



Università degli Studi di Verona  
Dipartimento di Chirurgia  
Chirurgia Generale ed Epatobiliare  
Policlinico G.B. Rossi



**Patient Journey**  
Approccio personalizzato al  
paziente e esperienze a  
confronto:  
Epatocarcinoma e  
Colangiocarcinoma

**01 Febbraio 2024**  
**VERONA**  
CROWNE PLAZA  
Via Belgio, 16

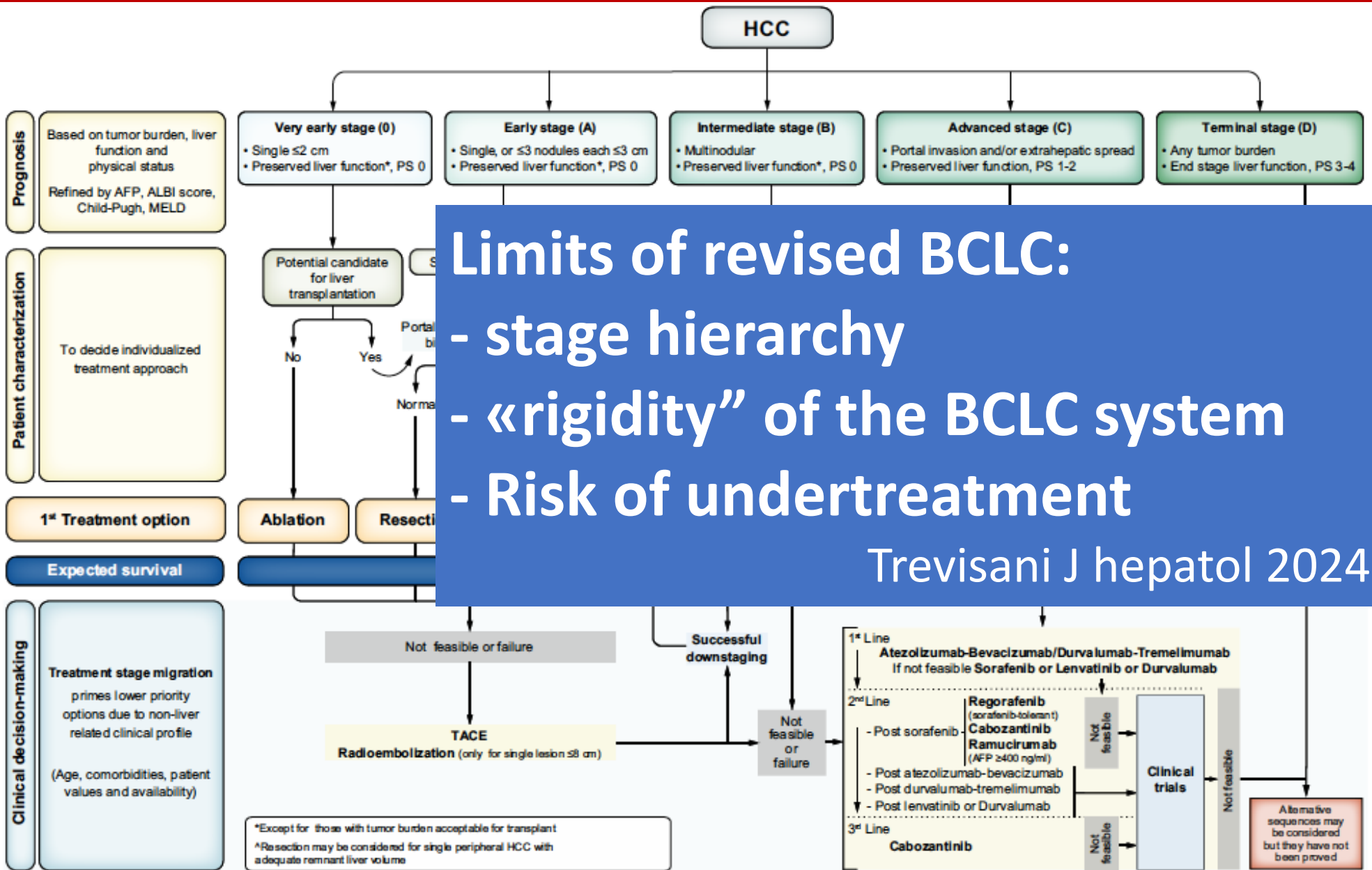


## Ruolo del chirurgo nell'epatocarcinoma

**Andrea Ruzzenente**

Verona, 1 febbraio 2024

# TRATTAMENTO DELL'EPATOCARCINOMA



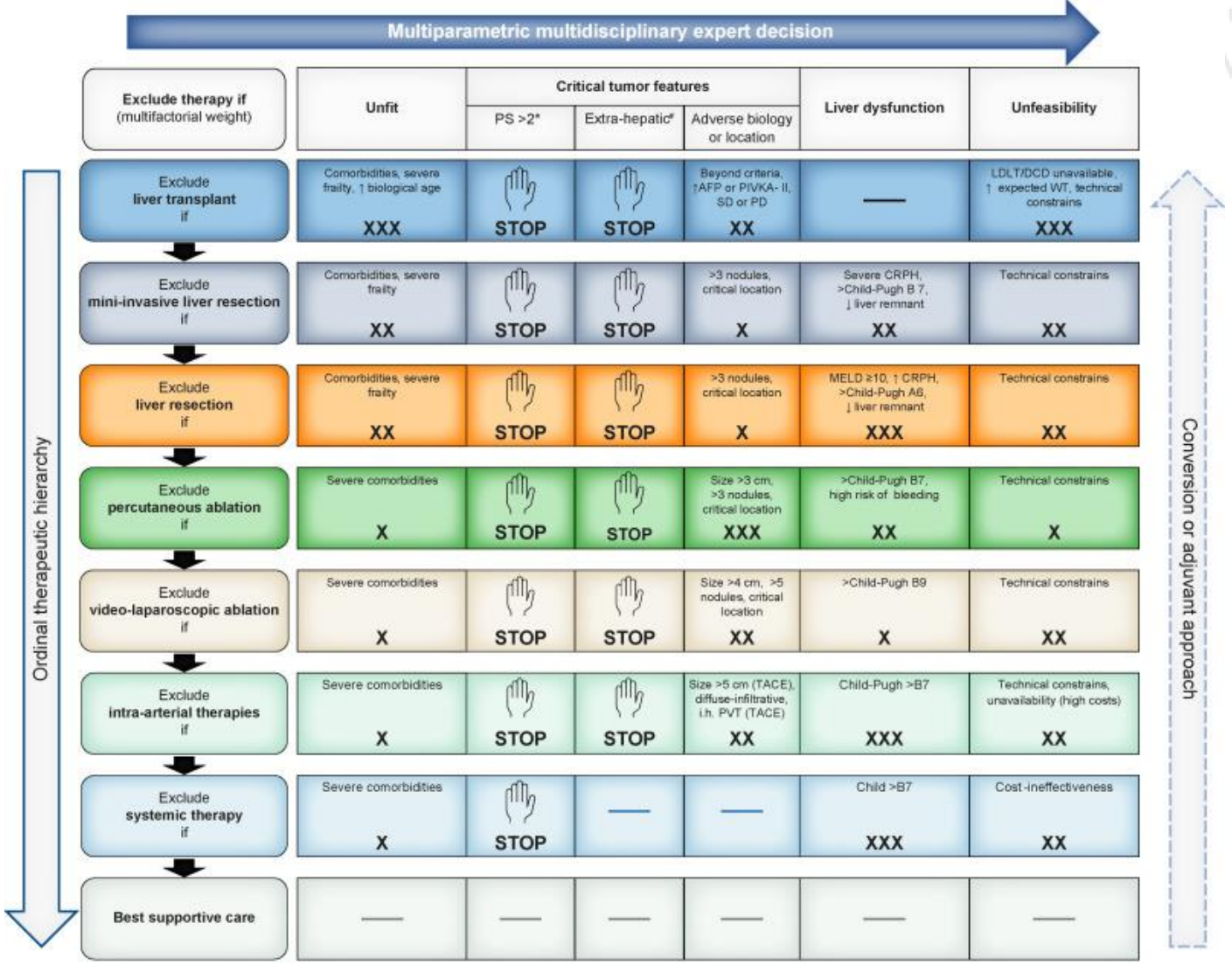
# Personalised management of patients with hepatocellular carcinoma: a multiparametric therapeutic hierarchy concept

Alessandro Vitale, Giuseppe Cabibbo, Massimo Iavarone, Luca Viganò, David J Pinato, Francesca Romana Ponziani, Quirino Lai, Andrea Casadei-Gardini, Ciro Celsa, Giovanni Galati, Martina Gambato, Laura Crocetti, Matteo Renzulli, Edoardo G Giannini, Fabio Farinati, Franco Trevisani, Umberto Cillo, on behalf of the HCC Special Interest Group of the Italian Association for the Study of the Liver\*



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Weight of each variable as a relative contraindication in the multifactorial assessment:  
 — Irrelevant    **X** Low    **XX** Intermediate    **XXX** Relevant    Contraindication  
 STOP

# Personalised management of patients with hepatocellular carcinoma: a multiparametric therapeutic hierarchy concept

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**EXPLORE THE TREATMENT WITH THE BEST SURVIVAL BENEFIT according to**

- Multiparametric Evaluation**
- Oncological Staging
  - Patient's PS and frailty
  - Comorbidities
  - Tumor Location
  - Liver Function (not only CHILD...)
  - Specific technical contraindications
  - Resource availability

