported decline (negative change). Among the five studies with both reported negative on-tx and off-tx change from baseline (contributing to 26 unique treatment arms), the pooled on-tx decline from baseline was -1.20 log₁₀ IU/mL (95%CI -1.44 to -0.96, p<0.001, I²=99.5%) while the pooled off-tx decline from baseline was -0.64 log₁₀ IU/mL (95%CI -0.73 to -0.56, p<0.001, I²=98.6%).

Revelation of unknown confounding factor (group 3) impeded functional “cure” for CHB

No clear Dose-Dependent-phase 2b study CHB on NUCs with HBsAg reduction $\geq 3 \log_{10}$ IU/mL at wk 12

Gp 3 (16%) vs Gp1 (34%, $p=0.01$) vs Gp 2 (37%, $p=0.005$)

Figure S3. Proportion of Participants (A) Receiving NA Therapy and (B) Not Receiving NA Therapy, Achieving the Primary Outcome by Baseline HBsAg and HBsAg status (ITT Population).

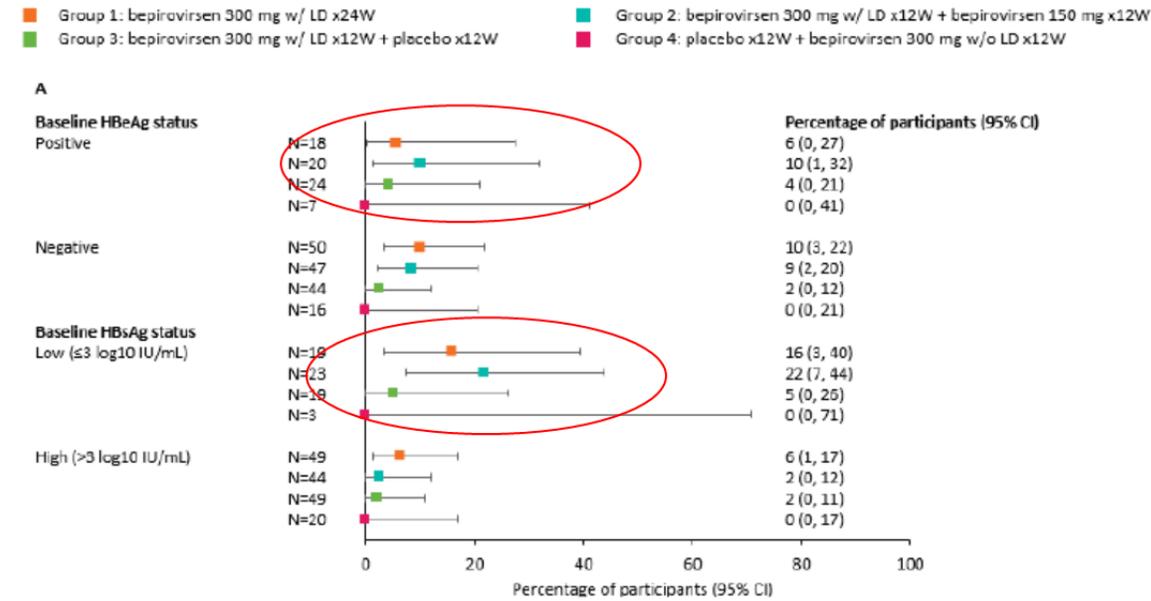
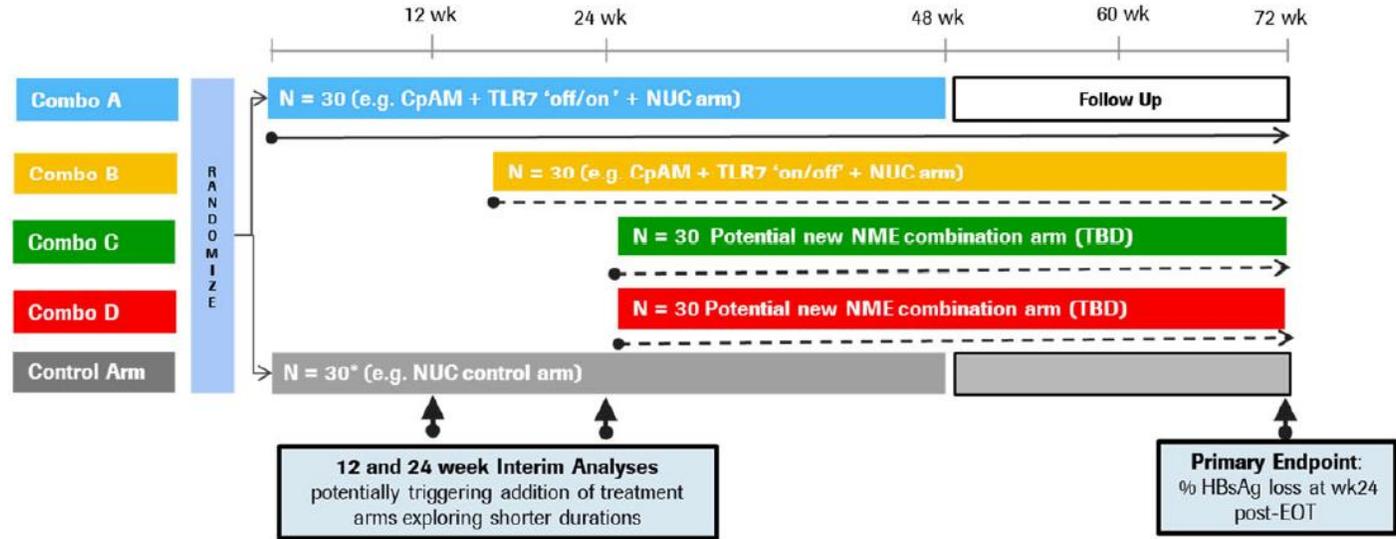


