APPLE 2026
The 16th Asia-Pacific Primary Liver Cancer Expert Meeting
July 3-5, 2026 Shanghai · China

Networking Opportunities and Challenges

Chair Prof. Yi-Hsiang Huang

President, Taiwan Liver Cancer Association (TLCA)

Council member, Asia-Pacific Primary Liver Cancer Expert Association (APPLE)

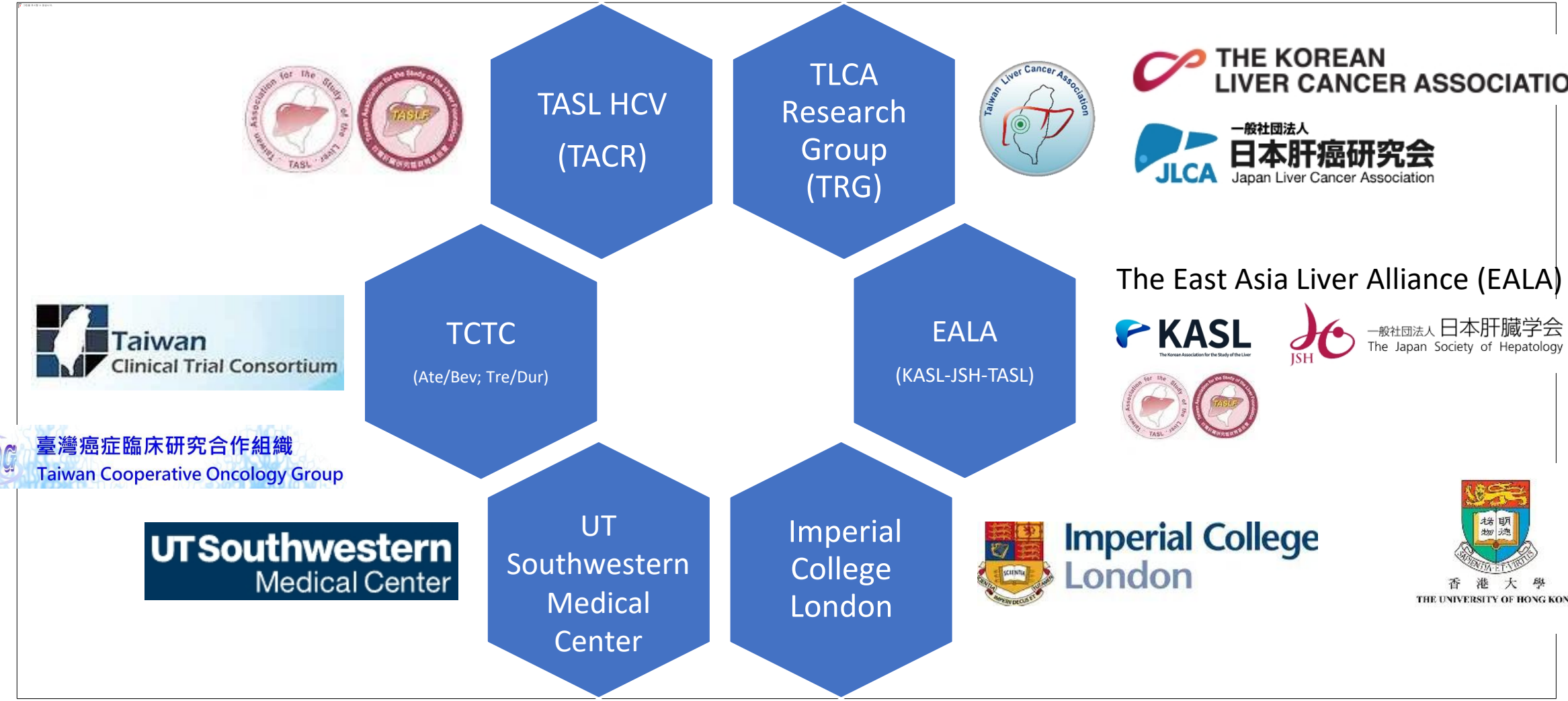
Director, Department of Medical Research, Taipei Veterans General Hospital

Chair Professor, Institute of Clinical Medicine, National Yang Ming Chiao Tung University (NYCU), Taipei, Taiwan

Disclosure of Conflict of Interest

- Advisory Board Membership: AstraZeneca, Gilead Sciences, Bristol-Meyers Squibb, Ono Pharmaceuticals, Eisai, Merck Sharp & Dohme and Roche.
- Research Grants: Gilead Sciences
- Speakership: AstraZeneca, Gilead Sciences, Bristol-Meyers Squibb, Ono Pharmaceutical, Merck Sharp & Dohme, Eisai, and Roche

Domestic and international consortium



TLCA Research Group (TRG)

- Established in 2022
- A platform for investigators to propose study concepts and collect multicenter data supported by TLCA.

Liver Cancer

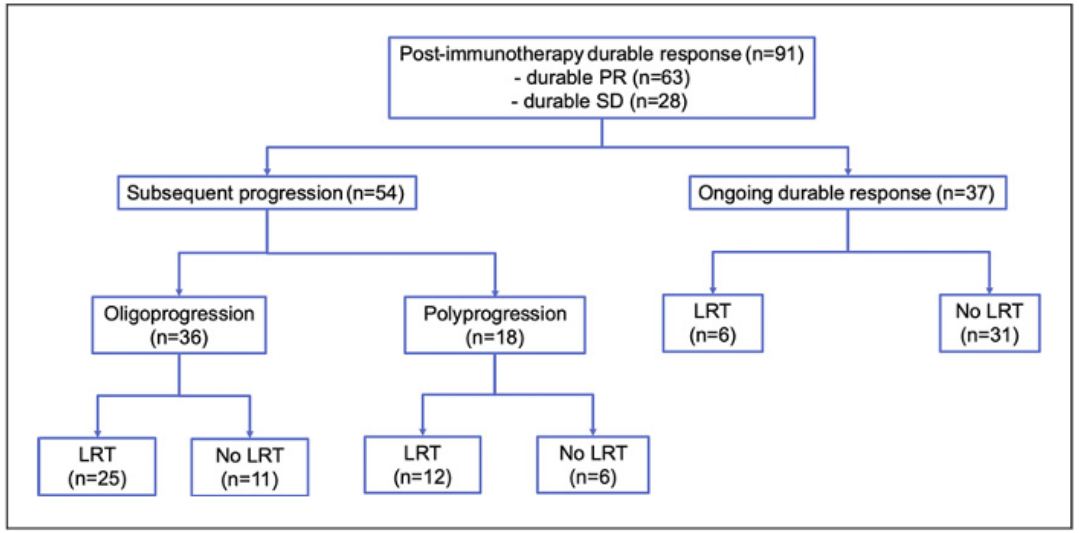
Research Article

Liver Cancer 2024;13:509–521
DOI: 10.1159/000536549

Received: August 12, 2023
Accepted: January 29, 2024
Published online: February 1, 2024

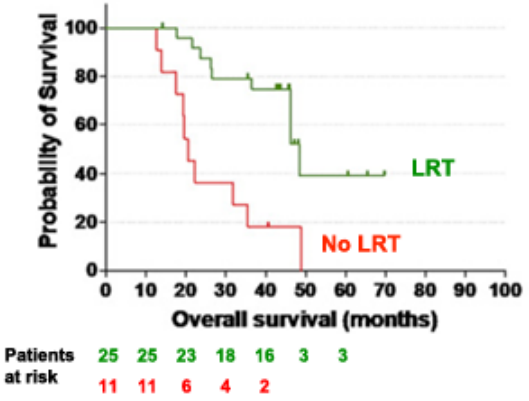
Outcomes of Post-Immunotherapy Durable Responders of Advanced Hepatocellular Carcinoma– with Emphasis on Locoregional Therapy for Oligoprogression

Tsung-Hao Liu[a, b] San-Chi Chen[c] Kun-Ming Rau[d] Li-Chun Lu[a, b]
Po-Ting Lin[e, f] Yung-Yeh Su[g] Wei Teng[e, f] Shiue-Wei Lai[h] Ren-Hua Yeh[h]
Tsui-Mai Kao[i] Pei-Chang Lee[j] Chi-Jung Wu[j] Chien-Hung Chen[k]
Chih-Hung Hsu[a, b] Shi-Ming Lin[e, f] Yi-Hsiang Huang[j, l, m] Li-Tzong Chen[g, h]
Ann-Lii Cheng[a, b, n] Ying-Chun Shen[a, b, n]
on behalf of Taiwan Liver Cancer Association Research Group (TRG)



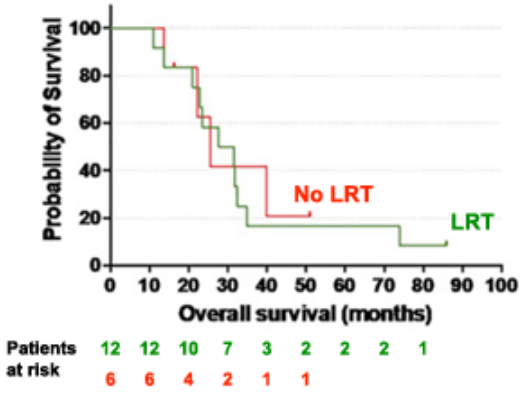
Patients with oligoprogression

	Median OS (month)	*P*-value
LRT (n = 25)	48.4 (95% CI 38.7-58.0)	P<0.001
No LRT (n=11)	20.5 (95% CI 17.5-23.5)	



Patients with polyprogression

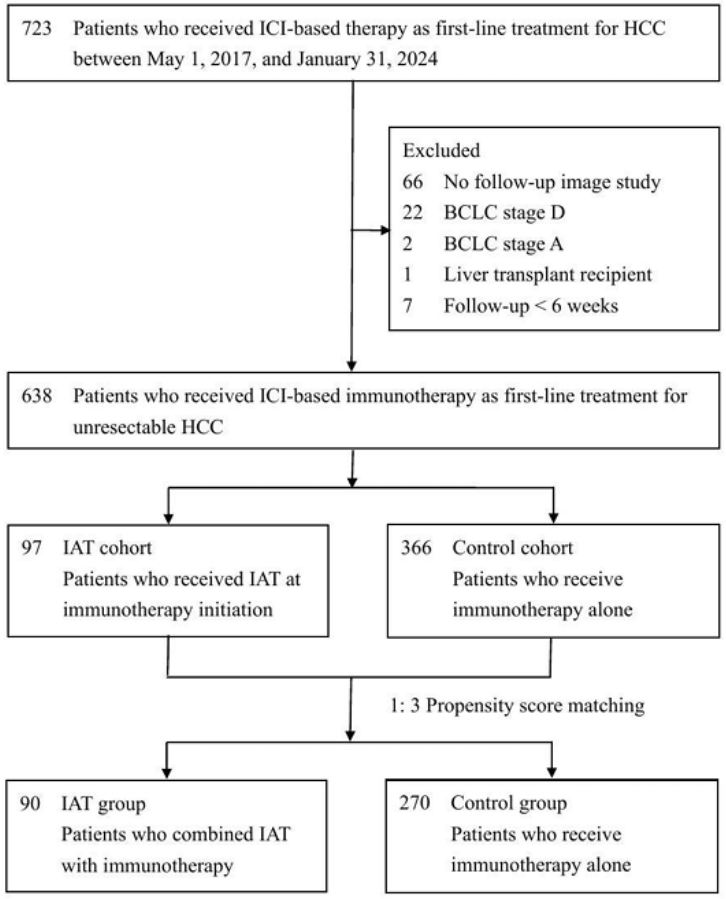
	Median OS (month)	*P*-value
LRT (n = 12)	27.7 (95% CI 13.8-41.6)	0.794
No LRT (n=6)	25.5 (95% CI 18.6-32.4)	



Liu TH, et al.Liver Cancer. 2024 Feb 1;13(5):509-521. doi: 10.1159/000536549.