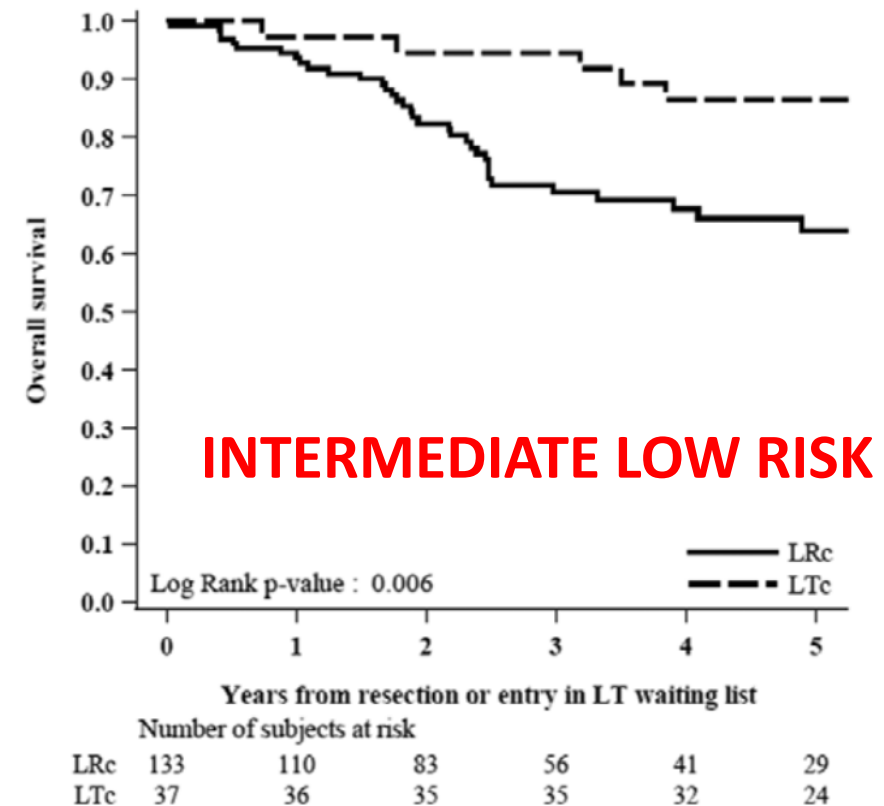
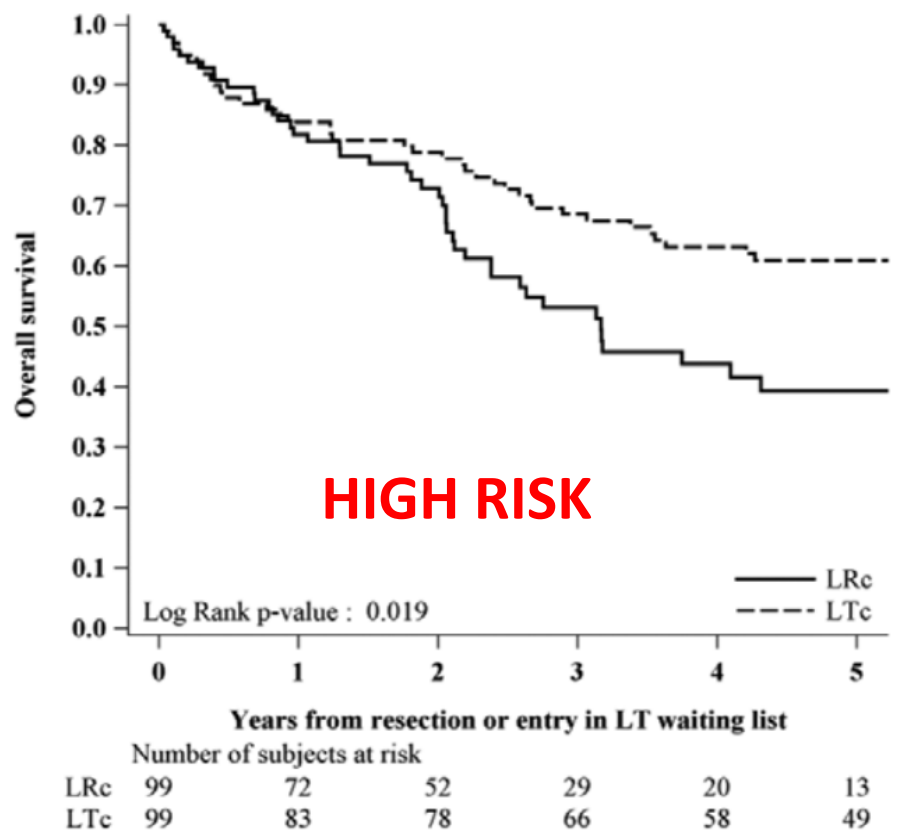
- Transplant
- MILS Resection
- Open resection
- Percutaneous ablation
- MILS Ablation
- Intra-arterial therapies
- Systemic
- BSC



# Surgical Treatment of Hepatocellular Carcinoma: Multicenter Competing-risk Analysis of Tumor-related Death Following Liver Resection and Transplantation Under an Intention-to-treat Perspective

Stefano Di Sandro, MD, PhD,<sup>1</sup> Carlo Sposito, MD,<sup>2,3</sup> Matteo Ravaioli, MD, PhD,<sup>4,5</sup> Andrea Lauterio, MD,<sup>6,7</sup> Paolo Magistri, MD,<sup>1</sup> Marco Bongini, MD,<sup>2</sup> Federica Odaldi, MD,<sup>4</sup> Riccardo De Carlis, MD,<sup>6,8</sup> Francesca Botta, PhD,<sup>9</sup> Leonardo Centonze, MD,<sup>6,10</sup> Lorenzo Maroni, MD,<sup>4</sup> Davide Citterio, MD,<sup>2</sup> Cristiano Guidetti, MD,<sup>1</sup> Vincenzo Bagnardi, PhD,<sup>9</sup> Luciano De Carlis, MD,<sup>6,7</sup> Matteo Cescon, MD, PhD,<sup>4,5</sup> Vincenzo Mazzaferro, MD,<sup>2,3</sup> and Fabrizio Di Benedetto, MD, PhD<sup>1</sup>; HV-HCC-MRT-group

- RISK SCORE**
- liver cirrhosis
  - aspartate transaminase (AST)
  - MELD score
  - alpha-feto- protein ( $\alpha$ -FP)
  - number of HCC nodules
  - diameter of the largest nodule



# Effect of Diameter and Number of Hepatocellular Carcinomas on Survival After Resection, Transarterial Chemoembolization, and Ablation

Kawaguchi, Yoshikuni MD, PhD<sup>1\*</sup>; Hasegawa, Kiyoshi MD, PhD<sup>1\*</sup>; Hagiwara, Yasuhiro PhD<sup>2\*</sup>; De Bellis, Mario MD<sup>3</sup>; Famularo, Simone MD<sup>4,5</sup>; Panettieri, Elena MD<sup>6</sup>; Matsuyama, Yutaka PhD<sup>2\*</sup>; Tateishi, Ryosuke MD, PhD<sup>7\*</sup>; Ichikawa, Tomoaki MD, PhD<sup>8\*</sup>; Kokudo, Takashi MD, PhD<sup>1\*</sup>; Izumi, Namiki MD, PhD<sup>9\*</sup>; Kubo, Shoji MD, PhD<sup>10\*</sup>; Sakamoto, Michiie MD, PhD<sup>11\*</sup>; Shiina, Shuichi MD, PhD<sup>12\*</sup>; Takayama, Tadoshi MD, PhD<sup>13\*</sup>; Nakashima, Osamu MD, PhD<sup>14\*</sup>; Murakami, Takamichi MD, PhD<sup>15\*</sup>; Vauthey, Jean-Nicolas MD<sup>16</sup>; Giuliani, Felice MD<sup>6</sup>; De Carlis, Luciano MD<sup>4,17</sup>; Romano, Fabrizio MD<sup>4,5</sup>; Ruzzenente, Andrea MD, PhD<sup>3</sup>; Guglielmi, Alfredo MD<sup>3</sup>; Kudo, Masatoshi MD, PhD<sup>18\*</sup>; Kokudo, Norihiro MD, PhD<sup>19\*</sup>

Am J Gastroenterol 2021

**43.904 HCC**

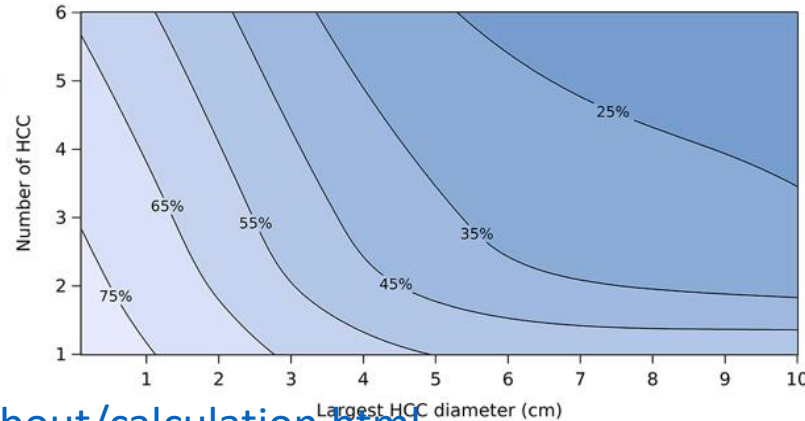
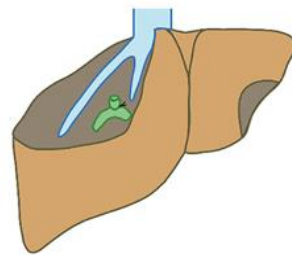
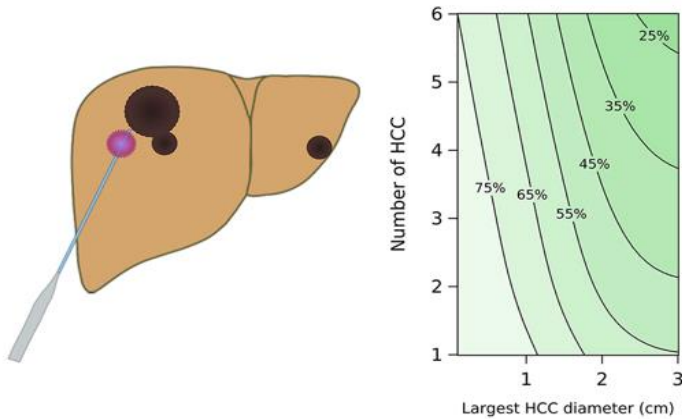
**15.313 Resections**

**15.216 Ablations**

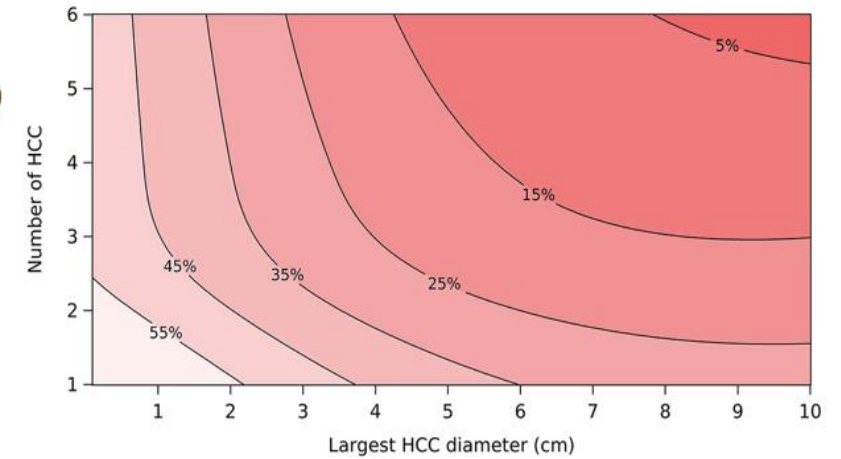
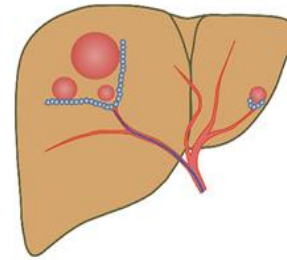
**13.375 TACE**



◆ Ablation



◆ TACE



# Effect of Diameter and Number of Hepatocellular Carcinomas on Survival After Resection, Transarterial Chemoembolization, and Ablation