Figure S11. Categorical Changes from Baseline in HBsAg (i.e., reductions of <0.5 , ≥ 0.5 – <1 , ≥ 1 – <1.5 , ≥ 1.5 – <3 , $\geq 3 \log_{10}$ IU/mL) in (A) Participants Receiving NA Therapy and (B) Participants Not Receiving NA Therapy (ITT Population).



Xalnesiran for CHB

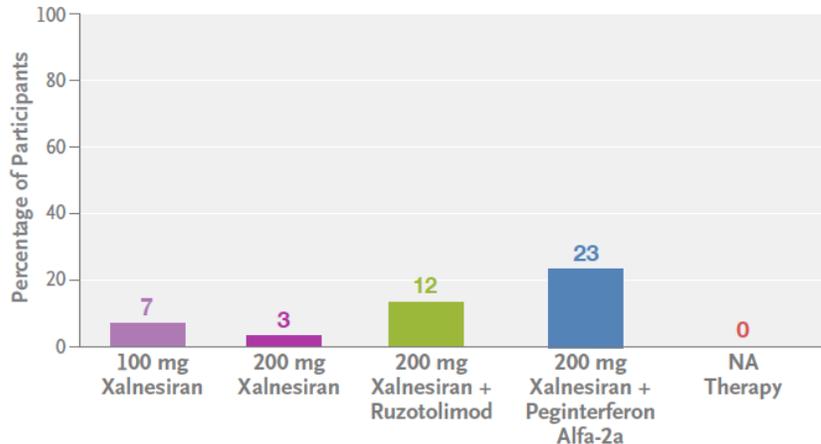
Xalnesiran- siRNA molecule that targets a conserved region of the HBV genome and silences multiple HBV transcripts



Abbreviations: CpAM= core protein allosteric modulator; EOT=end-of-treatment; HBsAg=Hepatitis B surface antigen; NME= new molecular entity; NUC= nucleos(t)ide; TLR7=toll-like receptor 7; TBD=to be determined.

* Initially 30 participants. Approximately 5 additional participants per future treatment arm will be randomized to the control arm.