Addition of Intra-arterial Therapy to Immunotherapy Improves Outcomes in uHCC: Taiwan Multicenter Cohort Study (TRG)

IAT cohort: patients received TACE, TARE, or HAIC within 4 weeks of initiating 1L immunotherapy



Karger OPEN ACCESS

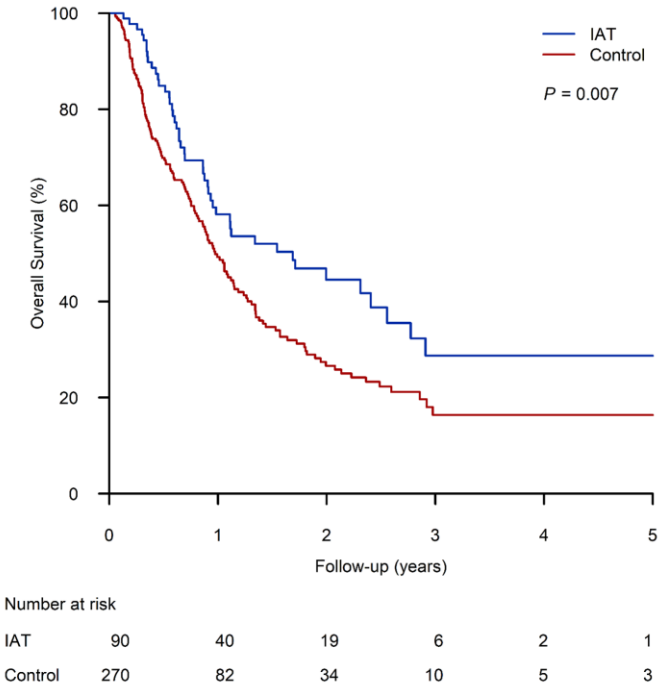
Liver Cancer

Liver Cancer , DOI: 10.1159/000552375
Received: November 13, 2025
Accepted: April 20, 2026
Published online: May 5, 2026

Addition of Intra-arterial Therapy to Immunotherapy Improves Outcomes in Unresectable Hepatocellular Carcinoma: Taiwan Multicenter Cohort Study

Lee T-Y, Lee P-C, Shen Y-C, Hsu W-F, Lai S-W, Chang C-W, Su Y-Y, Su T-H, Lin P-T, Dai C-Y, Hsu C-S, Chen S-C, Rau K-M, Lee I-C, Jhan S-R, Liu T-H, Lai H-C, Wang T-E, Lin S-M, Liang P-C, Tseng C-H, Chang P-Y, Wu S-C, Wang H-W, Lee S-W, Huang Y-H

Variables	IAT group (n= 90)		Control group (n= 270)		*P* value
Tumor response, n (%)[1]					0.003
CR	13	(14.4)	15	(5.6)	
PR	29	(32.2)	56	(20.7)	
SD	26	(28.9)	95	(35.2)	
PD	22	(24.4)	99	(36.7)	
ORR	42	(46.7)	71	(26.3)	<.001
DCR	68	(75.6)	166	(61.5)	0.022
Clinical CR[2]	11	(12.2)	12	(4.4)	0.018
Curative conversion[3]	9	(10.0)	7	(2.6)	0.006
Curative conversion by hepatectomy	6	(6.7)	5	(1.9)	0.032
Clinical CR with drug-free status	6	(6.7)	10	(3.7)	0.376
Duration of response, week	19.0	(9.7-36.6)	11.0	(8.4-23.1)	0.009
Immune therapy duration, week	20.5	(11.0-43.1)	15.6	(7.5-28.6)	0.011
Discontinuation due to TRAE, n (%)	8	(8.9)	30	(11.1)	0.692
Subsequent systemic therapy, n (%)	19	(21.1)	47	(17.4)	0.529



Lee TY, Huang YH*, TLCA Research Group (TRG). Liver Cancer Liver Cancer , DOI: 10.1159/000552375

TRG and Japan Multicenter Collaboration

Lenvatinib was associated with significantly longer PFS than Atezo+Bev in patients with a baseline CRAFITY score of 2.

Karger OPEN ACCESS

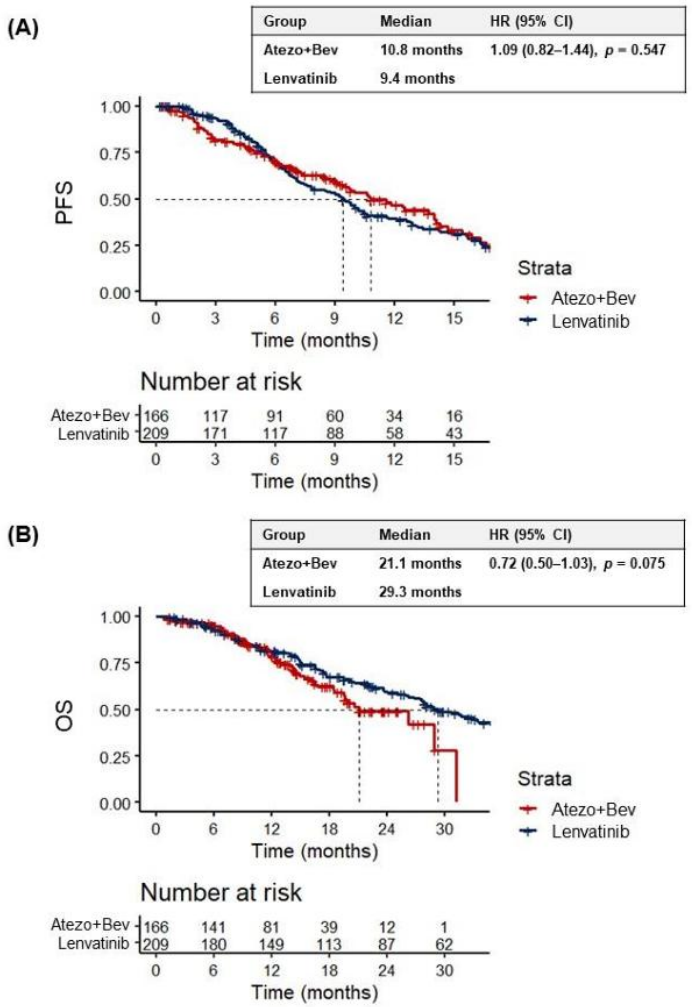
Liver Cancer

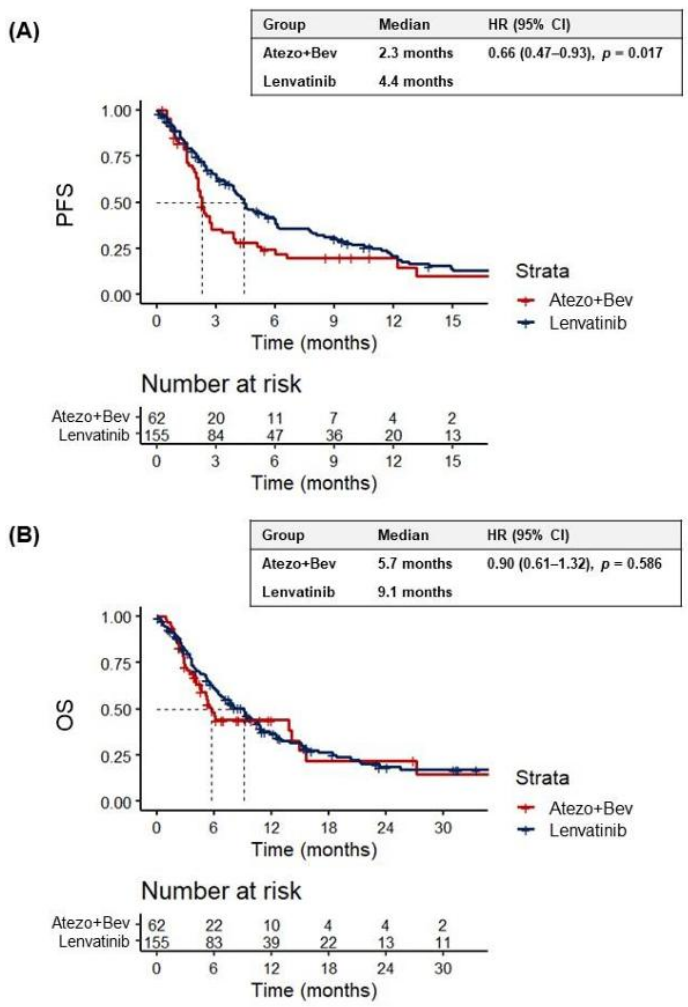
Liver Cancer , DOI: 10.1159/000552808
Received: February 6, 2026
Accepted: May 3, 2026
Published online: June 1, 2026

Atezolizumab Plus Bevacizumab Versus Lenvatinib as First-Line Treatment for Unresectable Hepatocellular Carcinoma Stratified by the CRAFITY Score: An International Multicenter Study

Ueno M, Su Y-Y, Takai A, Huang Y-H, Morimura H, Nishijima N, Lin S-M, Chang C-W, Iwamoto S, Nagatomo S, Lai H-C, Mitani T, Ikeda A, Uenoyama Y, Umeda M, Chen S-C, Chuang C-H, Lai S-W, Lee T-Y, Nakano S, Dai C-Y, Goto T, Su T-H, Hsu CS, Lo C-C, Takeda H, Osaki Y, Hatano E, Lee P-C, Lin P-T, Wang H-W, Hsu W-F, Liu T-H, Seno H

	Atezo+Bev (*n*=354)	Lenvatinib (*n*=640)	*p*-value
Age, years	71 [62–78]	71 [63–78]	0.564
Sex			0.320
Male	281 (79.4%)	489 (76.4%)	
Female	73 (20.6%)	151 (23.6%)	
Performance status			0.001*
0	254 (71.8%)	385 (61.6%)	
1	87 (24.6%)	186 (29.8%)	
2	13 (3.7%)	54 (8.6%)	
BCLC stage			0.419
Early	18 (5.1%)	56 (8.8%)	
Intermediate	128 (36.2%)	216 (33.8%)	
Advanced	208 (58.8%)	368 (57.5%)	
Macrovascular invasion	104 (31.2%)	161 (26.9%)	0.187
Extrahepatic metastasis	120 (36.0%)	236 (39.5%)	0.336
Child–Pugh score			0.272
5	183 (51.7%)	317 (49.5%)	
6	115 (32.5%)	198 (30.9%)	
7	39 (11.0%)	80 (12.5%)	
8	13 (3.7%)	26 (4.1%)	
≥9	4 (1.1%)	19 (3.0%)	
ALBI score	-2.45 [-2.73 to -2.04]	-2.42 [-2.70 to -2.02]	0.323
Etiology of liver diseases			
Viral			
Non-viral			
CRP, mg/dL	0.34 [0.11–1.64]	0.70 [0.20–2.69]	<0.001*
AFP, ng/mL	35.3 [4.7–824.1]	61.9 [6.3–964.0]	0.056
DCP, mAU/mL	560 [84–7229]	309 [44–3223]	0.005*
CRAFITY score			<0.001*
0	166 (46.9%)	209 (32.7%)	
1	126 (35.6%)	276 (43.1%)	
2	62 (17.5%)	155 (24.2%)	