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Am J Gastroenterol 2021

**43.904 HCC**  
**15.313 Resections**  
**15.216 Ablations**  
**13.375 TACE**

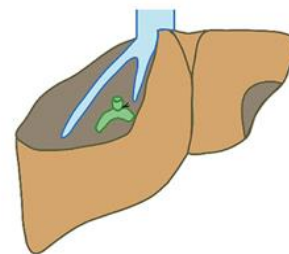
## Survival Calculator for Hepatocellular Carcinoma (HCC)

■ Resection, Trans-Arterial Chemoembolization (TACE), and Ablation

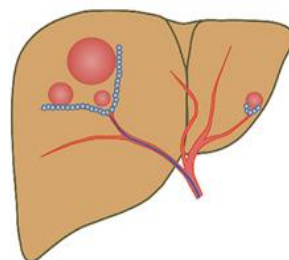
	Number	Largest diameter, cm
Select	<input type="text" value="2"/>	<input type="text" value="3.0"/>

	Overall survival <sup>†</sup>		
	1-year	3-year	5-year
Resection	91.1 %	71.5 %	55.4 %
TACE	89.6 %	60.3 %	38.2 %
Ablation <sup>‡</sup>	92.7 %	68.1 %	46.0 %

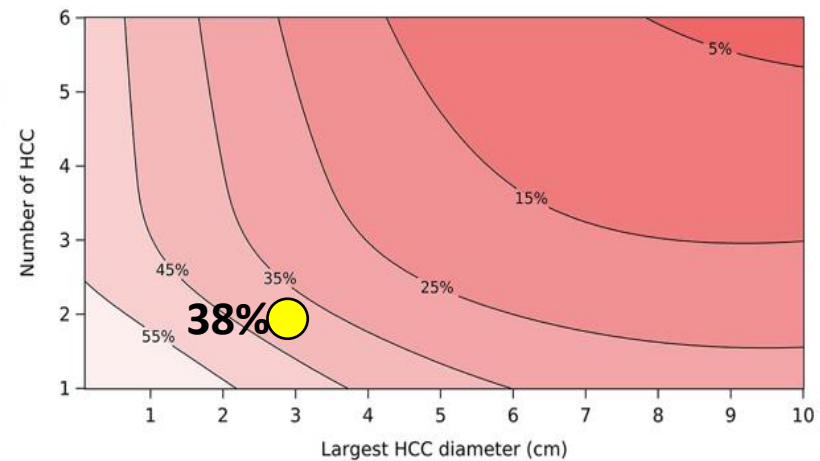
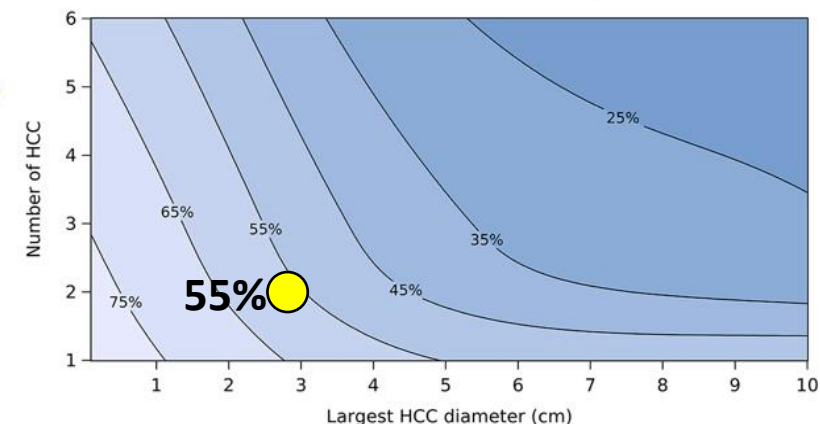
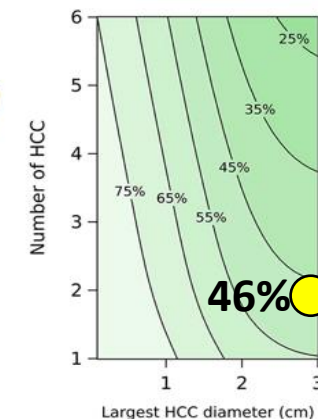
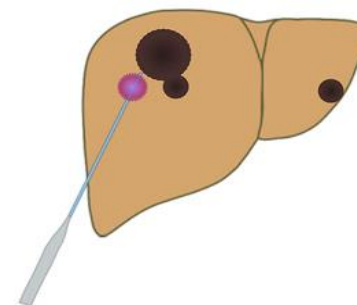
◆ Resection



◆ TACE



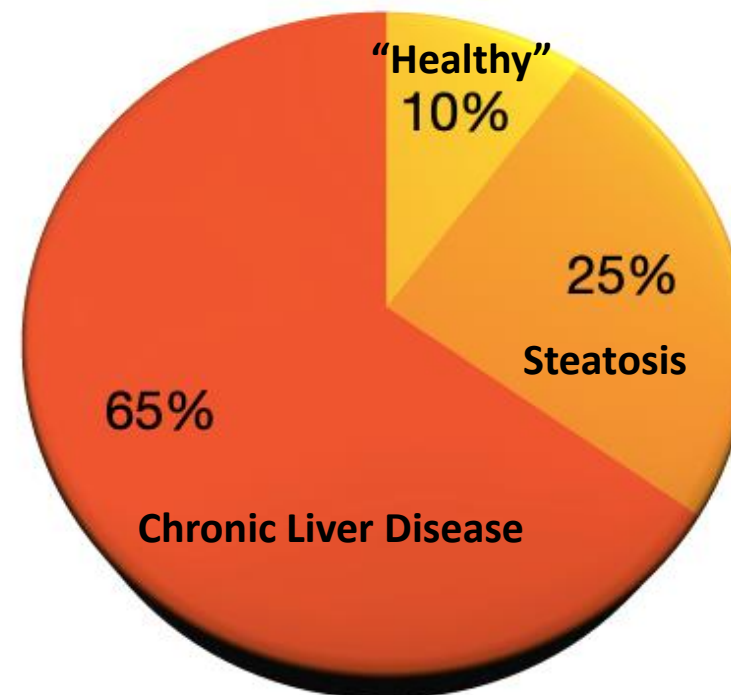
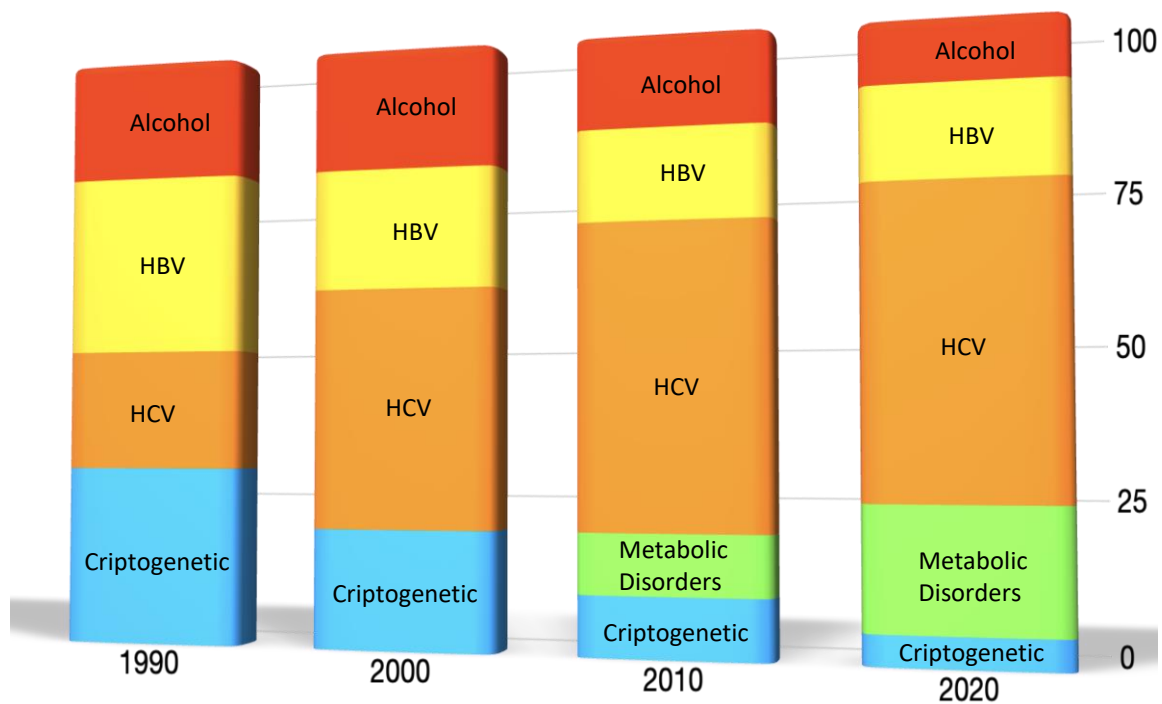
◆ Ablation







## Epidemiology trends

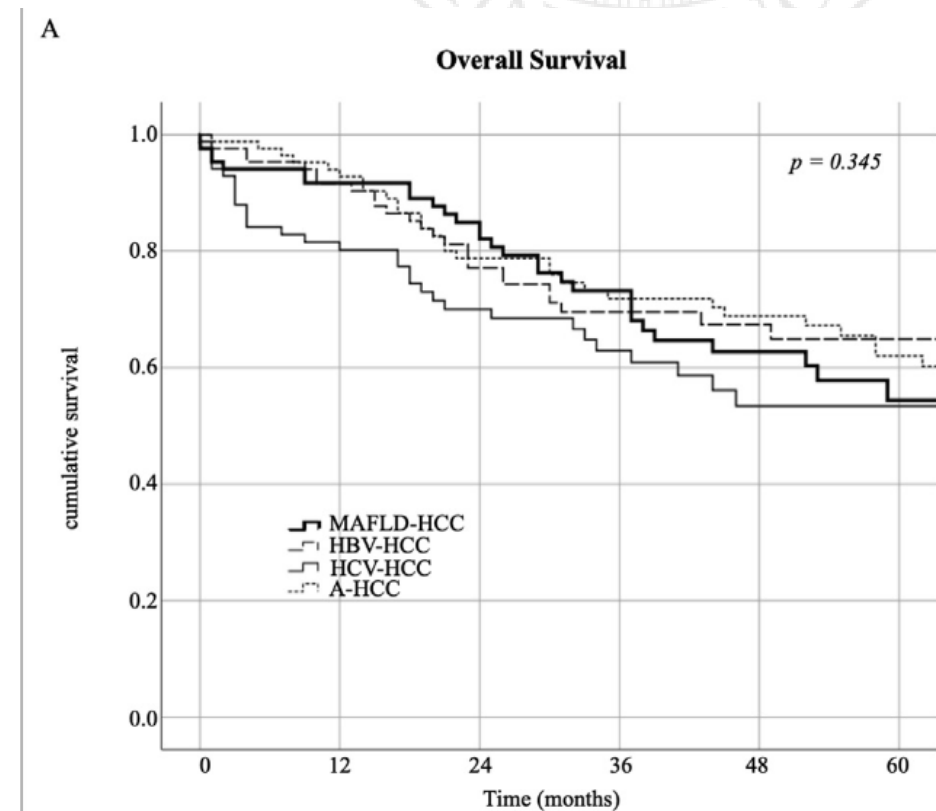


Extralesional liver

# Hepatectomy for Metabolic Associated Fatty Liver Disease (MAFLD) related HCC: Propensity case-matched analysis with viral- and alcohol-related HCC

Conci S, Ruzzenente A et al.