HBsAg Loss at 24 Weeks after the End of Treatment



HBsAg loss

- Only in participants with baseline HBsAg <1000 IU/mL
- Need the addition of Peg-IFN

Major considerations for new drug development-compared with existing therapy (p-IFN/NUCs)

SAFETY

EFFICACY

COST

UNKNOWN CONFOUNDING FACTOR

Importance of immunity to “cure” liver diseases



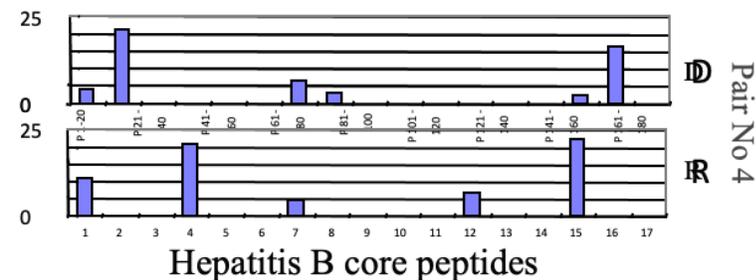
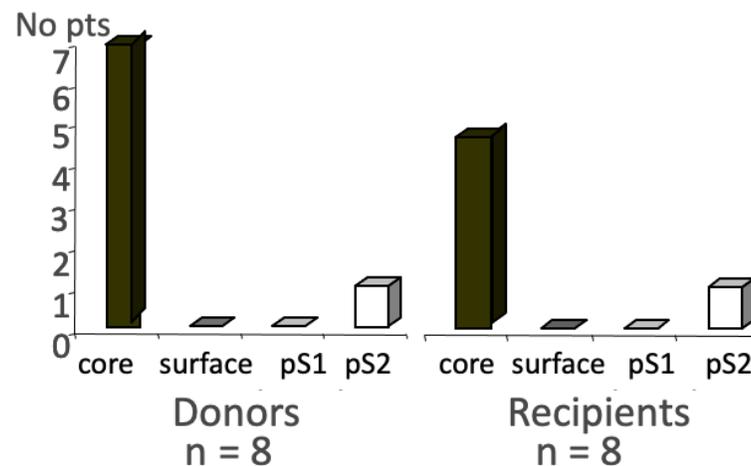
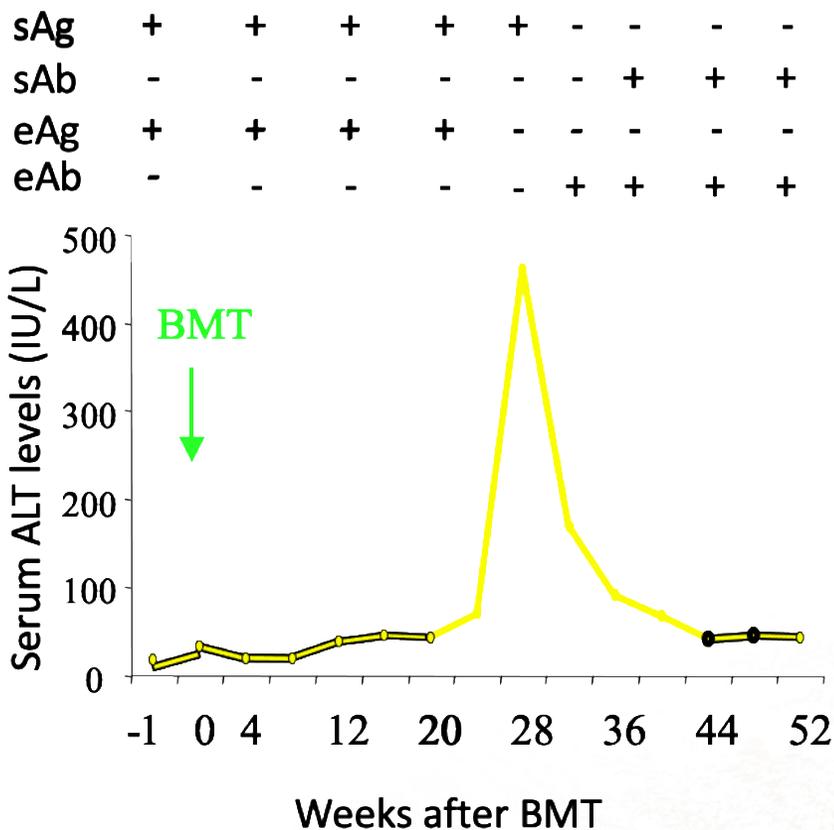
CLINICAL RESEARCH