Ueno M, et al. Liver Cancer , DOI: 10.1159/000552808

pISSN 2287-2728
eISSN 2287-285X

CLINICAL and MOLECULAR HEPATOLOGY

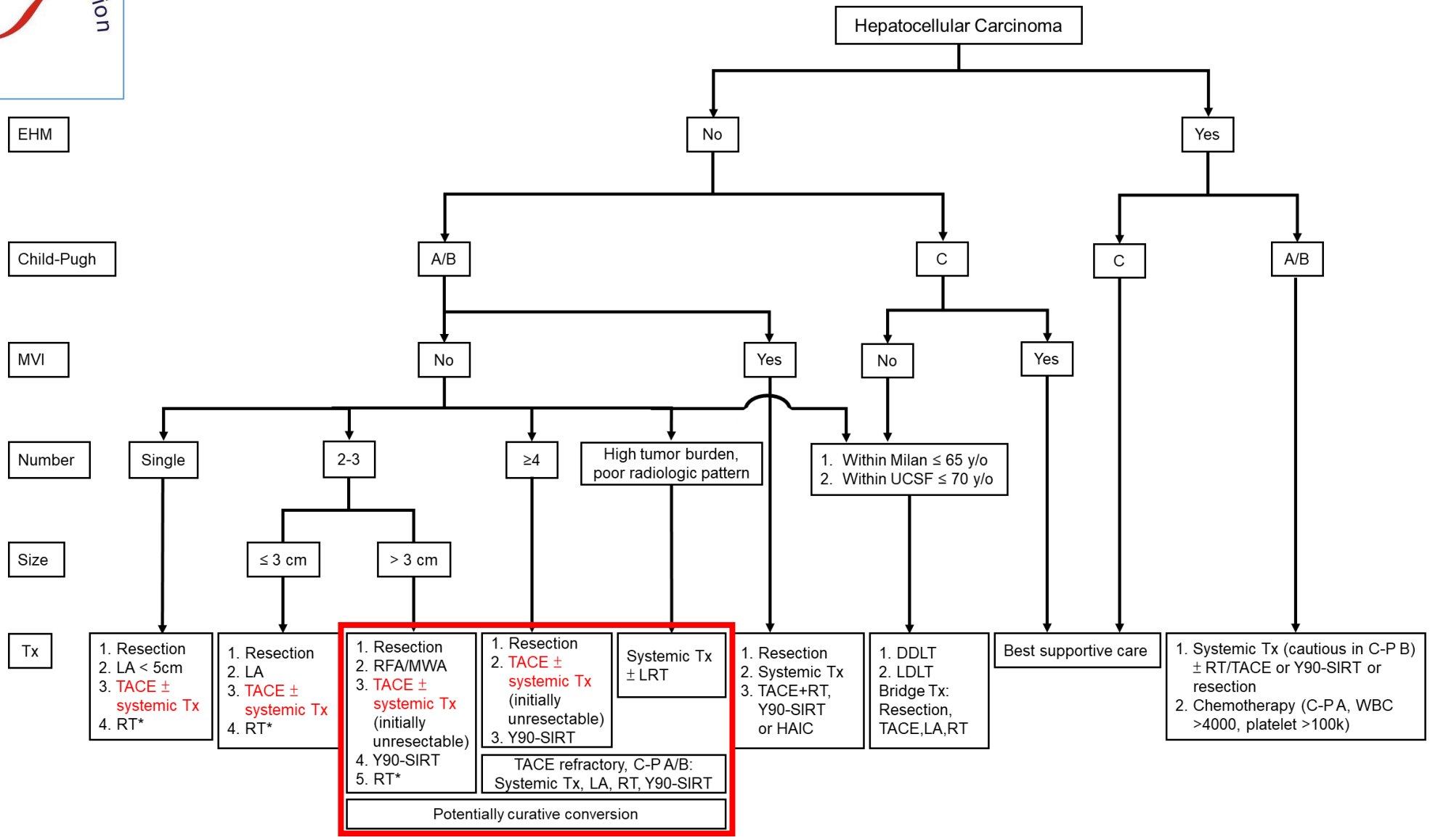
https://doi.org/10.3350/cmh.2025.0724
Clinical and Molecular Hepatology 2025;31:1213-1232

Review

Taiwan liver cancer association management consensus guidelines for intermediate-stage hepatocellular carcinoma

I-Cheng Lee[1,2,*], Hung-Wei Wang[3,4,*], Wei Teng[5,6,*], Tsung-Jung Lin[7,*], Chien-Hung Chen[8,9,10], Hsueh-Chou Lai[3,4], Teng-Yu Lee[11,12], Ching-Wei Chang[13,14], Chao-Hung Hung[15], Chia-Yen Dai[16,17], Yi-Ping Hung[2,18], Ying-Chun Shen[19,20,21], Chien-Wei Su[1,2,22], Ming-Chih Ho[23,24], Wei-Chen Lee[6,25], Gar-Yang Chau[26], Chin-Tsung Ting[27,28], Po-Chin Liang[29,30], Chien-An Liu[2,31], Pi-Yi Chang[32,33], Kuan-Yang Chen[7], Shi-Ming Lin[5,6], Li-Tzong Chen[34,35], and Yi-Hsiang Huang[1,22,36]; TLCA Intermediate Stage HCC Working Group

TLCA Consensus Guidelines for Intermediate Stage HCC

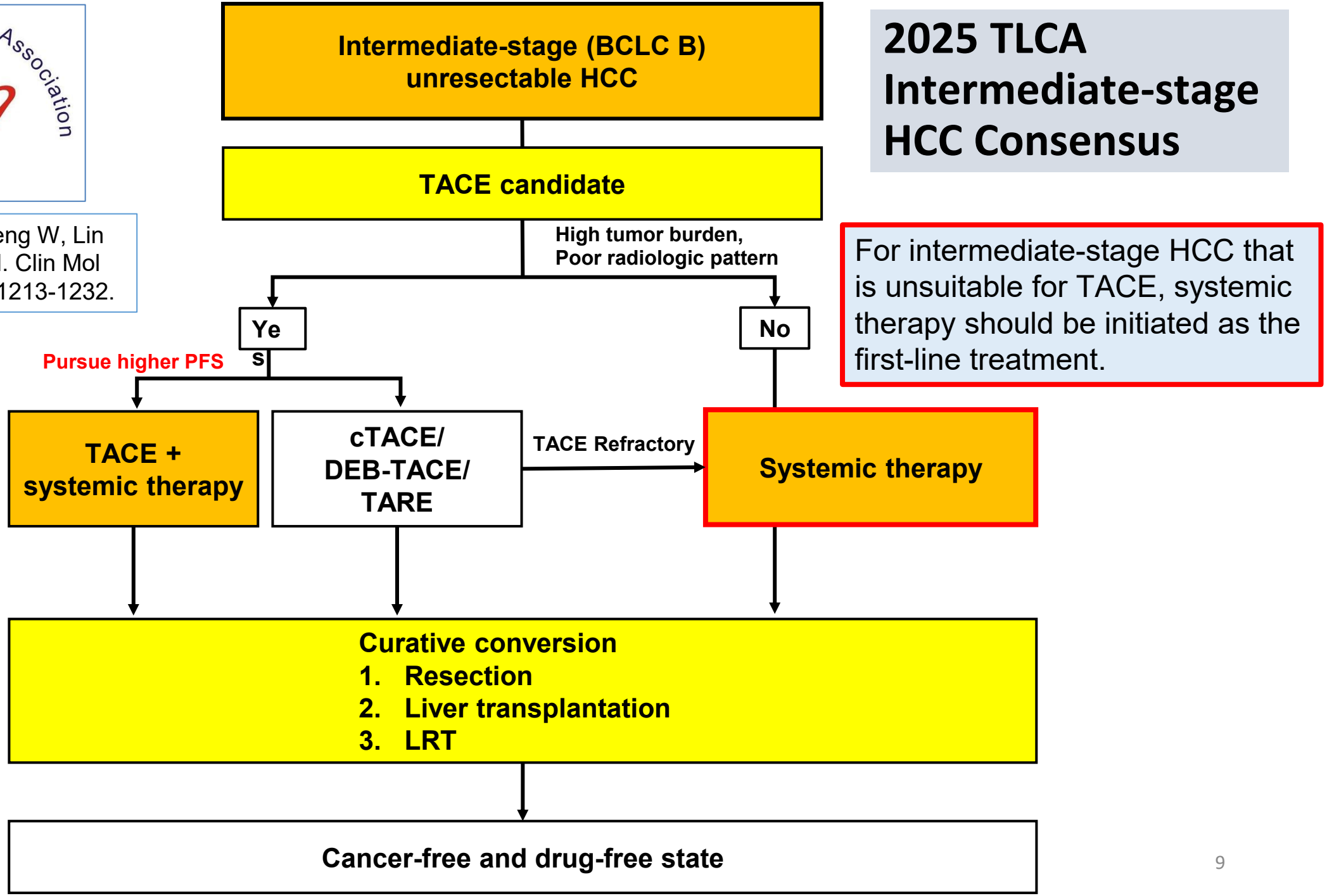


Lee IC, Wang HW, Teng W, Lin TJ,...Huang YH*, et al. Clin Mol Hepatol. 2025;31(4): 1213-1232.

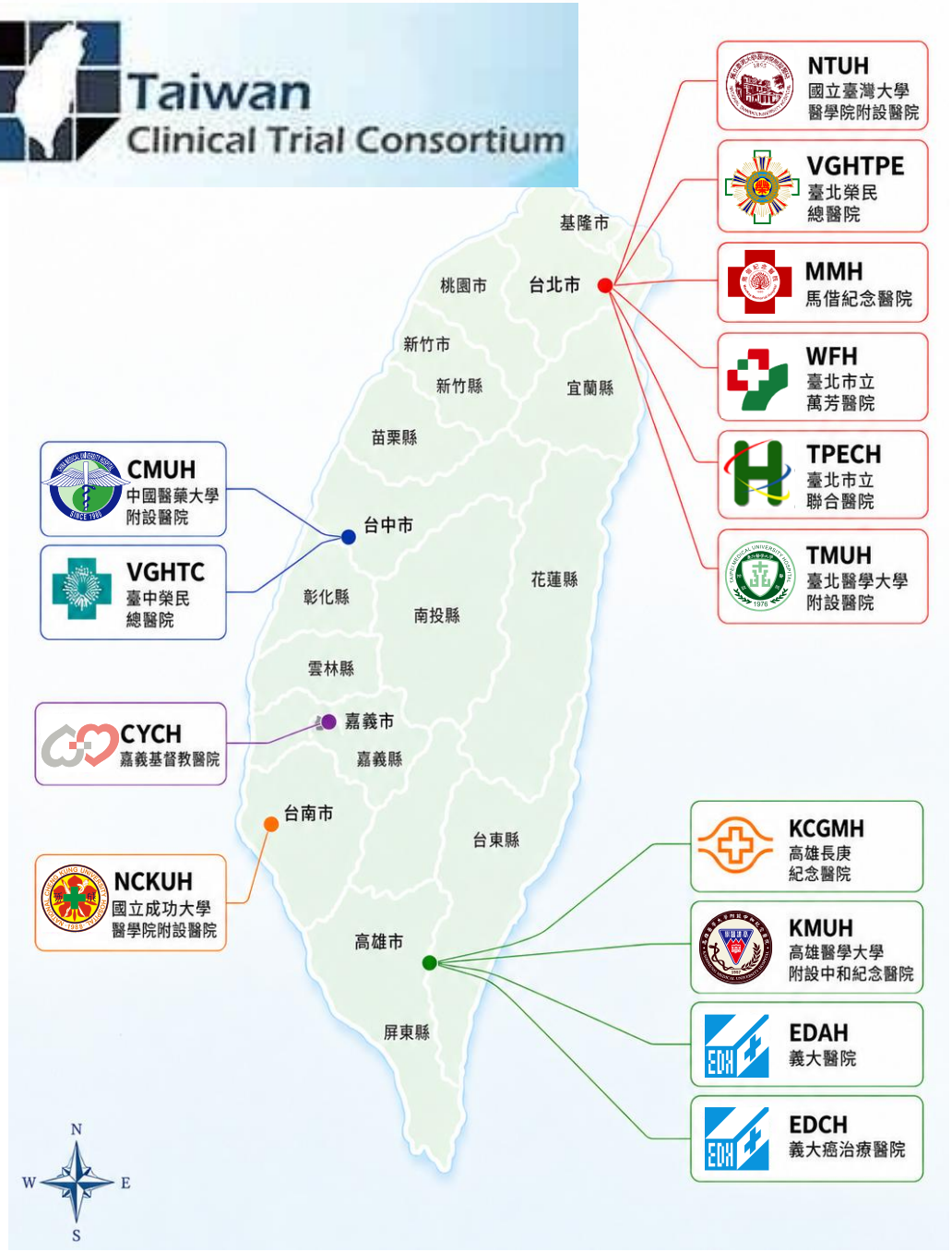
8

2025 TLCA Intermediate-stage HCC Consensus

Lee IC, Wang HW, Teng W, Lin TJ,...Huang YH*, et al. Clin Mol Hepatol. 2025;31(4): 1213-1232.



For intermediate-stage HCC that is unsuitable for TACE, systemic therapy should be initiated as the first-line treatment.