	MAFLD-HCC	HBV-HCC	HCV-HCC	A-HCC	p-values
<b>Cirrhosis</b>	38%	59%	73%	66%	<0.001
<b>Steatosis</b>	90%	8%	8%	14%	<0.001
<b>Portal Hypertension</b>	7%	18%	22%	20%	< 0.001




Number at risk

	0	12	24	36	48	60
<b>MAFLD-HCC</b>	85	75	59	44	30	14
<b>HBV-HCC</b>	85	72	56	36	27	16
<b>HCV-HCC</b>	85	60	46	31	18	12
<b>A-HCC</b>	85	76	60	52	42	33



## Trends in hospital volume and operative mortality in hepato-biliary surgery in Veneto region, Italy

Alfredo Guglielmi<sup>1</sup> · Marzia Tripepi<sup>1</sup> · Laura Salmaso<sup>2</sup> · Ugo Fedeli<sup>2</sup> · Andrea Ruzzenente<sup>1</sup>  · Mario Saia<sup>2</sup>

Received: 17 February 2023 / Accepted: 22 June 2023 / Published online: 3 July 2023  
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**2010-2021**

**7989 Hepatobiliary procedures**

## MORTALITY

2010-2013	2,2%
2014-2017	1,9%
2018-2021	1,4%

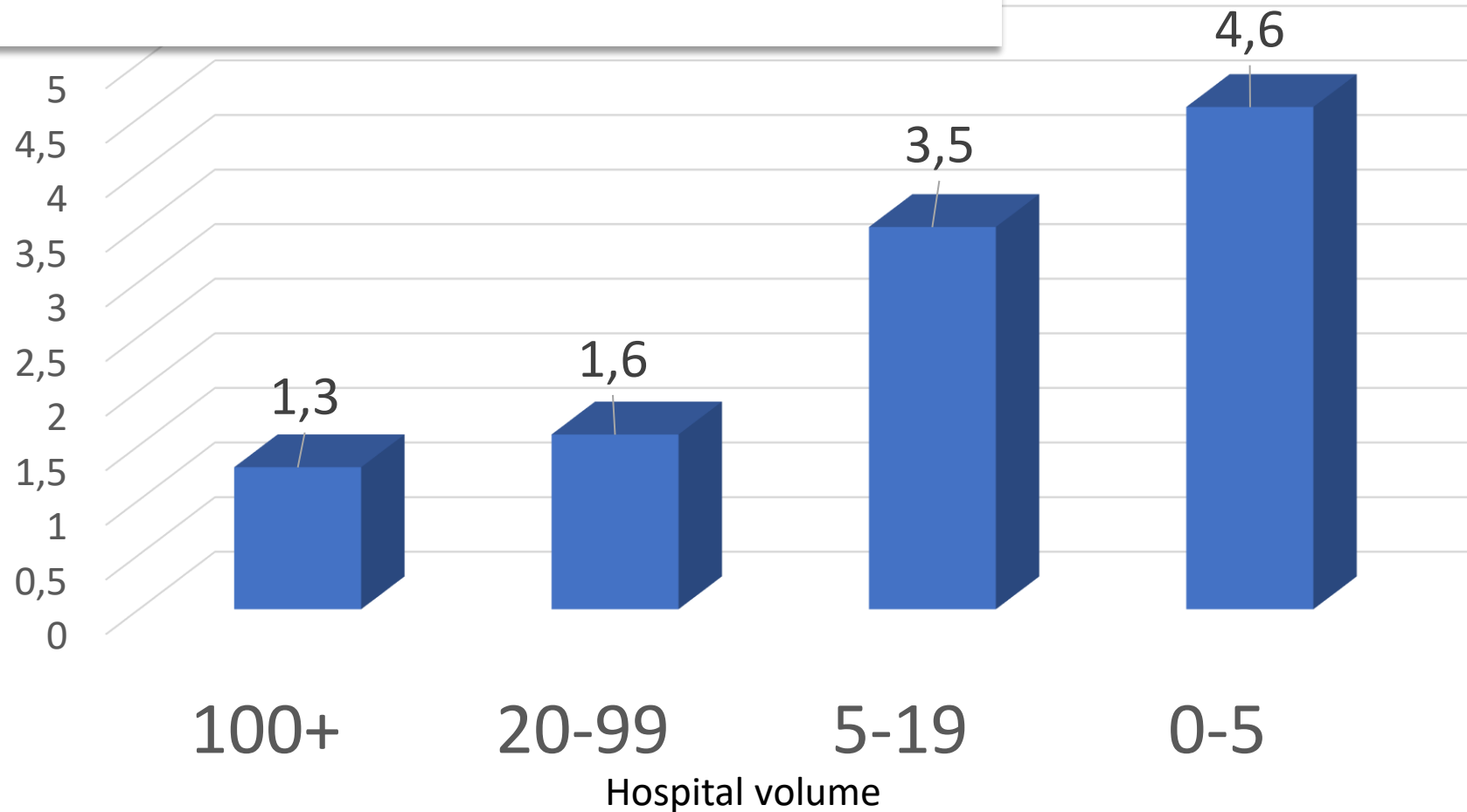


## Trends in hospital volume and operative mortality in hepato-biliary surgery in Veneto region, Italy

Alfredo Guglielmi<sup>1</sup> · Marzia Tripepi<sup>1</sup> · Laura Salmaso<sup>2</sup> · Ugo Fedeli<sup>2</sup> · Andrea Ruzzenente<sup>1</sup> · Mario Saia<sup>2</sup>

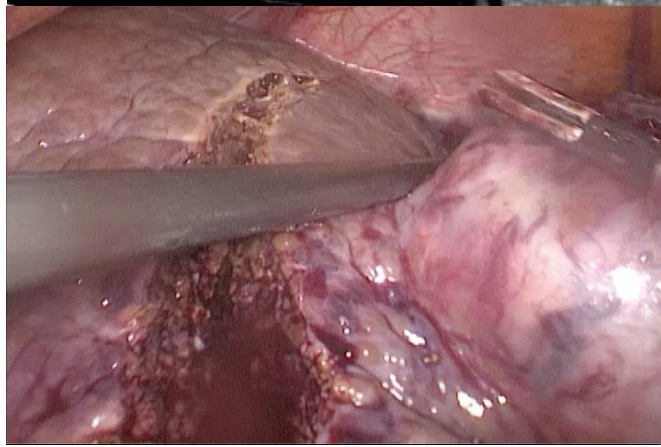
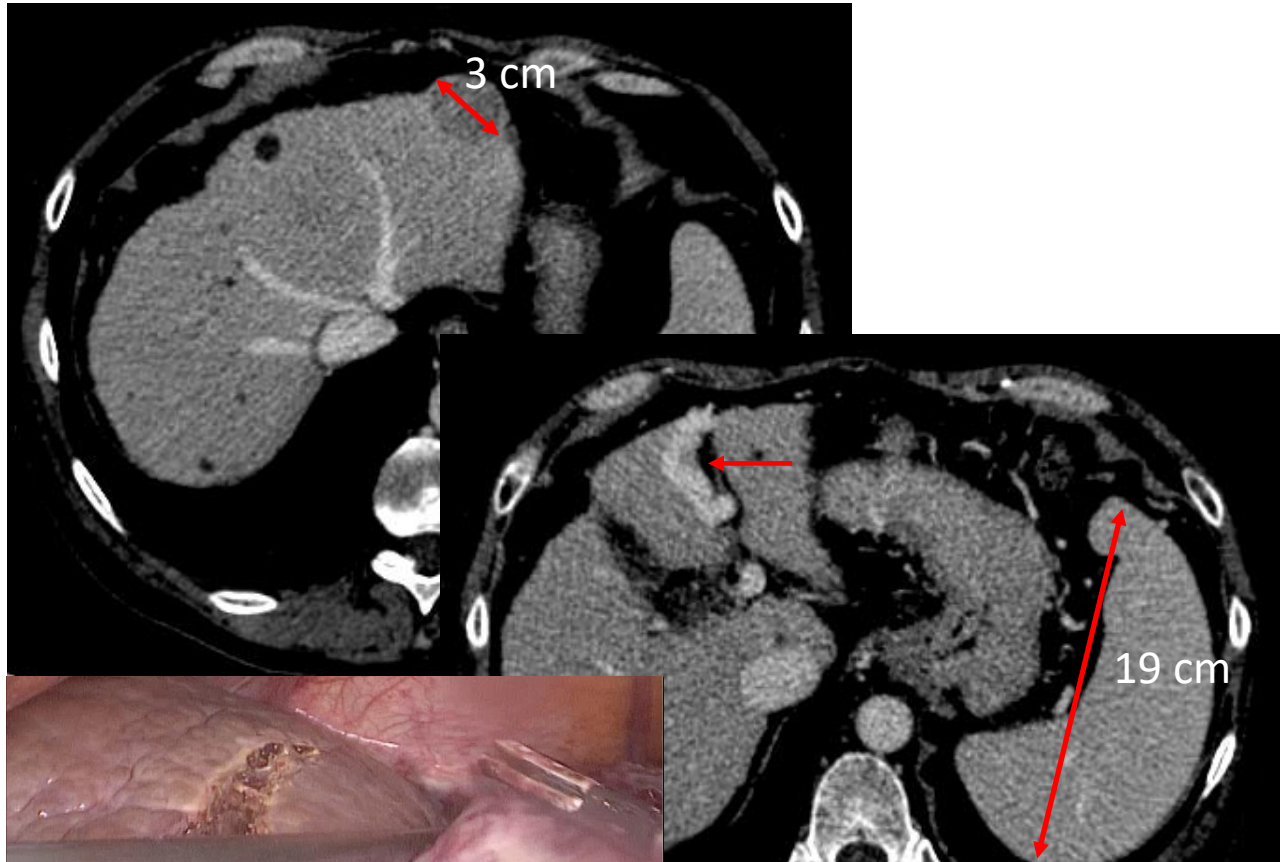
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# MORTALITY & HOSPITAL VOLUME