Resolution of Chronic Hepatitis B and Anti-HBs Seroconversion in Humans by Adoptive Transfer of Immunity to Hepatitis B Core Antigen

GEORGE K. K. LAU,^{*,†} DEEPAK SURI,^{*} RAYMOND LIANG,[†] EIRINI I. RIGOPOULOU,^{*}
MARK G. THOMAS,[§] IVANA MULLEROVA,^{*} AMIN NANJI,^{||} SIU-TSAN YUEN,^{||}
ROGER WILLIAMS,^{*} and NIKOLAI V. NAOUMOV^{*}

^{*}Institute of Hepatology and [§]Department of Biology, University College London, London, England; and Departments of [†]Medicine and ^{||}Pathology, Queen Mary Hospital, Hong Kong, China

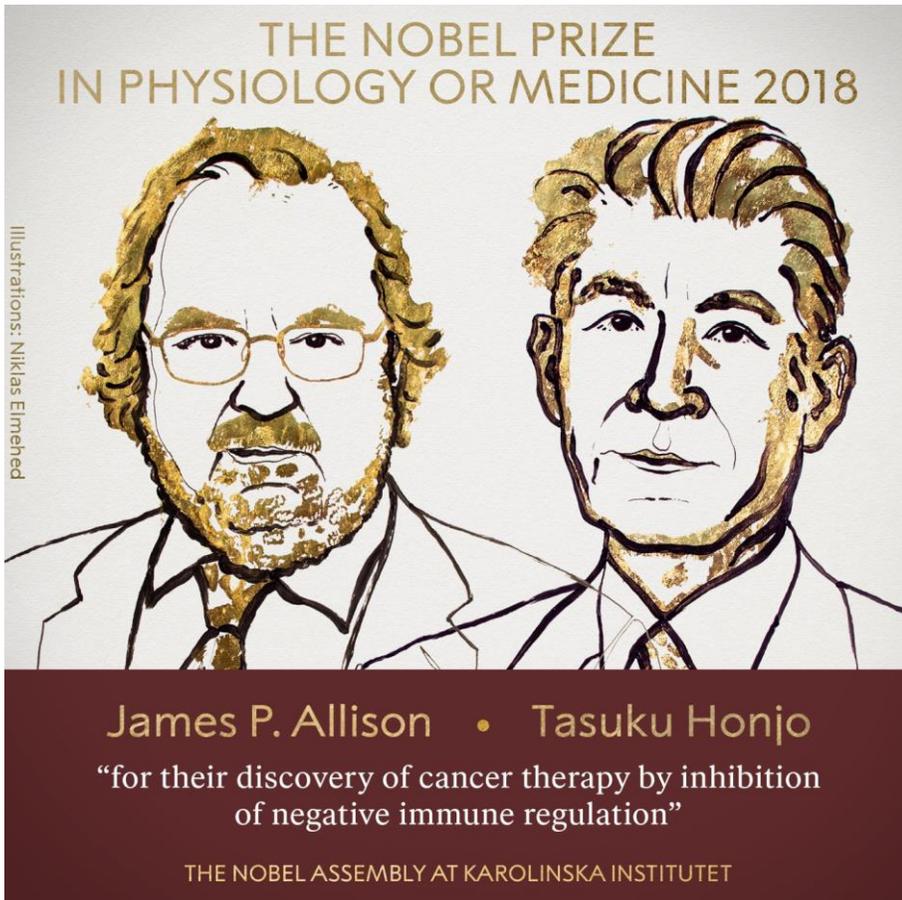
This study demonstrate the importance of restoration of immune response to chronic hepatitis B is required for a “CURE”