1,163 patients from 14 Hospitals

1	National Taiwan University Hospital	國立臺灣大學醫學院附設醫院
2	Taipei Veterans General Hospital	臺北榮民總醫院
3	MacKay Memorial Hospital	馬偕紀念醫院
4	Taipei Municipal Wanfang Hospital	臺北市立萬芳醫院
5	Taipei City Hospital	臺北市立聯合醫院
6	Taipei Medical University Hospital	臺北醫學大學附設醫院
7	China Medical University Hospital	中國醫藥大學附設醫院
8	Taichung Veterans General Hospital	臺中榮民總醫院
9	Chia-Yi Christian Hospital	嘉義基督教醫院
10	National Cheng Kung University Hospital	國立成功大學醫學院附設醫院
11	Kaohsiung Chang Gung Memorial Hospital	高雄長庚紀念醫院
12	Kaohsiung Medical University Chung-Ho Memorial Hospital	高雄醫學大學附設中和紀念醫院
13	E-Da Hospital	義大醫院
14	E-Da Cancer Hospital	義大癌治療醫院

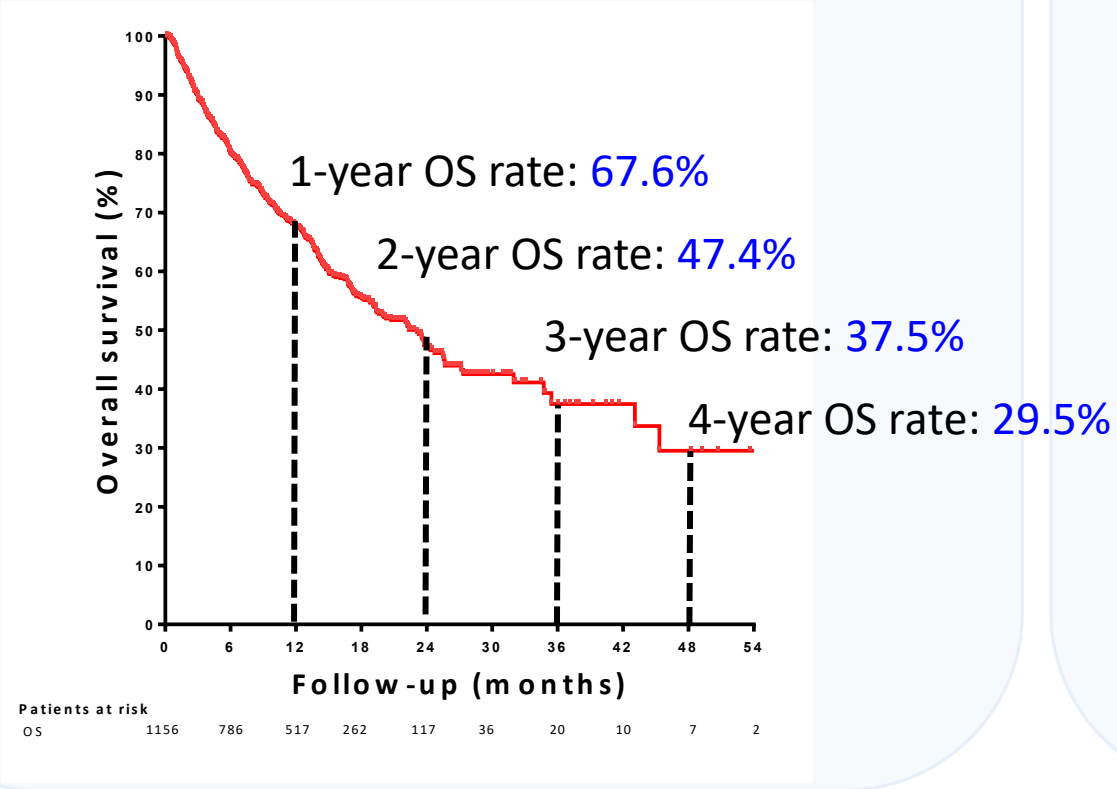
Primary Endpoints: Overall Survival and Progression-Free Survival

Median follow-up: 10.5 months (IQR, 4.7–17.2)

Overall Survival

Median OS: 23.1 months

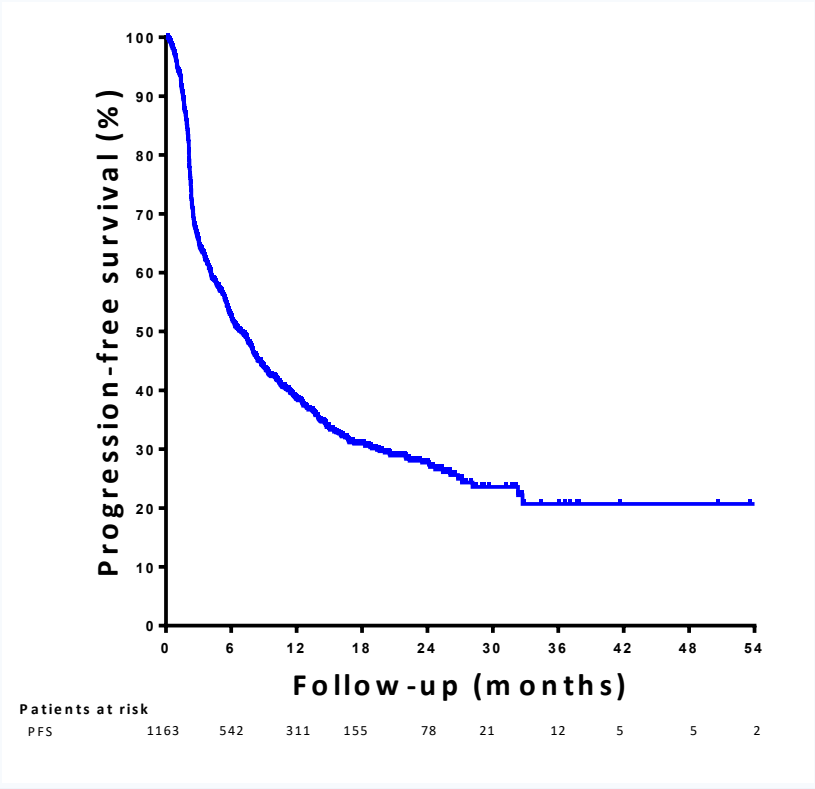
95% CI: 20.5–25.7



Progression-Free Survival

Median PFS: 6.9 months

95% CI: 6.0–7.8



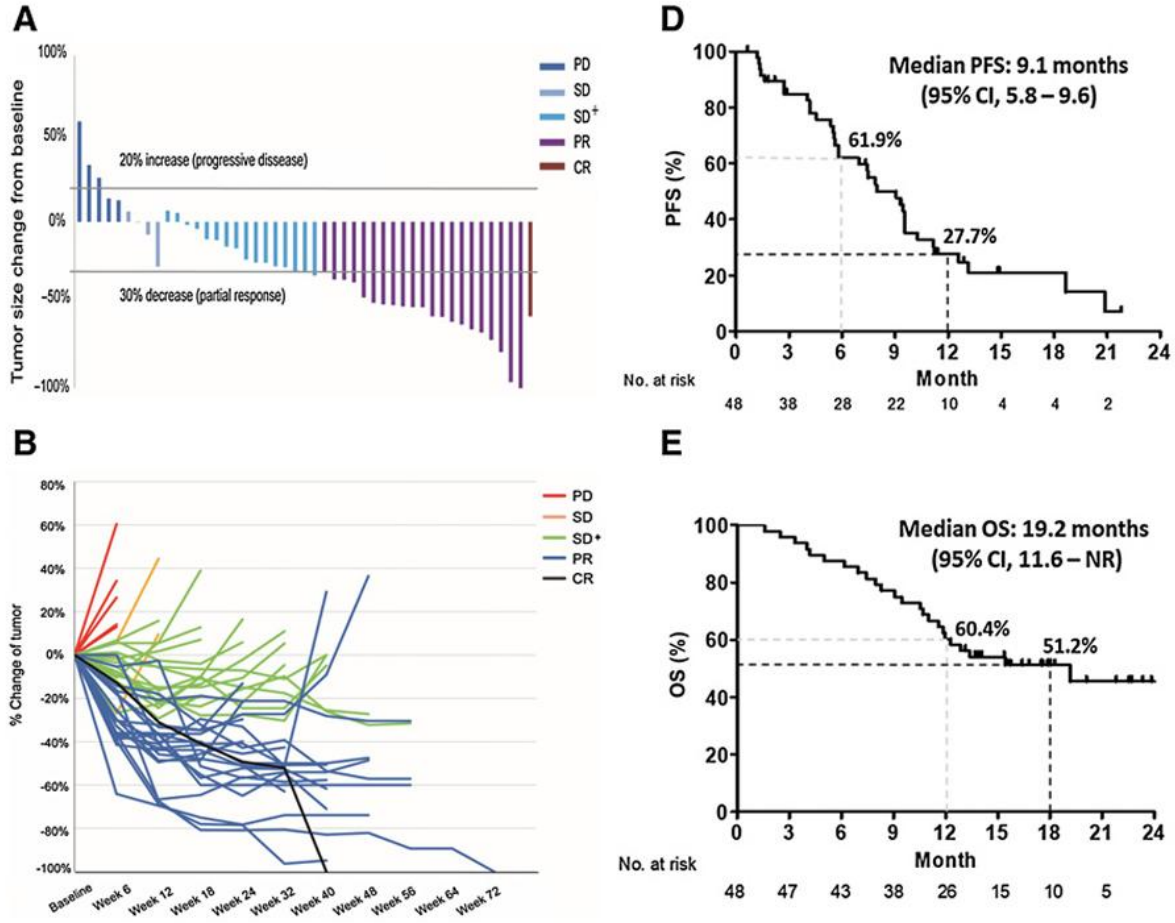
Lee IC, Huang YH* Manuscript in preparation.

Phase II T1219 Study: a single-arm phase II of nivolumab plus modified GS (NGS) as first-line treatment in advanced BTC

CLINICAL CANCER RESEARCH | CLINICAL TRIALS: IMMUNOTHERAPY

Impaired Chromatin Remodeling Predicts Better Survival to Modified Gemcitabine and S-1 plus Nivolumab in Advanced Biliary Tract Cancer: A Phase II T1219 Study

Nai-Jung Chiang[1,2,3], Kien Thiam Tan[4], Li-Yuan Bai[5,6], Chin-Fu Hsiao[7], Chung-Yu Huang[4], Yi-Ping Hung[1,2], Chien-Jui Huang[8], San-Chi Chen[1,2], Yan-Shen Shan[9,10], Yee Chao[1,2], Yi-Hsiang Huang[2,11], I-Cheng Lee[2,11], Pei-Chang Lee[2,11], Yung-Yeh Su[3,12], Shu-Jen Chen[4], Chun-Nan Yeh[13,14], Li-Tzong Chen[3,12,15], and Ming-Huang Chen[1,2]



- Fixed-dose 240 mg nivolumab and 800 mg/m2 gemcitabine on day 1, plus oral administration of S-1 80/100/120 mg daily, according to the initial body surface area (<1.25/m2; ≥1.25/m2 and <1.5/m2;or≥1.5/m2) on days 1 to 10 in a 2-week cycle.

Chiang NJ, et al. Clin Cancer Res. 2022 Oct 3;28(19):4248-4257.