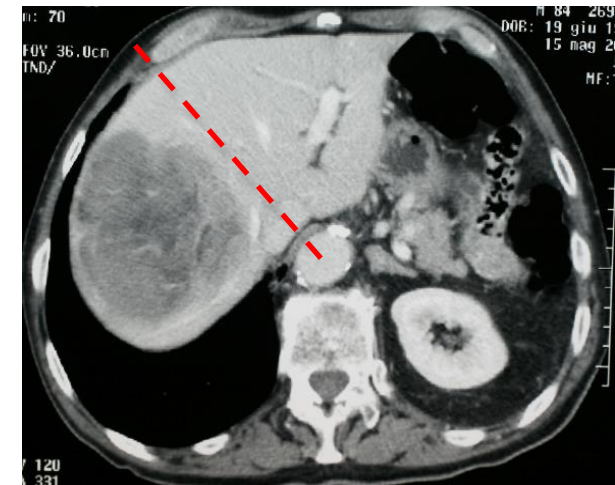
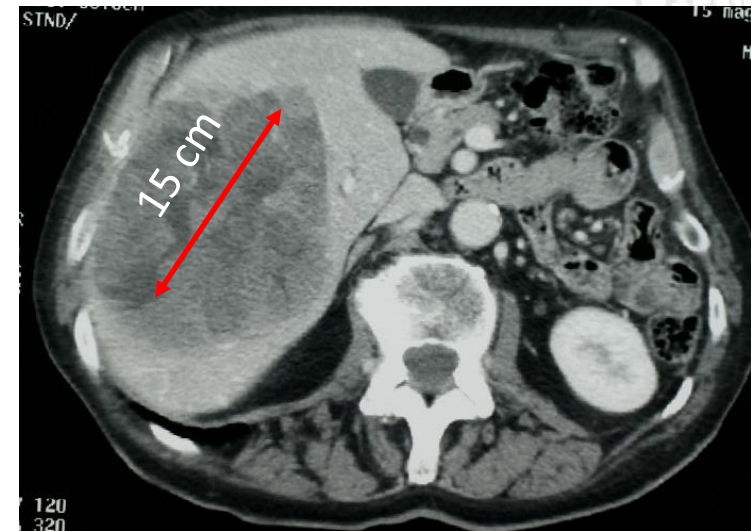


# EARLY-VERY EARLY

# INTERMEDIATE-ADVANCED



CHILD A6 – ICGR15 66,3%  
- PLTS 65.000  
Portal hypertension

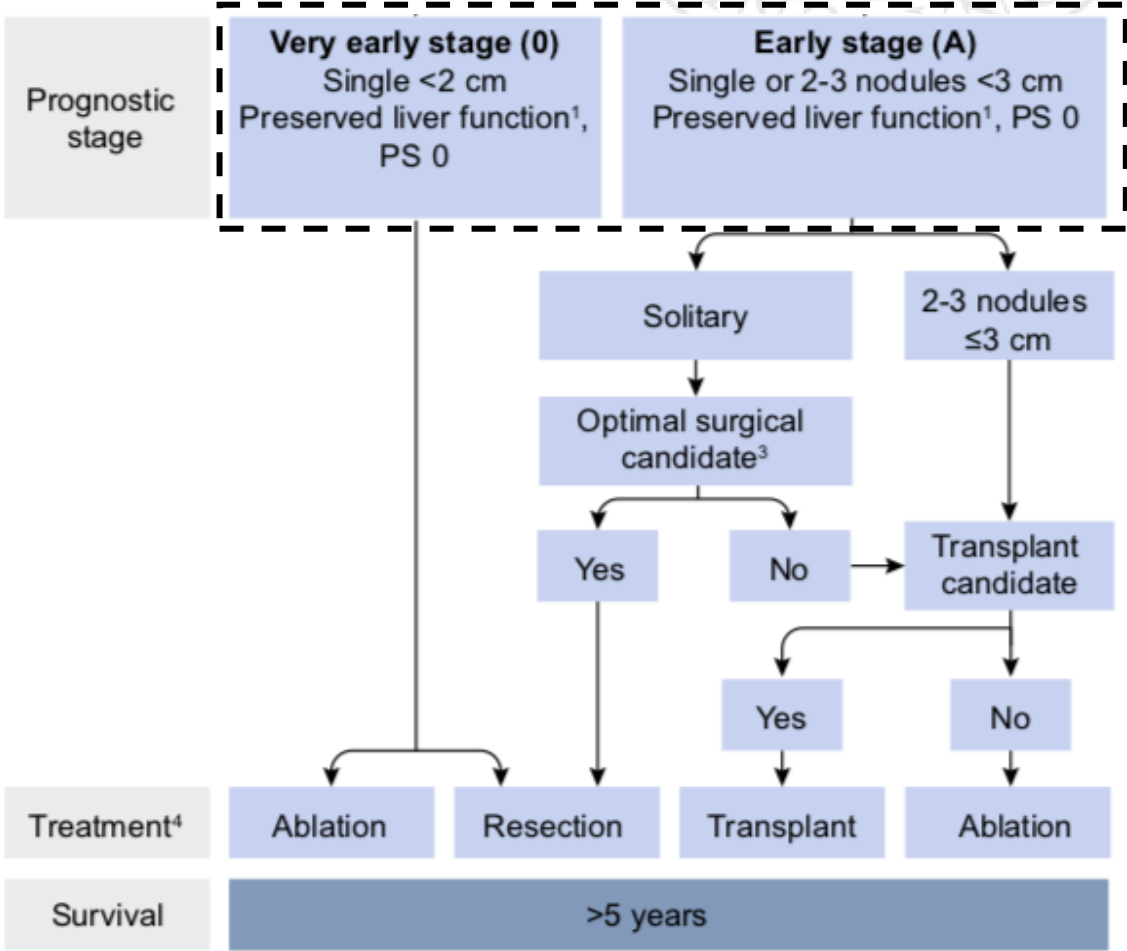
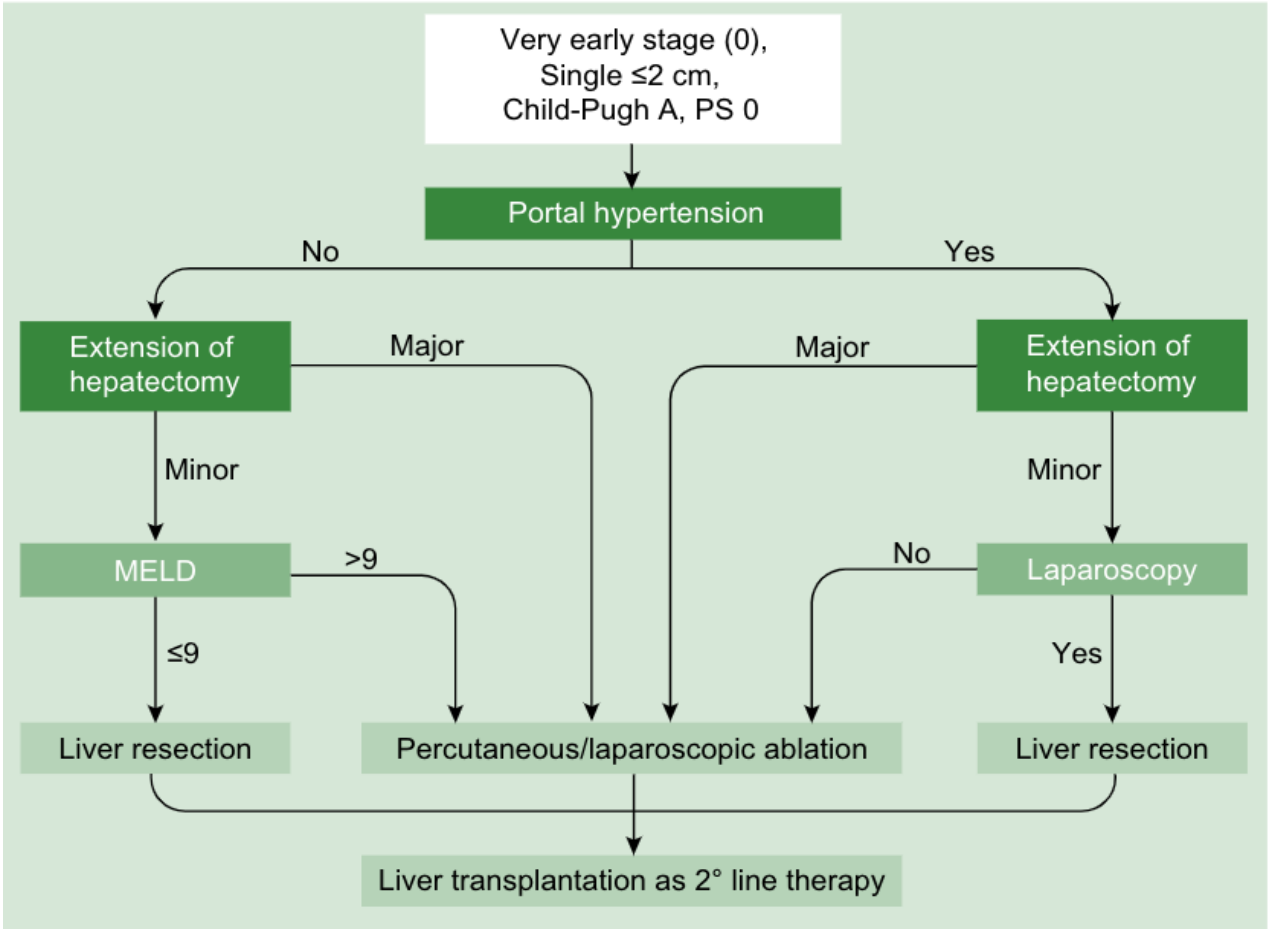