HCC

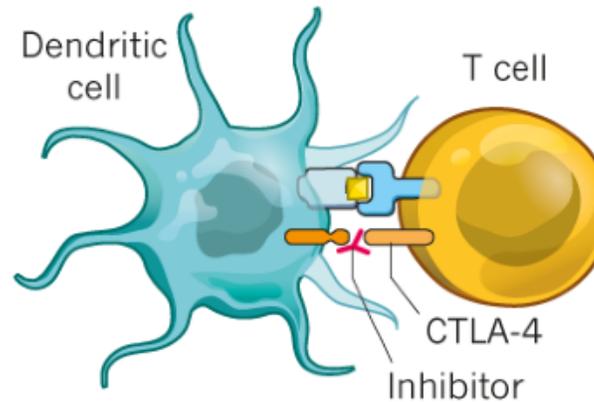
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○ ●

Immune checkpoint inhibitors (ICIs) as cancer immunotherapy

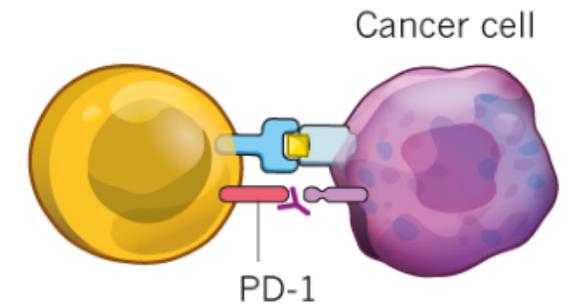


CHECKPOINT INHIBITOR DRUGS

‘Checkpoint’ proteins block T-cell activity. Inhibitor drugs can release the brakes on T cells at different stages.



The CTLA-4 checkpoint protein prevents dendritic cells from priming T cells to recognize tumours. Inhibitor drugs block the checkpoint.

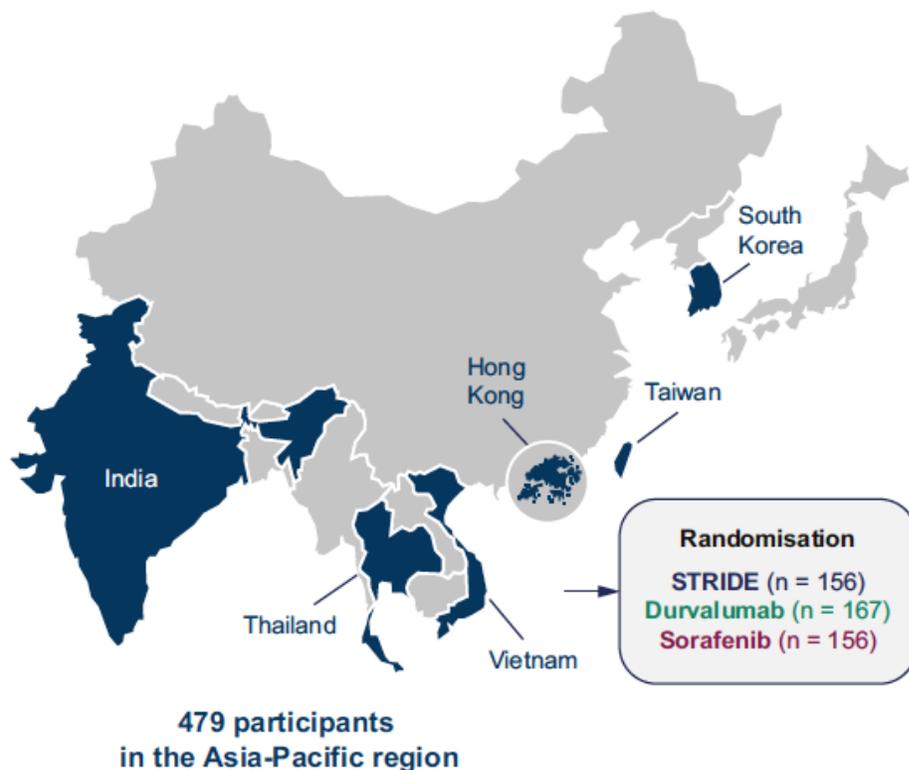


The PD-1 checkpoint protein prevents T cells from attacking cancer cells. The inhibitor drug allows T cells to act.