3rd EALA Symposium &
2nd Rising Star Bootcamp
in Conjunction with The Liver Week 2026 June 13-14, 2026 | Conrad Seoul, Korea

A Preliminary Real-World Cohort Analysis of Atezolizumab/Bevacizumab versus Durvalumab/Tremelimumab as First-Line Therapy in Unresectable HCC: The East Asia Liver Alliance Study

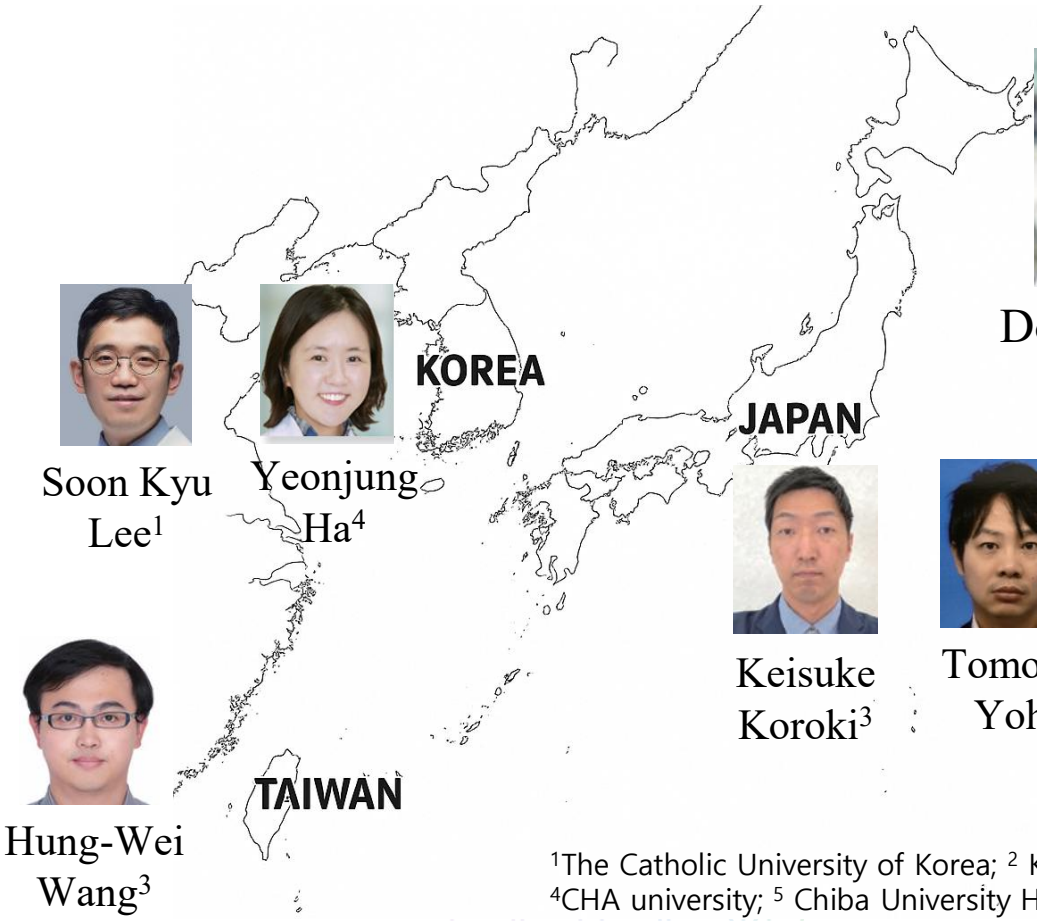
Soon Kyu Lee[1*], Tomoaki Yoh[2*], Hung-Wei Wang[3*], Yeonjung Ha[4*], Keisuke Koroki[5*], Jeong Won Jang[1], Pei-Chang Lee[6], Masayuki Ueno[2], Atsushi Takai[2], Sadahisa Ogasawara[5], Dong Yun Kim[7], Pei-Chang Lee[6], Etsuro Hatano[2#], Do Young Kim[7#], Yi-Hsiang Huang[6#]

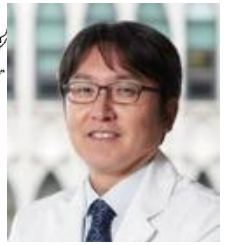
[1]The Catholic University of Korea; [2] Kyoto University Hospital; [3] China Medical University Hospital; [4] CHA university; [5] Chiba University Hospital; [6] Taipei Veterans General Hospital; [7] Yonsei University

Methods – proposal at EALA 2025

- This study planned to analyze medical records of patients with HCC who received Atezo/Bev or Durva/Treme between January 2022 and December 2025 across seven medical centers in Japan, Korea, and Taiwan.

[Mentors]





Do Young Kim[7]

Yi-Hsiang Huang[6]

Soon Kyu Lee[1]

Yeonjung Ha[4]

Keisuke Koroki[3]

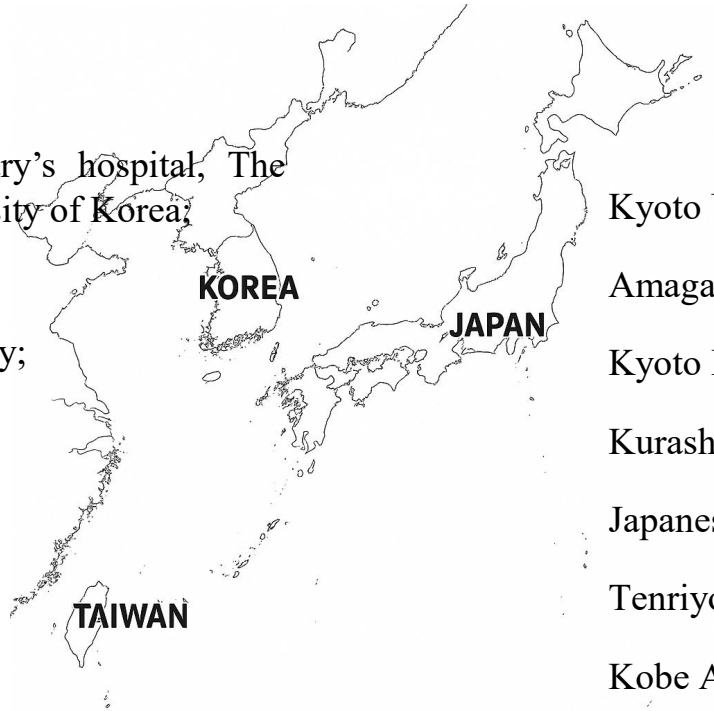
Tomoaki Yoh[2]

Hung-Wei Wang[3]

[1]The Catholic University of Korea; [2] Kyoto University Hospital; [3] China Medical University Hospital; [4]CHA university; [5] Chiba University Hospital; [6] Taipei Veterans General Hospital; [7] Yonsei University

Methods – Extension of study population

- This study planned to analyze medical records of patients with HCC who received Atezo/Bev or Durva/Treme between January 2022 and December 2025 across seven medical centers in Japan, Korea, and Taiwan.
- Following the inclusion of an additional 12 institutions in Japan, the study ultimately enrolled patients from 19 university hospitals across three countries, including 3 in Korea, 2 in Taiwan, and 14 in Japan.



Incheon St. Mary's hospital, The Catholic University of Korea;

CHA university;

Yonsei University;

China Medical University Hospital

Taipei Veterans General Hospital

Kyoto University Hospital; Chiba University Hospital;

Amagasaki General Medical Center; Osaka Red Cross Hospital

Kyoto Medical Cancer; Kyoto Katsura Hospital

Kurashiki Central Hospital; Shiga General Hospital

Japanese Red Cross Wakayama Medical Center; Meiwa Hospital

Tenriyorozu Soudanjo Hospital; Kitano Hospital

Kobe Asahi Hospital; Kobe City Medical Center General Hospital

Imperial College London

Joint Research with Dr. David Pinato (>30 publications)

- NASH limits anti-tumour surveillance in immunotherapy-treated HCC. Nature. 2021 Apr;592(7854):450-456. doi: 10.1038/s41586-021-03362-0.
- A myeloid immunosuppressive phenotype defines primary refractoriness to atezolizumab Plus bevacizumab in hepatocellular caarcinoma. J Hepatol. 2026 Jun 15:S0168-8278(26)02605-X. doi: 10.1016/j.jhep.2026.05.018.
- Characteristics and outcomes of immunotherapy-related liver injury in patients with hepatocellular carcinoma versus other advanced solid tumours. J Hepatol. 2024 Mar;80(3):431-442. doi: 10.1016/j.jhep.2023.10.040
- The use of advanced machine learning to predict outcomes after atezolizumab plus bevacizumab for advanced hepatocellular carcinoma: a retrospective cohort study. Lancet Digit Health. 2026 Feb;8(2):100952. doi: 10.1016/j.landig.2025.100952.
- Immunotherapy vs Best Supportive Care for Patients With Hepatocellular Cancer With Child-Pugh B Dysfunction. JAMA Oncol. 2024 Sep 1;10(9):1253-1258. doi: 10.1001/jamaoncol.2024.2166.
- Hepatic decompensation is the major driver of mortality in patients with HCC treated with atezolizumab plus bevacizumab: The impact of successful antiviral treatment. Hepatology. 2025 Mar 1;81(3):837-852. doi: 10.1097/HEP.0000000000001026.
- Outcome and management of patients with hepatocellular carcinoma who achieved a complete response to immunotherapy-based systemic therapy. Hepatology. 2025 Jun 1;81(6):1714-1727. doi: 10.1097/HEP.0000000000001163.
- Preliminary evidence of safety and tolerability of atezolizumab plus bevacizumab in patients with hepatocellular carcinoma and Child-Pugh A and B cirrhosis: A real-world study. Hepatology. 2022 Oct;76(4):1000-1012. doi: 10.1002/hep.32468.

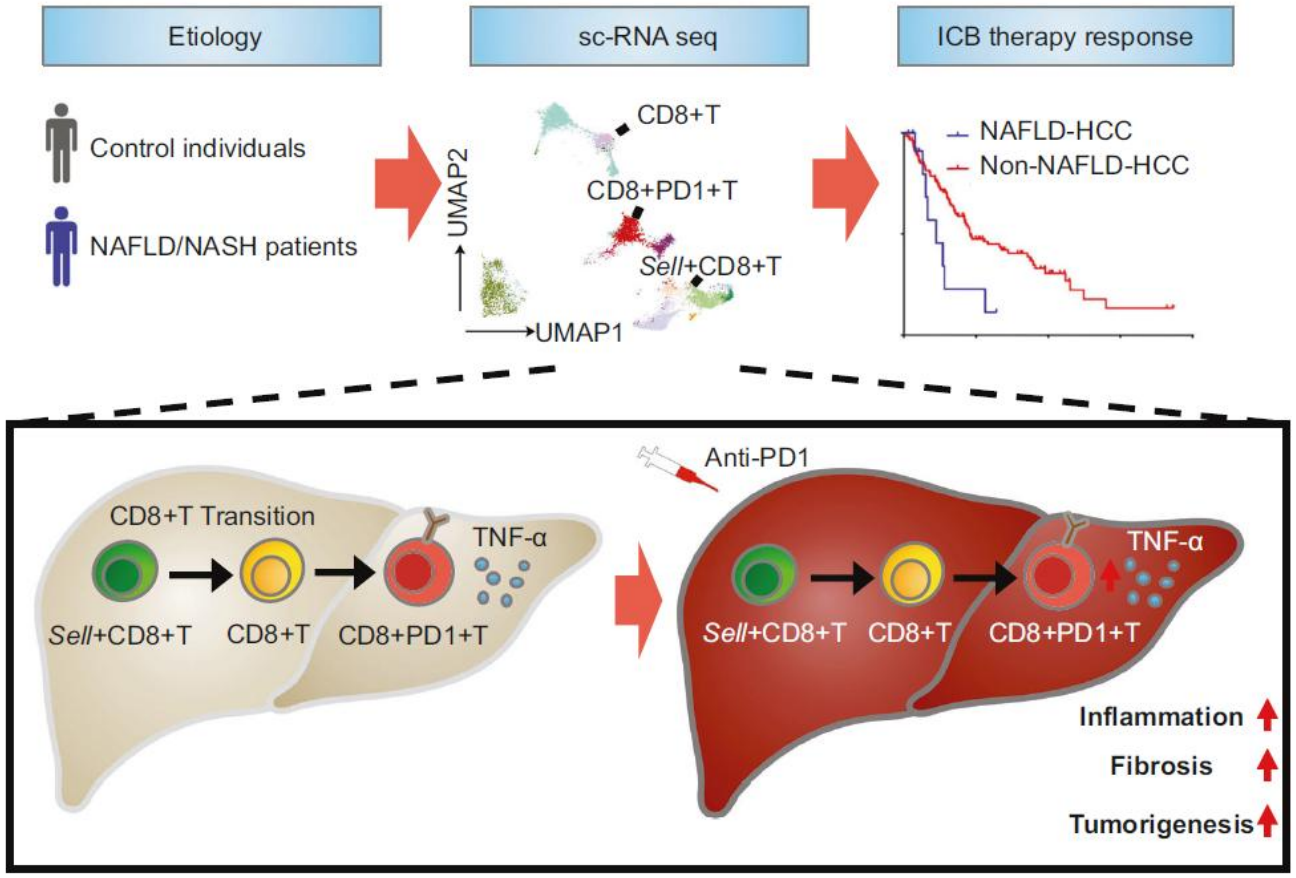

David.Pinato
臺北榮民總醫院胃腸肝臟科
VGH
Division of Gastroenterology and Hepatology


David James Pinato
TASL 2022
Annual Meeting
Future Perspectives in Hepatology
高雄展覽館
Kaohsiung Exhibition Center
December 10 -11