CHILD A5 – ICGR15 3,7%

# VERY EARLY – EARLY HCC

Personalized treatment of patients with very early hepatocellular carcinoma

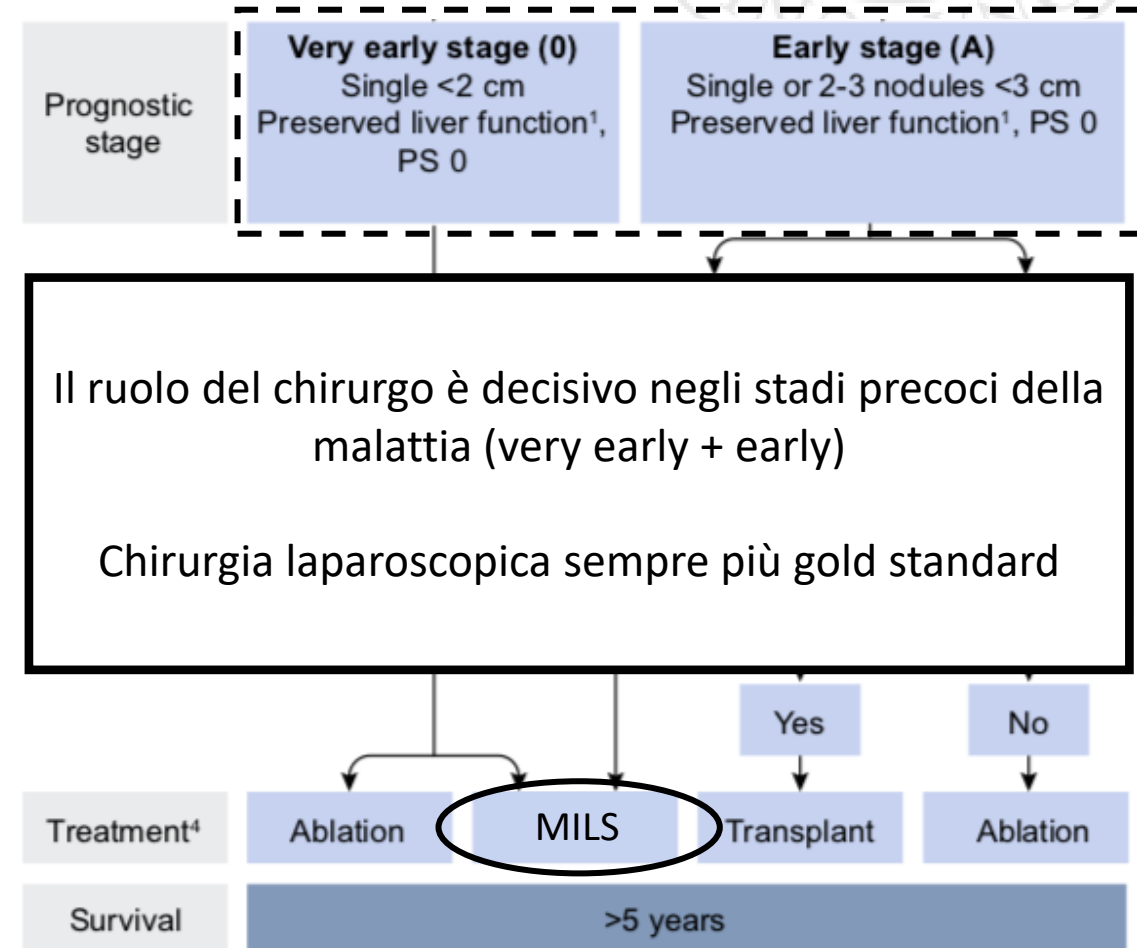
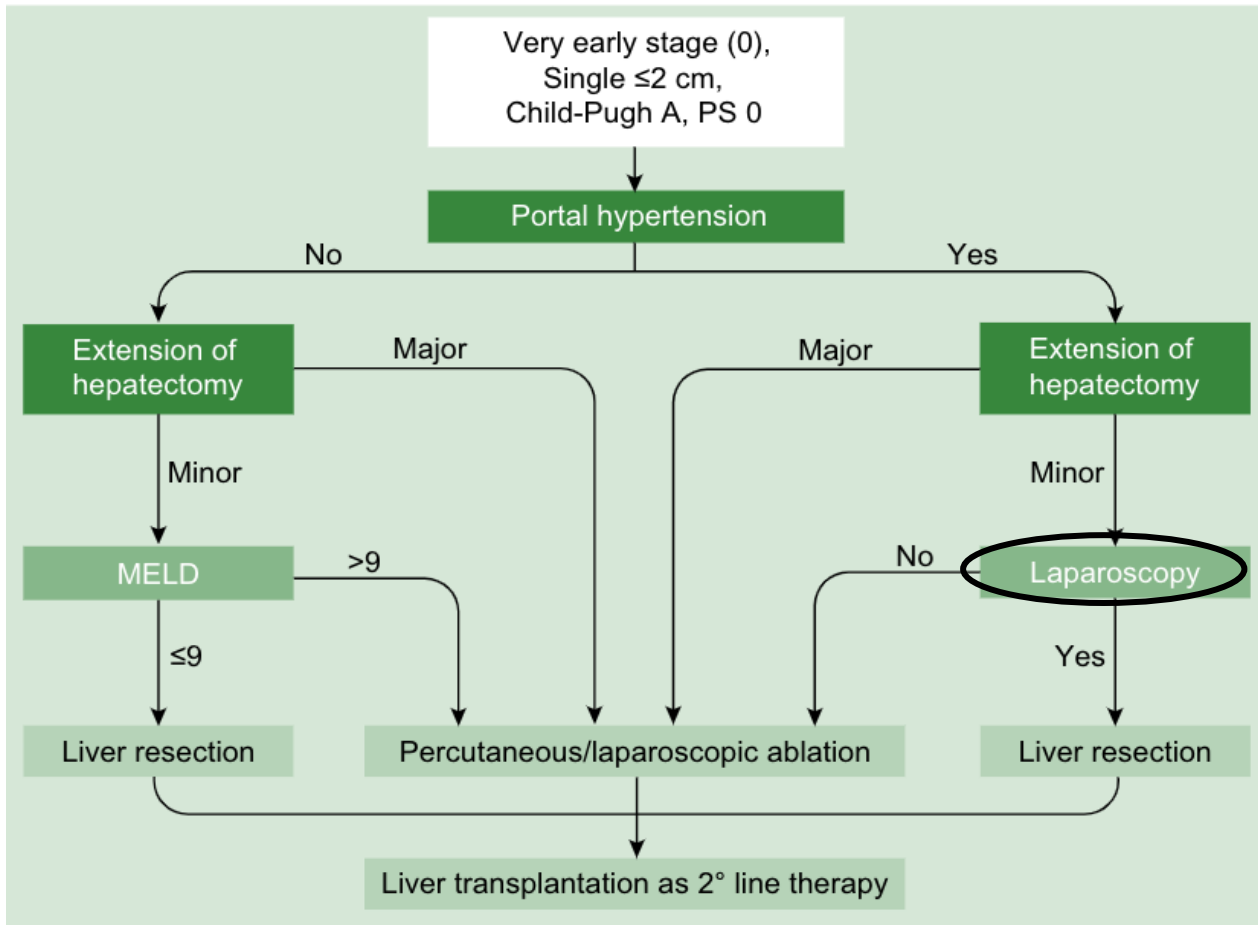
Vitale A et al.



# EARLY HCC

## Personalized treatment of patients with very early hepatocellular carcinoma

Vitale A et al.



# Incidence of PHLF and ascites in HCC surgery

- ✓ Overall complication rate of **44%**
- ✓ Major complications in **9.5%**
- ✓ Postoperative ascites in **9.5%**
- ✓ Postoperative liver failure in **6 %**
- ✓ 90 days mortality **3.5%**



HPB  
Available online 1 March 2022  
In Press, Corrected Proof



Original article

Benchmarking postoperative outcomes after open liver surgery for cirrhotic patients with hepatocellular carcinoma in a national cohort

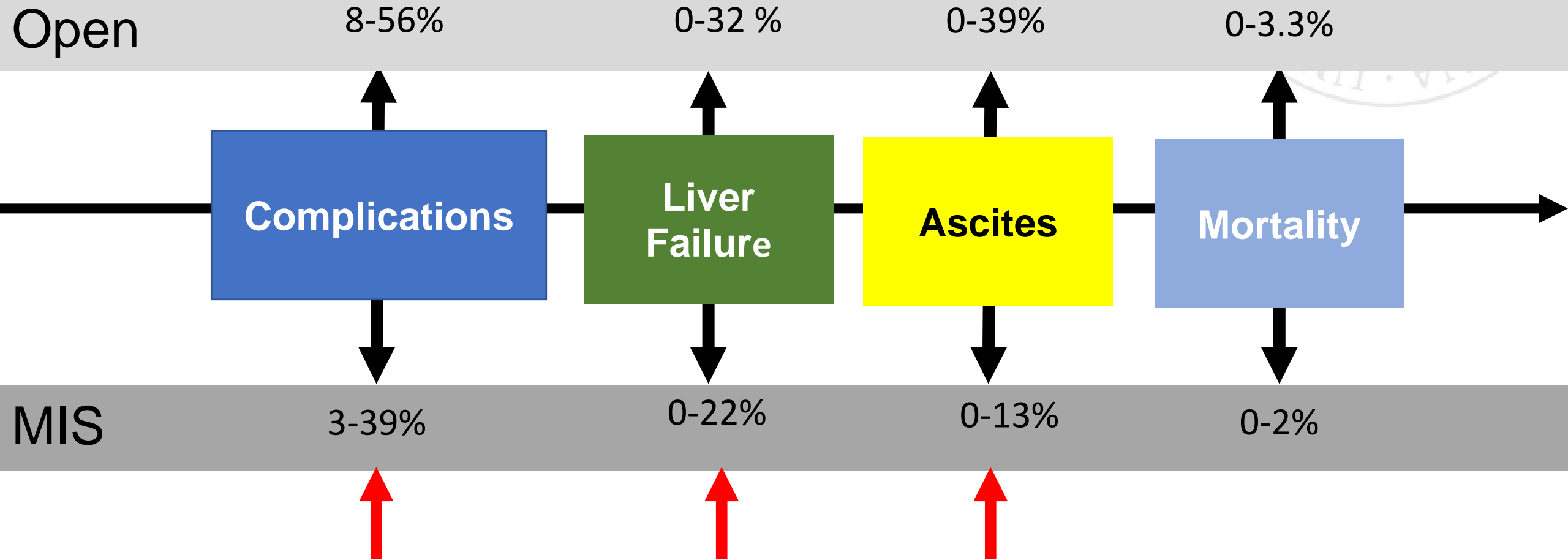
Simone Famularo<sup>1,2,3</sup>, Nadia Russolillo<sup>4</sup>, Matteo Donadon<sup>1,2,4,8</sup>, Federica Cipriani<sup>5</sup>, Francesco Ardito<sup>6</sup>, Pasquale Perri<sup>7</sup>, Alessandro Gianni<sup>3</sup>, Francesca De Stefano<sup>9</sup>, Quirino Lai<sup>9</sup>, Sarah Molino<sup>10</sup>, Matteo Zanello<sup>11</sup>, Maurizio Iaria<sup>12</sup>, Giuliano La Barba<sup>13</sup>, Enrico Pinotti<sup>14</sup>, Paola Germani<sup>15</sup>, Simone Conci<sup>16</sup>, Cecilia Ferrari<sup>17</sup>, Luca Fumagalli<sup>18</sup> ... Davide Gaudesi<sup>18</sup>

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# Surgery for HCC: MILS vs Open



[Chen, Kim, Guro, Xu, Yoon, Di Sandro, Tsai, Untereiner, Deng, Iwata, Ryu, Wu, Cheung, El Ghendi, Liu, Cipriani]