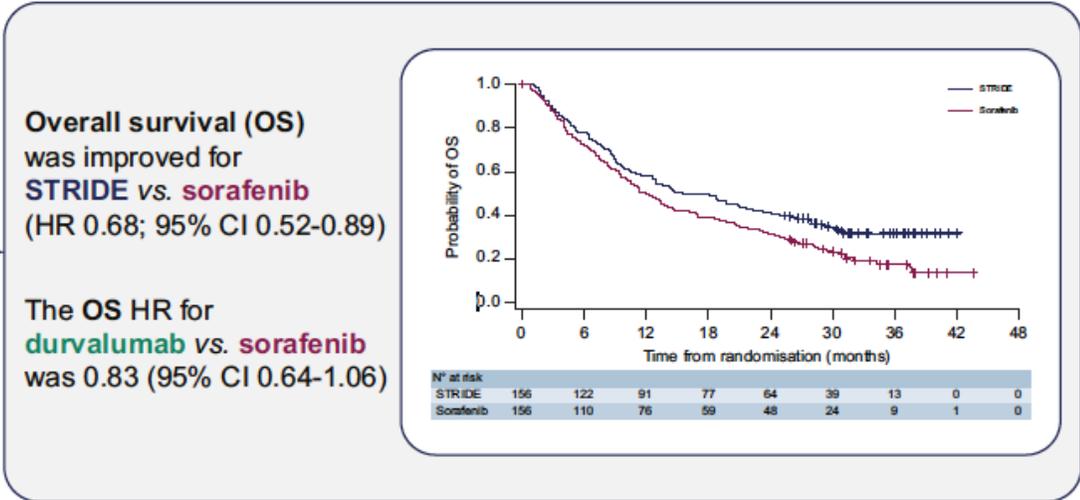
Outcomes in the Asian subgroup of the phase III randomised HIMALAYA study of tremelimumab plus durvalumab in unresectable hepatocellular carcinoma

George Lau^{1,†}, Ghassan K. Abou-Alfa^{2,3,*,†}, Ann-Lii Cheng⁴, Wattana Sukeepaisamjaroen⁵, Tu Van Dao⁶, Yoon Koo Kang⁷, Satheesh Chiradoni Thungappa⁸, Masatoshi Kudo⁹, Bruno Sangro¹⁰, Robin Kate Kelley¹¹, Junji Furuse¹², Joong-Won Park¹³, Patrapim Sunpaweravong¹⁴, Angelica Fasolo¹⁵, Thomas Yau¹⁶, Tomokazu Kawaoka¹⁷, Sergio Azevedo¹⁸, Maria Reig¹⁹, Eric Assenat²⁰, Mark Yarchoan²¹, Aiwu Ruth He²², Mallory Makowsky^{23,‡}, Charu Gupta²⁴, Alejandra Negro²³, Stephen L. Chan^{25,†}

First Asian study to demonstrate the benefits of STRIDE for HCC patients in the Asia-Pacific region



Randomisation
STRIDE (n = 156)
Durvalumab (n = 167)
Sorafenib (n = 156)



Grade 3/4 treatment-related adverse events were numerically lower for STRIDE (19.9%) and durvalumab (13.3%) vs. sorafenib (30.5%)