Article

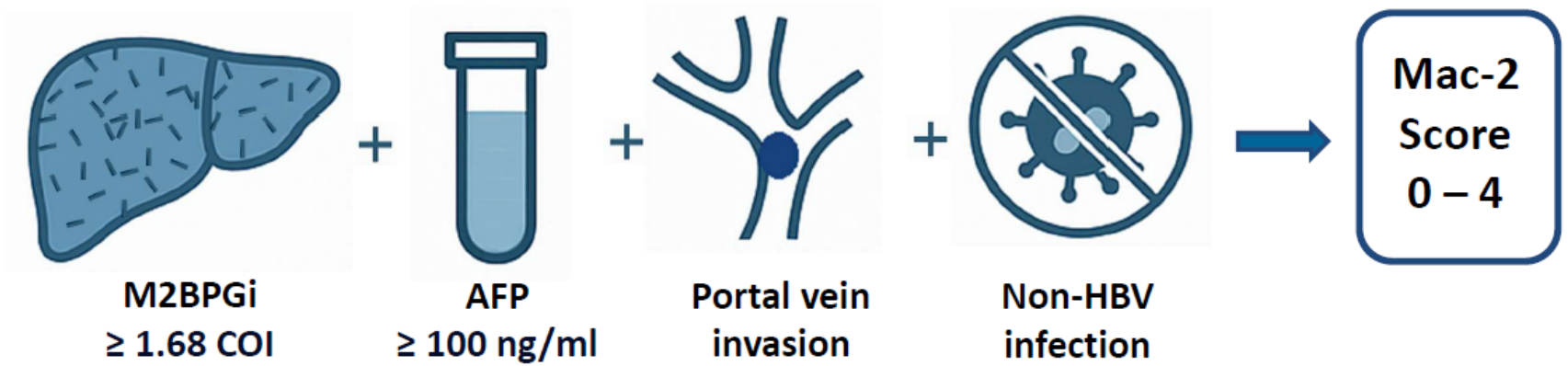
NASH limits anti-tumour surveillance in immunotherapy-treated HCC

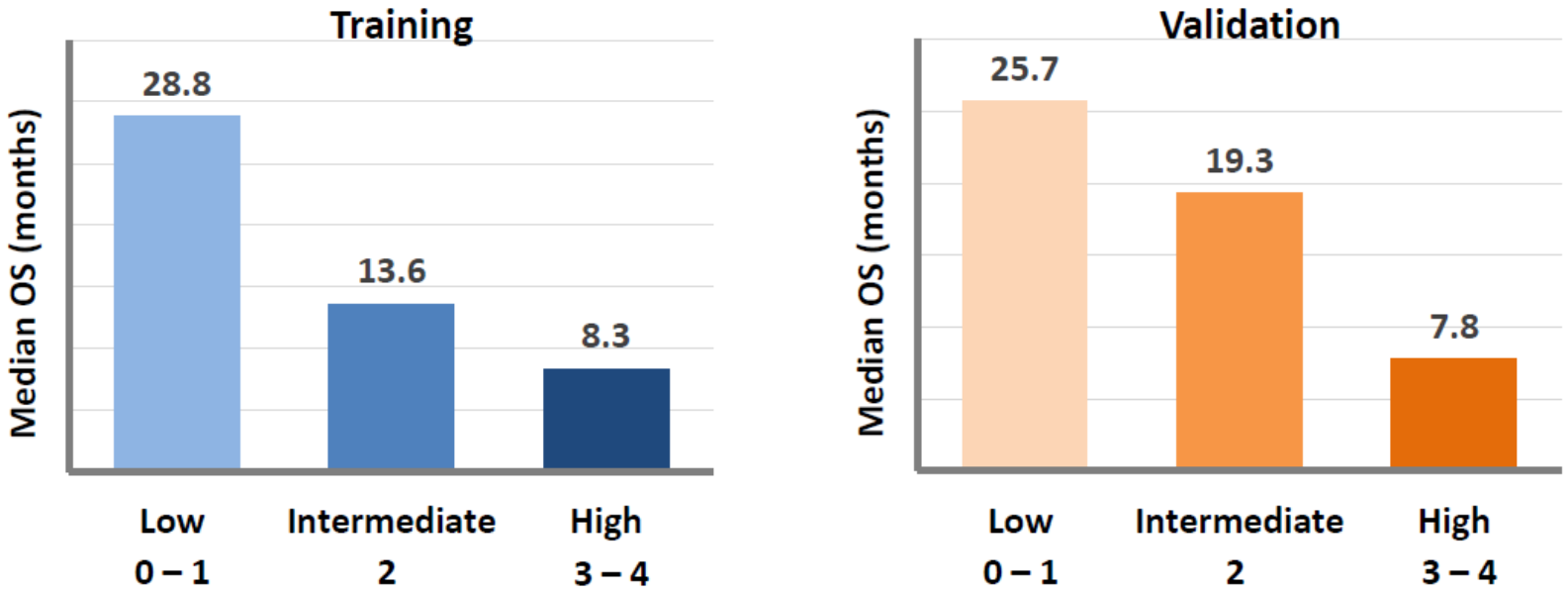
Dominik Pfister[1,82], Nicolás Gonzalo Núñez[2], Roser Pinyol[3], Olivier Govaere[4], Matthias Pinter[5,6], Marta Szydlowska[1], Revant Gupta[7,8], Mengjie Qiu[9], Aleksandra Deczkowska[10], Assaf Weiner[10], Florian Müller[1], Ankit Sinha[11,12], Ekaterina Frie Thomas Engleitner[13,14,15], Daniela Lenggenhager[16], Anja Moncsek[17], Danijela Heide[1], Kristin Stirm[1], Jan Kosla[1], Eleni Kotsiliti[1], Valentina Leone[1,18], Michael Dudek[19], Suhail You Donato Inverso[20,21], Indrabahadur Singh[1,22], Ana Teijeiro[23], Florian Castet[3], Carla Montirc Philipp K. Haber[24], Dina Tiniakos[4,25], Pierre Bedossa[4], Simon Cockell[26], Ramy Younes[4,27], Michele Vacca[28], Fabio Marra[29], Jörn M. Schattenberg[30], Michael Allison[31], Elisabetta Bugianesi[27], Vlad Ratziu[32], Tiziana Pressiani[33], Antonio D'Alessio[33], Nicola Personeni[33,34], Lorenza Rimassa[33,34], Ann K. Daly[4], Bernhard Scheiner[5,6], Katharina Pomej[5,6], Martha M. Kirstein[35,36], Arndt Vogel[35], Markus Peck-Radosavljevic[37], Florian Hucke[37], Fabian Finkelmeier[38], Oliver Waidmann[38], Jörg Trojan[38], Kornelius Schulze[39], Henning Wege[39], Sandra Koch[40], Arndt Weinmann[40], Marco Bueter Fabian Rössler[41], Alexander Siebenhüner[42], Sara De Dosso[43], Jan-Philipp Mallm[44], Viktor Umansky[45,46], Manfred Jugold[47], Tom Luedde[48], Andrea Schietinger[49,50], Peter Schirmacher[51], Brinda Emu[1], Hellmut G. Augustin[20,21], Adrian Billeter[52], Beat Mülle Stich[52], Hiroto Kikuchi[53], Dan G. Duda[53], Fabian Kütting[54], Dirk-Thomas Waldschmidt[54], Matthias Philip Ebert[55], Nuh Rahbari[56], Henrik E. Mei[57], Axel Ronald Schulz[57], Marc Ringelhan[58,59,60], Nisar Malek[61], Stephan Spahn[61], Michael Bitzer[61], Marina Ruiz de Galarreta[24,62], Amaia Lujambio[24,62,63], Jean-Francois Dufour[64,65], Thomas U. Marron[24,66], Ahmed Kaseb[67], Masatoshi Kudo[68], Yi-Hsiang Huang[69,70], Nabil Djouder[23], Katharina Wolter[71,72], Lars Zender[71,72,73], Parice N. Marche[74,75], Thomas Decaens[74,75,76], David J. Pinato[77,78], Roland Rad[13,14,15], Joachim C. Mertens[17], Achim Weber[16,79], Kristian Unger[18], Felix Meissner[11], Susanne Roth[9], Zuzana Macek Jilkova[74,75,77], Manfred Claassen[7,8], Quentin M. Anstee[4,80], Ido Amit[10], Percy Knolle[19], Burkhard Becher Josep M. Llovet[3,24,81] ✉ & Mathias Heikenwalder[1] ✉



Pfister, D , et al. Nature. 2021 Apr;592(7854):450-456.

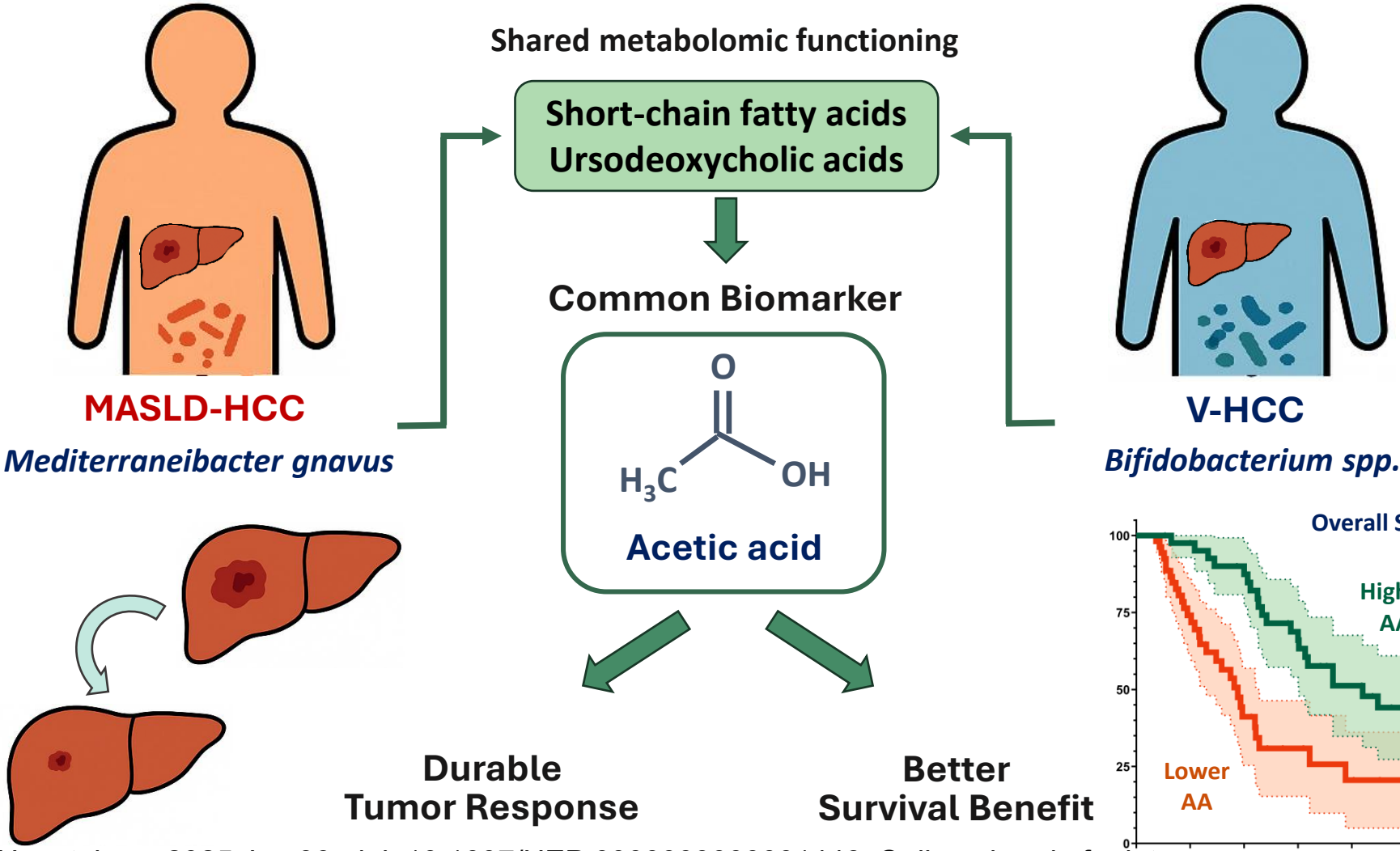
Mac-2 Score:
A Serum Fibrosis Marker-Based Model Predicts Survival of uHCC under Immunotherapy





Lee PC, Huang YH* JHEP Rep. 2025 Jun 26;7(9):101491. doi: 10.1016/j.jhepr.2025.101491

Distinct gut microbiota but common metabolomic signatures between Viral and MASLD HCC contribute to outcomes of combination immunotherapy



Lee PC, Huang YH* Hepatology. 2025 Jun 30. doi: 10.1097/HEP.0000000000001446. Online ahead of print.