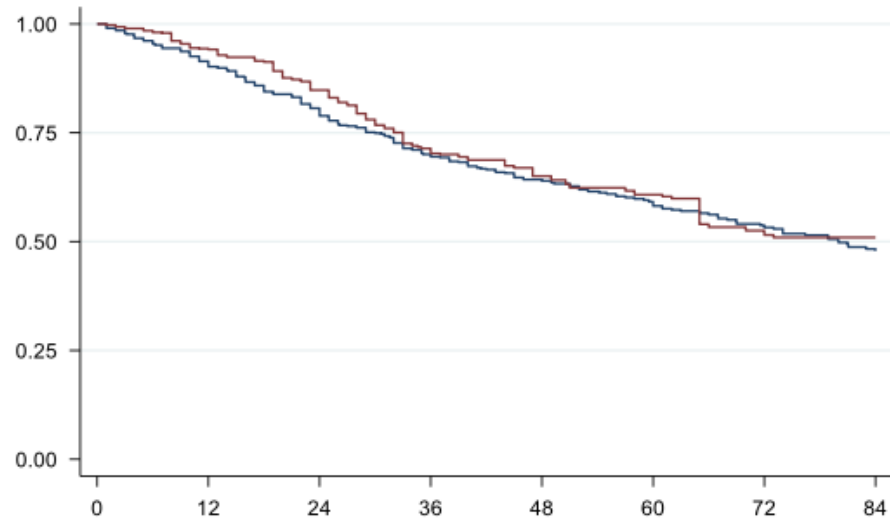
# Long survival MILS vs OPEN

996 resections for HCC on methabolic syndrome → 580 open vs 416 MILS



## OS

Kaplan-Meier survival estimates

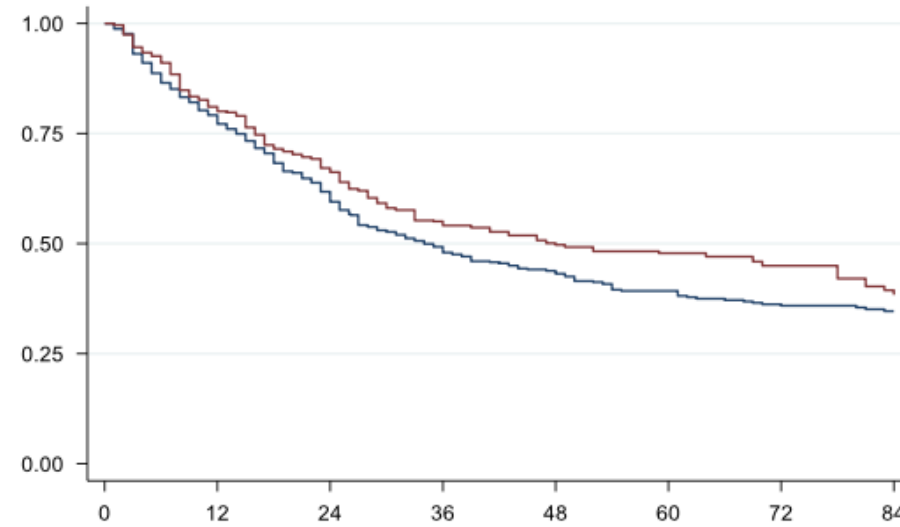


Number at risk		Months							
		0	12	24	36	48	60	72	84
Open	568.6656	467.1999	363.9825	279.0586	208.817	141.011	107.9727	77.0842	
Minimally Invasive	410.96	343.8675	256.4491	186.0645	148.7304	117.4475	79.00559	62.04595	



## Disease free survival

Kaplan-Meier survival estimates



Number at risk		Months							
		0	12	24	36	48	60	72	84
Open	567.8927	398.4256	267.5924	184.3039	141.0499	92.95891	74.03327	53.52451	
Minimally Invasive	410.96	290.7522	202.7274	147.7389	115.1385	94.16889	61.80049	47.98323	

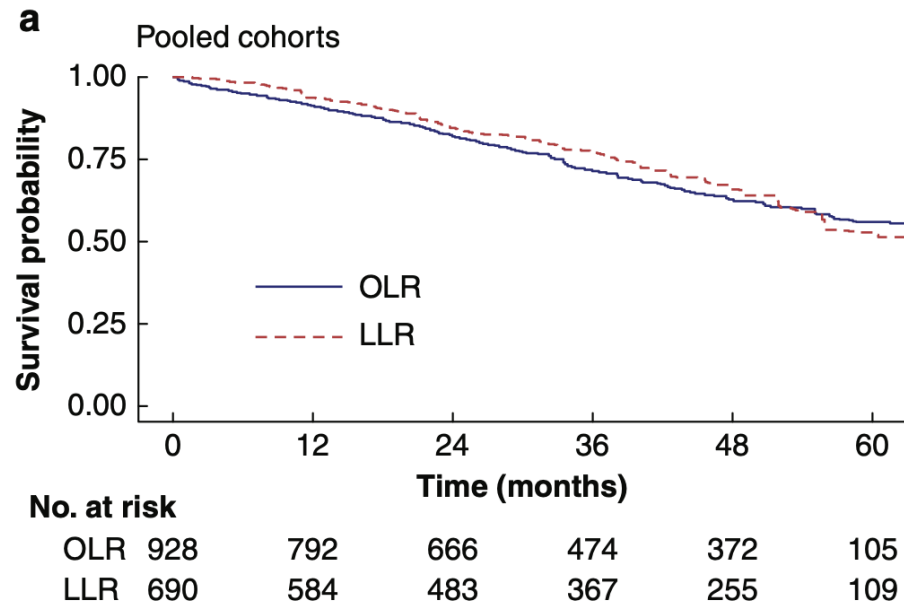


# Laparoscopic versus open resection of hepatocellular carcinoma in patients with cirrhosis: meta-analysis

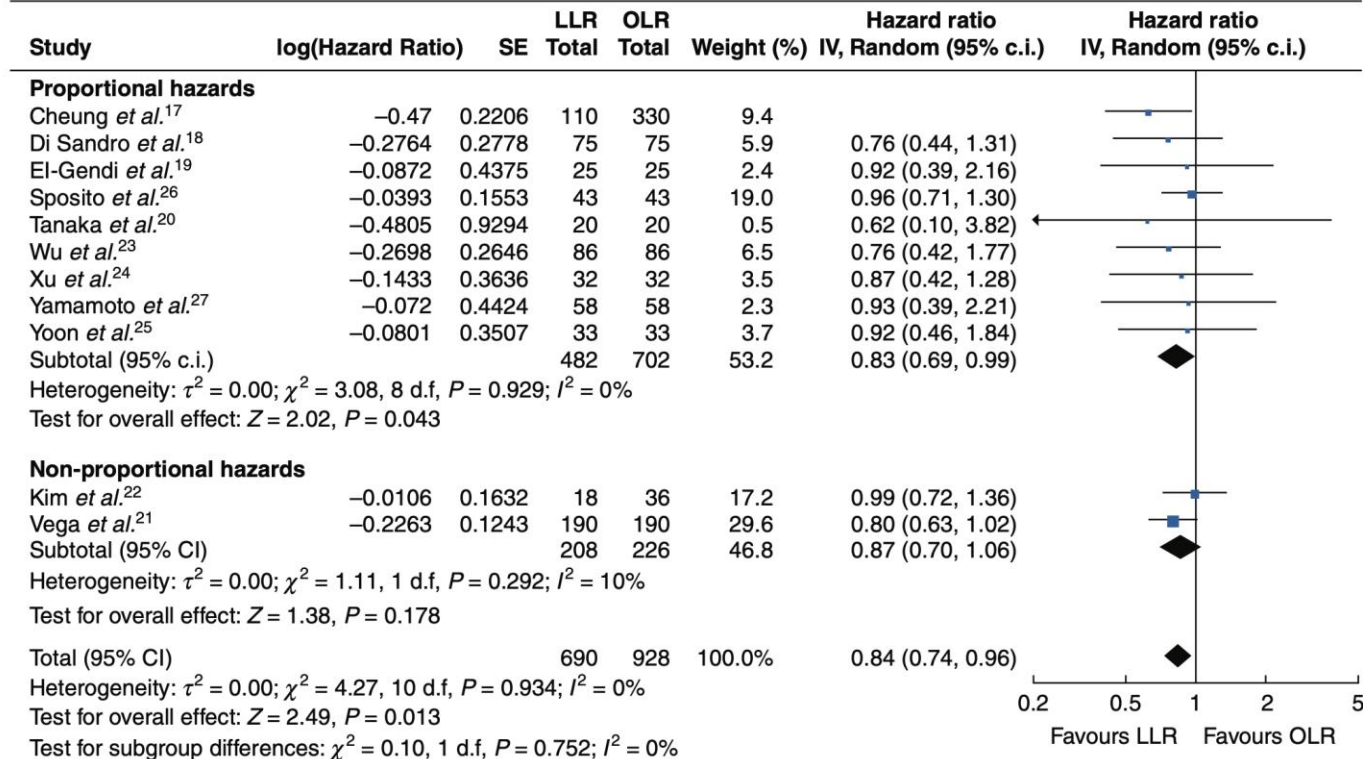
Tousif Kabir <sup>1,2</sup>, Zoe Z. Tan <sup>2</sup>, Nicholas L. Syn <sup>3</sup>, Eric Wu <sup>3</sup>, J. Daryl Lin <sup>3</sup>, Joseph J. Zhao <sup>3</sup>, Alvin Y.H. Tan <sup>1</sup>, Yong Hui <sup>1,2</sup>, Junn H. Kam <sup>1,2</sup> and Brian K. P. Goh <sup>2,4,\*</sup>

<sup>1</sup>Department of General Surgery, Sengkang General Hospital, Singapore  
<sup>2</sup>Department of Hepatopancreatobiliary and Transplant Surgery, Singapore General Hospital, Singapore  
<sup>3</sup>Yong Loo Lin School of Medicine, Singapore  
<sup>4</sup>Duke NUS Medical School, Singapore

\*Correspondence to: Brian K.P. Goh, Department of Hepatopancreatobiliary and Transplant Surgery, Singapore General Hospital, 20 College Road, Singapore 169856 (e-mail: bsgkp@hotmail.com)