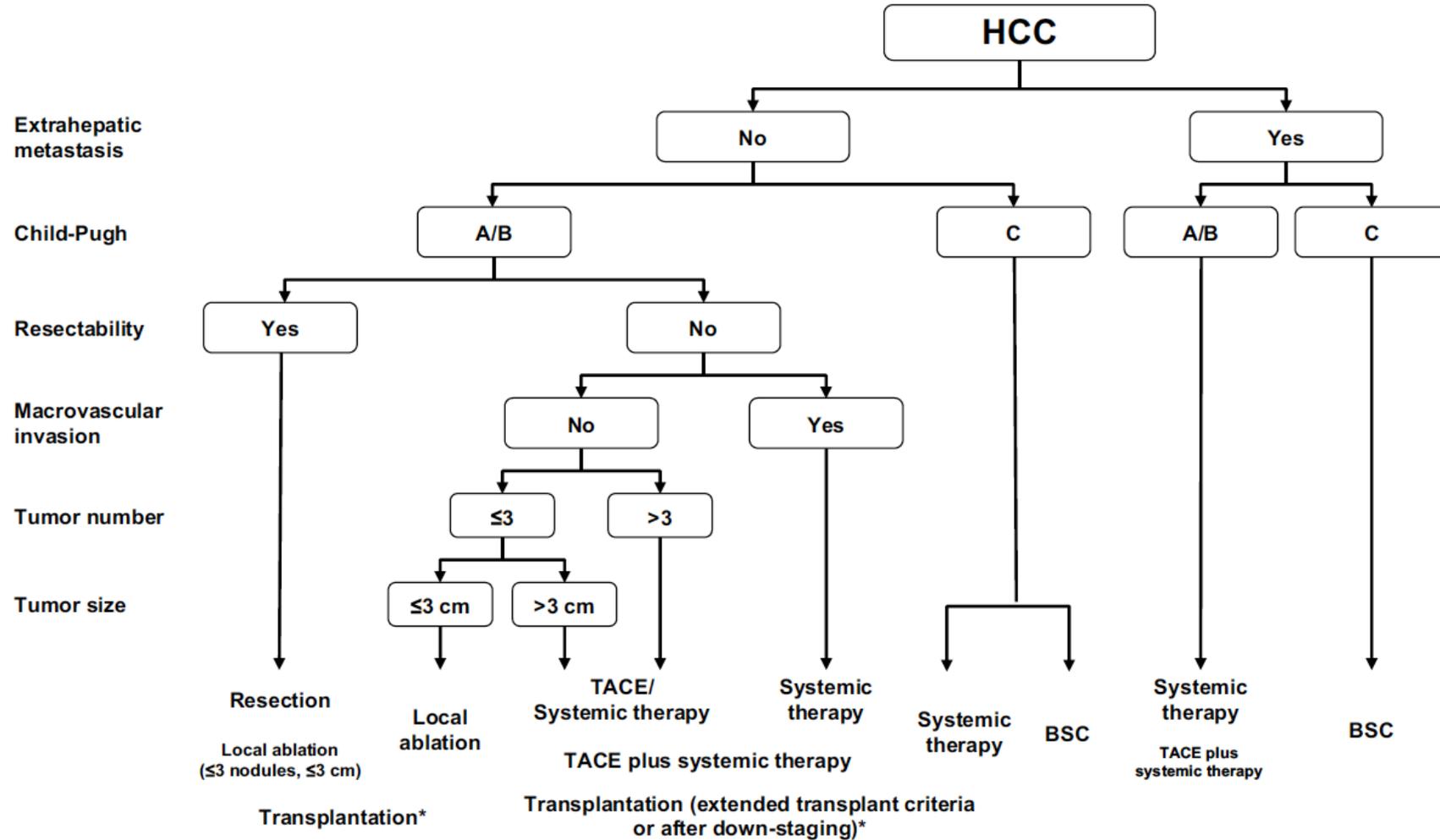
STRIDE improved outcomes versus sorafenib in the Asian subgroup.
These results support the benefits of STRIDE for participants with unresectable hepatocellular carcinoma globally, including the Asia-Pacific region.



APASL clinical practice guidelines on systemic therapy for hepatocellular carcinoma-2024

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Treatment Algorithm of HCC (APASL 2024)



Take home messages

CHB

- Functional cure-need addition of immunomodulatory therapy

CHC

- CURE

HCC

- ICIs-based therapy

Our team



In loving memory
our wonderful
colleague-Professor
Dr. dr. Laurentius A.
Lesmana, Sp. PD-
KGEH