Journal Pre-proof

A myeloid immunosuppressive phenotype defines primary refractoriness to atezolizumab Plus bevacizumab in hepatocellular caarcinoma.

Pasquale Lombardi, Erik Ramon-Gil, Rabial Q. Raja, Leonardo Brunetti, Giulia Francesca Manfredi, Zhongguo Zhou, George Merces, Sarah Cappuyns, Claudia Angela Maria Fulgenzi, Antonio D'Alessio, Aria Torkpour, Ciro Celsa, Bernardo Stefanini, Hannah Yang, Fionnuala Crowley, Thomas U. Marron, Anwaar Saeed, Matthias Pinter, Bernhard Scheiner, Yi-Hsiang Huang, Pei-Chang Lee, Naoshi Nishida, Ryan Po-Ting Lin, Andrea Dalbeni, Caterina Vivaldi, Gianluca Masi, Natascha Rohlen, Johann von Felden, Ahmed Kaseb, Peter R. Galle, Masatoshi Kudo, Wei-Fan Hsu, Lorenza Rimassa, Alessandro Parisi, Robin Kate Kelley, Hidenori Toyoda, Mario Pirisi, Falah Jabar, Mehrdad Rakaee, Giuseppe Cabibbo, Calogero Cammà, Fabio Piscaglia, Sohyun Hwang, Dong Jun Shin, Michael Li, Jeroen Dekervel, Nadia Guerra, Tim Meyer, Helen L. Reeves, Bertram Bengsch, Gennaro Daniele, Derek A. Mann, Hong Jae Chon, Jack Leslie, David J. Pinato

PII: S0168-8278(26)02605-X

DOI: https://doi.org/10.1016/j.jhep.2026.05.018

Reference: JHEPAT 10553

Research Article
Hepatic and Biliary Cancer

JOURNAL
OF HEPATOLOGY

Characteristics and outcomes of immunotherapy-related liver injury in patients with hepatocellular carcinoma versus other advanced solid tumours

Ciro Celsa[1,2,†], **Giuseppe Cabibbo**[2,†], Claudia A.M. Fulgenzi[1,3], Bernhard Scheiner[1,4], Antonio D'Alessio[1,5], Giulia F. Manfredi[1,5], Naoshi Nishida[6], Celina Ang[7], Thomas U. Marron[7], Anwaar Saeed[8], Brooke Wietharn[9], Matthias Pinter[4], Jaekyung Cheon[10], Yi-Hsiang Huang[11], Pei-Chang Lee[12], Samuel Phen[13], Anuhya Gampa[14], Anjana Pillai[15], Caterina Vivaldi[16], Francesca Salani[15,16], Gianluca Masi[15], Natascha Roehlen[17], Robert Thimme[17], Arndt Vogel[18,19], Martin Schönlein[20], Johann von Felden[21], Kornelius Schulze[21], Henning Wege[21], Peter R. Galle[22], Masatoshi Kudo[6], Lorenza Rimassa[23,24], Amit G. Singal[13], Paul El Tomb[25], Susanna Ulahannan[25], Alessandro Parisi[26], Hong Jae Chon[10], Wei-Fan Hsu[27], Bernardo Stefanini[28], Elena Verzoni[29], Raffaele Giusti[30], Antonello Veccia[31], Annamaria Catino[32], Giuseppe Aprile[33], Pamela Francesca Guglielmini[34], Marilena Di Napoli[35], Paola Ermacora[36], Lorenzo Antonuzzo[37], Ernesto Rossi[38], Francesco Verderame[39], Fable Zustovich[40], Corrado Ficorella[41], Francesca Romana Di Pietro[42], Nicola Battelli[43], Giorgia Negrini[44], Francesco Grossi[45], Roberto Bordonaro[46], Stefania Pipitone[47], Maria Banzi[48], Serena Ricciardi[49], Letizia Laera[50], Antonio Russo[51], Ugo De Giorgi[52], Luigi Cavanna[53], Mariella Sorarù[54], Vincenzo Montesarchio[55], Paola Bordi[56], Leonardo Brunetti[3], Carmine Pinto[48], Melissa Bersanelli[56], Calogero Cammà[2], Alessio Cortellini[1,3,‡], David J. Pinato[1,5,*,‡]

The use of advanced machine learning to predict outcomes after atezolizumab plus bevacizumab for advanced hepatocellular carcinoma: a retrospective cohort study

Mathew Vithayathil, Giulia Francesca Manfredi, Antonio D'Alessio, Claudia Angela Maria Fulgenzi, Ciro Celsa, Pasquale Lombardi, Aria Torkpour, Bernardo Stefanini, Peter R Galle, Naoshi Nishida, Bernhard Scheiner, Fionnuala Crowley, Linda Wu, Celina Ang, Thomas U Marron, Wei-Fan Hsu, Chun-Yen Lin, Ryan Po-Ting Lin, Susanna V Ulahannan, Haripriya Andanamala, Noha Soror, Ahmed Kaseb, Michael Lapelusa, Yehia I Mohamed, Martin Schönlein, Johann von Felden, Kornelius Schulze, Henning Wege, Brooke Wietharn, Caterina Vivaldi, Francesca Salani, Gianluca Masi, Tiziana Pressiani, Andrea Dalbeni, Leonardo Natola, Mariarosaria Marseglia, Fabio Piscaglia, Yi-Hsiang Huang, Pei-Chang Lee, Mario Pirisi, Alessandro Parisi, Natascha Rohlen, Robert Thimme, Marianna Silletta, Emanuela Di Giacomo, Bruno Vincenzi, Luca Galbato, Arndt Vogel, Giuseppe Cabibbo, Calogero Camma, Hong Jae Chon, Matthias Pinter, Alessio Cortellini, Masatoshi Kudo, Valentina Zanuso, Lorenza Rimassa, David J Pinato, Eric O Aboagye, Rohini Sharma

Summary

Background Combination immune checkpoint inhibitors are recommended as first-line therapy for advanced hepatocellular carcinoma. However, only a third of patients respond to treatment, and improved approaches to predict response are required. Using baseline clinical data, we aimed to use advanced machine learning models to predict overall survival and progression-free survival in patients with advanced hepatocellular carcinoma receiving atezolizumab plus bevacizumab.

Lancet Digit Health 2026; 8: 100952

Published Online February 12, 2026
https://doi.org/10.1016/j.landig.2025.100952

European Journal of Cancer 240 (2026) 116749

Contents lists available at ScienceDirect

European Journal of Cancer

journal homepage: www.ejcancer.com

Original Research

Determinants of long-term survival from atezolizumab plus bevacizumab in unresectable hepatocellular carcinoma

Pei-Chang Lee [a,b,c], Alessio Cortellini [a,d], Bernardo Stefanini [a,e], Changhoon Yoo [f], Hong Jae Chon [g], Jaekyung Cheon [g], Masatoshi Kudo [h], Naoshi Nishida [h], Bernhard Scheiner [i], Matthias Pinter [i], Pasquale Lombardi [a,j], Claudia Angela Maria Fulgenzi [a], Antonio D'Alessio [a], Leonardo Brunetti [a], Aria Torkpour [a], Elena Valenzi [k,l], Fionnuala Crowley [m], Thomas U. Marron [m], Wei-Fan Hsu [n], Ciro Celsa [a,o], Giuseppe Cabibbo [o,p], Calogero Cammà [o], Peter Robert Galle [q], Caterina Vivaldi [r,s], Gianluca Masi [r,s], Rohini Sharma [a], Ryan Po-Ting Lin [t,u], Chun-Yen Lin [t,u], Brooke Wietharn [v], Anwaar Saeed [w], Francesco Tovoli [e], Fabio Piscaglia [e,x], Andrea Dalbeni [y,z], Alessandra Auriemma [y,z], David Sacerdoti [y,z], Alessandro Parisi [aa], Giulia Francesca Manfredi [a,ab], Andrea Dondo [ab], Lorenza Rimassa [k,l], Mario Pirisi [ab], Martin Schönlein [ac], Johann von Felden [ac,ad], Amit G. Singal [ae], Neehar Dilip Parkih [af], Haripriya Andanamala [ag], Susanna Ulahannan [ag], Natascha Roehlen [ah], Robert Thimme [ah], Yi-Hsiang Huang [b,c,ai,aj,*], David James Pinato [a,ab,**]

Received: 2 May 2024 | Accepted: 12 September 2024

DOI: 10.1097/HEP.0000000000001163

ORIGINAL ARTICLE

Outcome and management of patients with hepatocellular carcinoma who achieved a complete response to immunotherapy-based systemic therapy

Bernhard Scheiner[1,2] | Beodeul Kang[3] | Lorenz Balcar[1,2] | Iuliana-Pompilia Radu[4] | Florian P. Reiter[5] | Gordan Adžić[6] | Jiang Guo[7] | Xu Gao[8,9] | Xiao Yuan[8] | Long Cheng[7] | Joao Gorgulho[10] | Michael Schultheiss[11] | Frederik Peeters[12] | Florian Hucke[13] | Najib Ben Khaled[14] | Ignazio Piseddu[14] | Alexander Philipp[14] | Friedrich Sinner[15] | Antonio D'Alessio[16,17] | Katharina Pomej[1,2] | Anna Saborowski[18] | Melanie Bathon[18] | Birgit Schwacha-Eipper[4] | Valentina Zarka[5] | Katharina Lampichler[19] | Naoshi Nishida[20] | Pei-Chang Lee[21] | Anja Krall[22] | Anwaar Saeed[23] | Vera Himmelsbach[24] | Giulia Tesini[25,26] | Yi-Hsiang Huang[27,28] | Caterina Vivaldi[29,30] | Gianluca Masi[30] | Arndt Vogel[31,32,33] | Kornelius Schulze[34] | Michael Trauner[1] | Angela Djanani[35] | Rudolf Stauber[22] | Masatoshi Kudo[20] | Neehar D. Parikh[36] | Jean-François Dufour[37] | Juraj Prejac[6,38] | Andreas Geier[5] | Bertram Bengsch[11,39] | Johann von Felden[34] | Marino Venerito[15] | Arndt Weinmann[40] | Markus Peck-Radosavljevic[13] | Fabian Finkelmeier[24] | Jeroen Dekervel[12] | Fanpu Ji[8,41] | Hung-Wei Wang[42] | Lorenza Rimassa[25,26] | David J. Pinato[16,17] | Mohamed Bouattour[43] | Hong Jae Chon[3] | Matthias Pinter[1,2]

Received: 29 January 2024 | Accepted: 12 June 2024

DOI: 10.1097/HEP.0000000000001026

ORIGINAL ARTICLE

Hepatic decompensation is the major driver of mortality in patients with HCC treated with atezolizumab plus bevacizumab: The impact of successful antiviral treatment

Ciro Celsa[1,2] | Giuseppe Cabibbo[2] | Claudia Angela Maria Fulgenzi[1] | Salvatore Battaglia[3] | Marco Enea[4] | Bernhard Scheiner[5] | Antonio D'Alessio[1,6] | Giulia F. Manfredi[1,6] | Bernardo Stefanini[1,7] | Naoshi Nishida[8] | Peter R. Galle[9] | Kornelius Schulze[10] | Henning Wege[10] | Roberta Ciccia[2] | Wei-Fan Hsu[11] | Caterina Vivaldi[12] | Brooke Wietharn[13] | Ryan Po-Ting Lin[14,15] | Angelo Pirozzi[16,17] | Tiziana Pressiani[17] | Andrea Dalbeni[18,19] | Leonardo A. Natola[19] | Alessandra Auriemma[20] | Cristina Rigamonti[6] | Michela Burlone[6] | Alessandro Parisi[21] | Yi-Hsiang Huang[22,23,24] | Pei-Chang Lee[23,25] | Celina Ang[26] | Thomas U. Marron[27] | Matthias Pinter[5] | Jaekyung Cheon[27] | Samuel Phen[28] | Amit G. Singal[28] | Anuhya Gampa[29] | Anjana Pillai[29] | Natascha Roehlen[30] | Robert Thimme[30] | Arndt Vogel[31,32] | Noha Soror[33] | Susanna Ulahannan[33] | Rohini Sharma[1] | David Sacerdoti[19] | Mario Pirisi[6] | Lorenza Rimassa[16,17] | Chun-Yen Lin[14,15] | Anwaar Saeed[34] | Gianluca Masi[12] | Martin Schönlein[35] | Johann von Felden[10] | Masatoshi Kudo[8] | Alessio Cortellini[1,36] | Hong Jae Chon[27] | Calogero Cammà[2] | David James Pinato[1,6]

Received: 26 January 2023 | Accepted: 27 April 2023

DOI: 10.1097/HEP.0000000000000494

UT Southwestern Medical Center

AASLD AMERICAN ASSOCIATION FOR THE STUDY OF LIVER DISEASES

ORIGINAL ARTICLE

Surrogate and modified endpoints for immunotherapy in advanced hepatocellular carcinoma

Mir Lim[1] | **Maishara Muquith**[1] | **Bernadette Miramontes**[1] | **Chieh-Ju Lee**[2] | **Magdalena Espinoza**[3] | **Yi-Hsiang Huang**[2,4] | **David Hsiehchen**[1]

[1]Division of Hematology and Oncology, Department of Internal Medicine, University of Texas Southwestern Medical Center, Dallas, Texas, USA

[2]Division of Gastroenterology and Hepatology, Department of Medicine, Taipei Veterans General Hospital, Institute of Clinical Medicine, Faculty of Medicine, National Yang Ming Chiao Tung University, Taipei, Taiwan

[3]Division of Digestive and Liver Diseases, Department of Internal Medicine, Texas Southwestern Medical Center, Dallas, Texas, USA

[4]Healthcare and Services Center, Taipei Veterans General Hospital, Taipei, Taiwan

Abstract

Background and Aims: Immunotherapies have altered the treatment paradigm in HCC. Surrogate and modified endpoints are used to assess early success in clinical studies and guide clinical practice. We sought to determine whether surrogate endpoints and modifications to the conventional criteria for tumor response (RECIST), including modified RECIST (mRECIST) and immune-modified RECIST (imRECIST), are valid measures to predict overall survival (OS) in HCC treated with immunotherapies.

Approach and Results: We performed an individual-level post hoc analysis of patients treated with atezolizumab and bevacizumab in the IMbrave150 trial (N = 279) and a cross-sectional analysis of a multicenter real-world patient

JAMA Network Open

UT Southwestern Medical Center

Original Investigation | Oncology

Complete Response to Immunotherapy in Patients With Hepatocellular Carcinoma

Mir Lim, MD; Magdalena Espinoza, MD; Yi-Hsiang Huang, MD, PhD; Joseph Franses, MD; Hao Zhu, MD; David Hsiehchen, MD

Abstract

IMPORTANCE Immunotherapies are the preferred frontline treatment for most hepatocellular carcinomas (HCCs), but only a small subset of patients attain complete responses to immunotherapies, resulting in an absence of radiographic apparent disease. The clinical importance of these complete responses is unclear, and whether clinical or molecular features may define HCCs that are exquisitely sensitive to immunotherapies is ambiguous.

OBJECTIVE To describe the long-term survival outcomes of complete responders to immunotherapies, and to examine whether clinical and genomic characteristics are associated with complete response.

DESIGN, SETTING, AND PARTICIPANTS This cohort study includes a post hoc analysis of the IMbrave150 trial (which enrolled patients across 17 countries in North America, Europe, Asia, and Australia) and a multicenter cohort analysis of patients with advanced HCC treated with frontline immunotherapies across 3 institutions (2 in the US and 1 in Asia). Complete responders were defined as patients with a complete response according to Response Evaluation Criteria in Solid Tumors (RECIST) 1.1 or modified RECIST. Statistical analyses were conducted from January to May 2024.

MAIN OUTCOMES AND MEASURES The main outcome was overall survival measured as the time

Key Points

Question What are the long-term survival outcomes and characteristics of patients with advanced hepatocellular carcinoma who attain a complete response while receiving immunotherapy?

Findings In this cohort study, a post hoc analysis of the IMbrave150 trial (279 patients) and a multicenter cohort analysis (194 patients) found that, in a subset of patients, complete responders to immunotherapy had prolonged overall survival and durable response while not receiving therapy. Complete responders also had greater immune cell programmed cell death 1 ligand 1 expression and lower circulating tumor DNA levels.

Received: 24 August 2024 | Accepted: 16 November 2024

DOI: 10.1097/HEP.0000000000001180

ORIGINAL ARTICLE

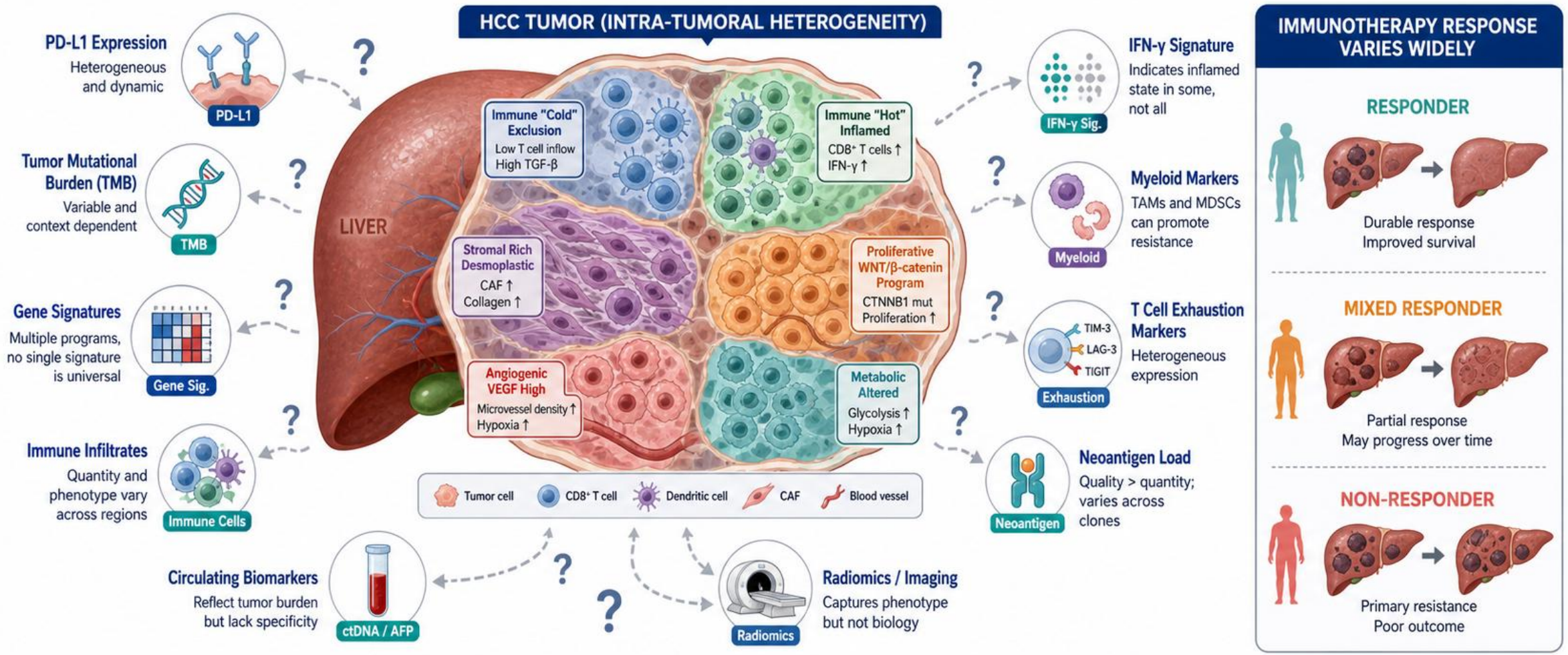
香 港 大 學
THE UNIVERSITY OF HONG KONG

AASLD
AMERICAN ASSOCIATION FOR THE STUDY OF LIVER DISEASES

Multimodal multiphasic preoperative image-based deep-learning predicts HCC outcomes after curative surgery

Rex Wan-Hin Hui[1] | Keith Wan-Hang Chiu[2] | I-Cheng Lee[3,4] | Chenlu Wang[5] | Ho-Ming Cheng[1] | Jianliang Lu[1] | Xianhua Mao[1] | Sarah Yu[1] | Lok-Ka Lam[1] | Lung-Yi Mak[1,6] | Tan-To Cheung[6,7] | Nam-Hung Chia[8] | Chin-Cheung Cheung[9] | Wai-Kuen Kan[10] | Tiffany Cho-Lam Wong[6,7] | Albert Chi-Yan Chan[6,7] | Yi-Hsiang Huang[3,4,11] | Man-Fung Yuen[1,6] | Philip Leung-Ho Yu[5] | Wai-Kay Seto[1,6,12]

Intra-tumoral Heterogeneity and the Absence of a Universal Predictive Biomarker in HCC Immunotherapy



TAKE-HOME MESSAGE

HCC exhibits marked intra-tumoral heterogeneity across immune, genomic, stromal, and metabolic dimensions. Current biomarkers are important but partially informative and lack universality—no single biomarker reliably predicts immunotherapy response.

NO UNIVERSAL PREDICTIVE BIOMARKER (YET)

A YI career pathway

1

Show up repeatedly

Choose a niche: IO biomarkers, radiomics, TACE combinations, surgery, or survivorship.

2

Offer usable work

Bring data cleaning, slide drafting, statistics coordination, IRB preparation, or manuscript writing.

3

Join TRG output

Aim for consensus papers, multicenter retrospective studies, or serial real-world cohorts.

4

Become outward-facing

Use the domestic record to pitch a cross-border substudy or validation cohort.

Domestic collaboration is where reputations are built: people first remember whether you are responsive, rigorous, and generous before they remember your h-index.

Challenge: The barriers YI will face

Methodology

Different staging systems, TACE heterogeneity, local practice variation, and mixed endpoints can make pooled analyses unstable.

Regulation

Data sharing, ethics amendments, privacy review, biospecimen export, and contract negotiation often move slower than scientific enthusiasm.

Access and reimbursement

Trial and real-world results are shaped by uneven access to systemic therapies, especially across healthcare systems.

Human factors

Authorship expectations, delayed replies, inconsistent data entry, and unclear leadership can silently kill good projects.

The challenge is not simply to find collaborators; it is to build trust around definitions, deadlines, and fairness.

Checklist

Domestically

- Join one your TRG-like theme and contribute actual work.
- Create one multicenter dataset with a clear dictionary.
- Volunteer for abstract drafting, slide synthesis, or manuscript coordination.
- Build a reputation for speed, rigor, and reliability.

Internationally

- Map one global consortium or senior collaborative group in your niche.
- Offer a concrete contribution: validation cohort, biomarker assay, imaging review, or regional comparator group.
- Ask for a small first project, not immediate leadership.
- Convert that project into long-term serial participation.

Young investigators do not need to wait for a perfect invitation; they need to become obviously useful collaborators.

From attendance to alliance

The task for the next generation is to turn meetings into datasets, datasets into papers, and papers into durable networks.

WORLD'S BEST HOSPITALS

2024–2026

Newsweek

POWERED BY statista

TAIPEI VETERANS GENERAL HOSPITAL

Taiwan Liver Cancer Association