**c**

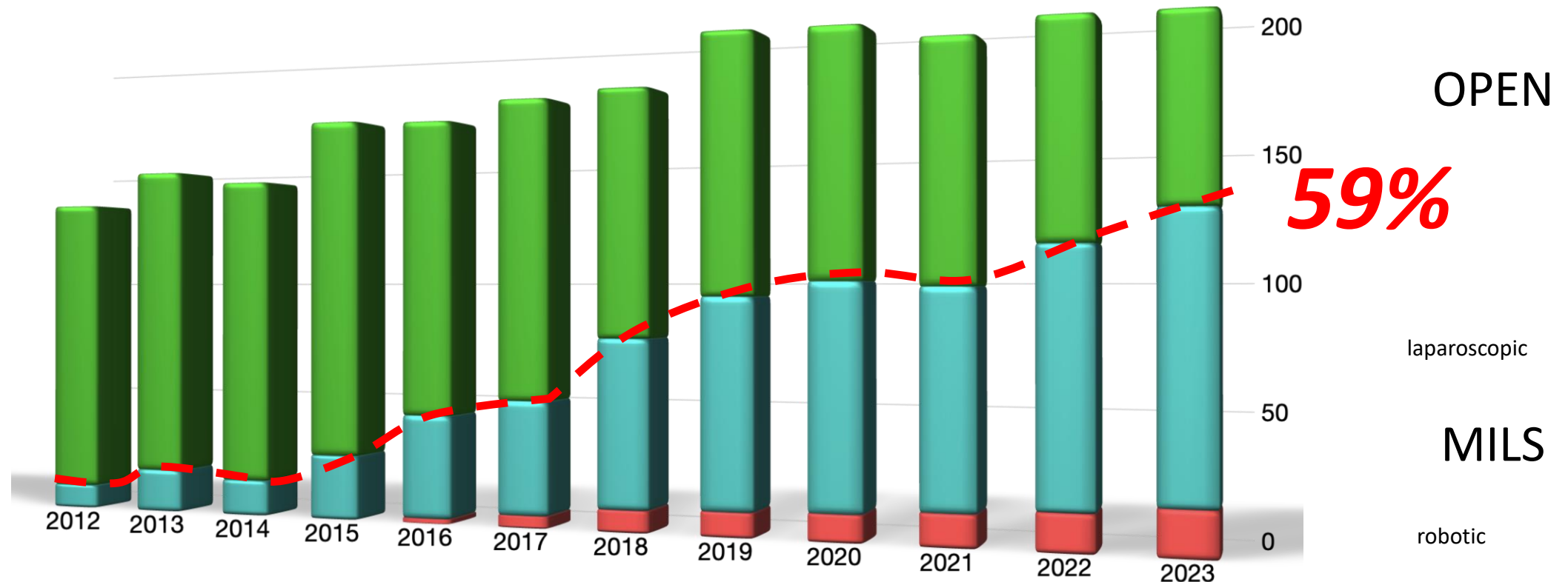


# Evolution of Liver Surgery in Verona

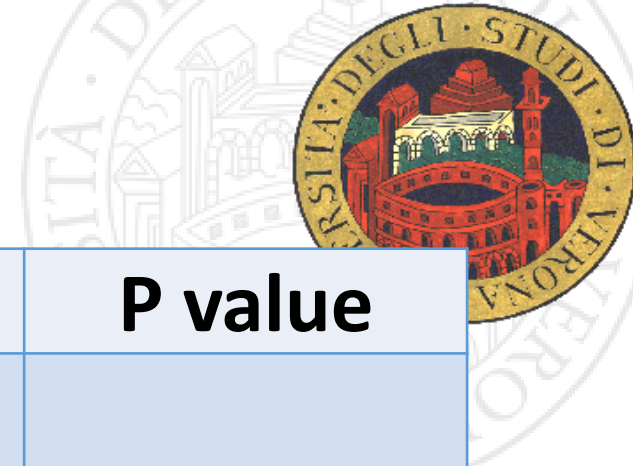


University of Verona  
General and Hepatobiliary Surgery  
GB Rossi Hospital

*Hepatobiliary Resection*  
*2012-2023*  
**tot 2048 – MILS 753**

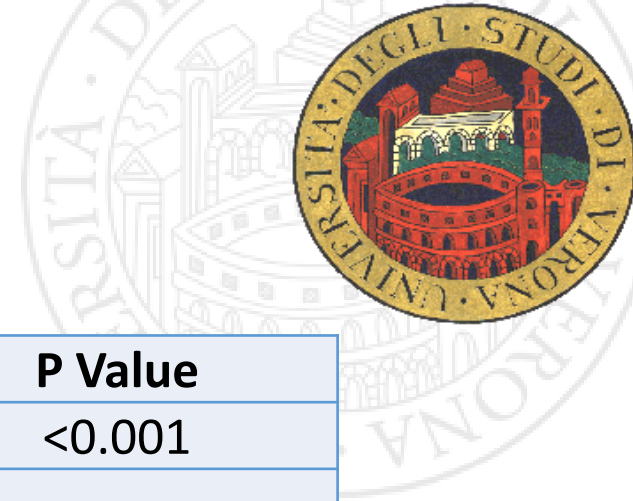


# Surgery for HCC



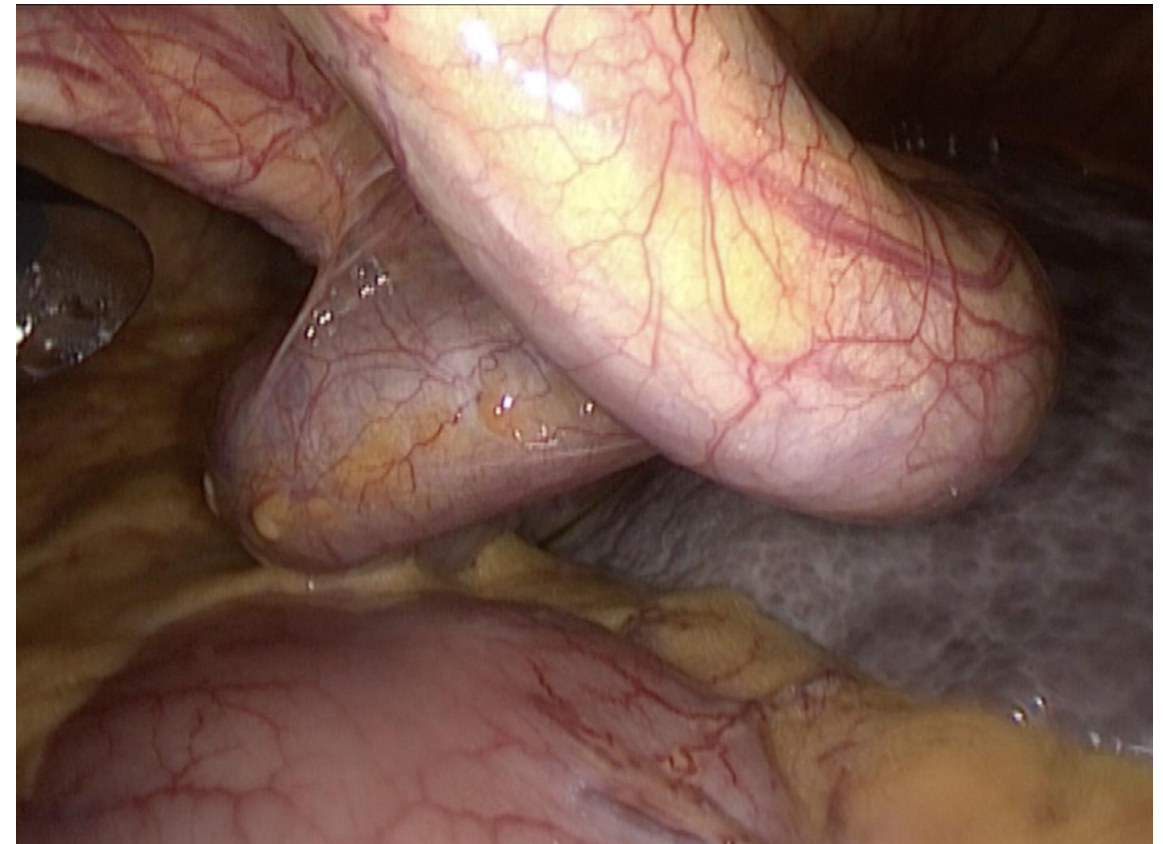
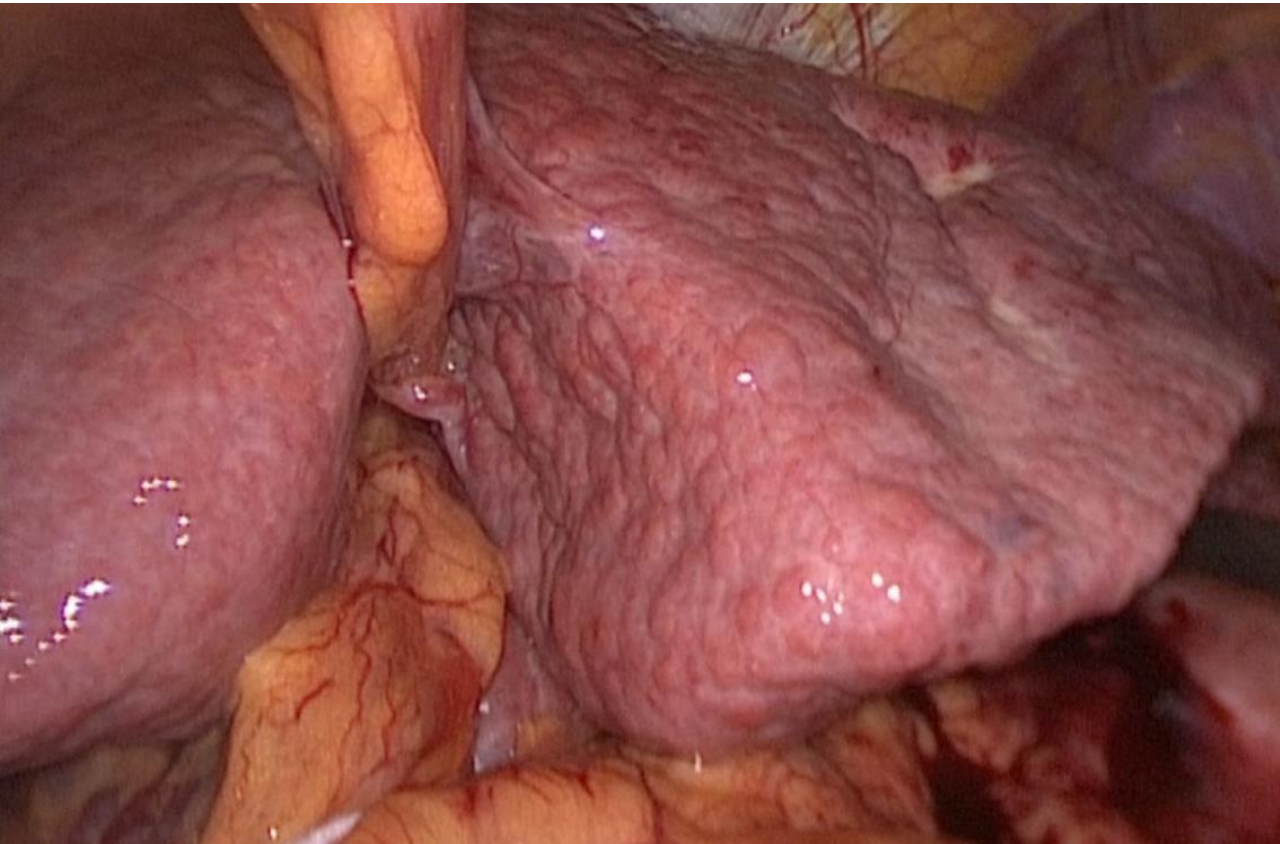
<b>Variable</b>	<b>Open (n=356)</b>	<b>MILS (n=208)</b>	<b>P value</b>
<b>Overall Morbidity</b>			
No	104 (57.3%)	140 (67.3%)	
Yes	152 (42.7%)	68 (32.7%)	0.019
<b>Clavien-Dindo<math>\geq</math>III</b>			
No	249 (69.9%)	198 (95.2%)	
Yes	107 (30.1%)	10 (4.8%)	<0.001
<b>PHLF</b>			
No	297 (83.4%)	174 (91.6%)	
Yes	59 (16.6%)	16 (8.4%)	0.008
<b>Length of Stay (days)</b>	11 ( $\pm$ 8)	6 ( $\pm$ 3)	<0.001
<b>90-Days mortality</b>			
No	348 (98%)	207 (99.5%)	
Yes	8 (2%)	1 (0.5%)	0.042

# Surgery for HCC



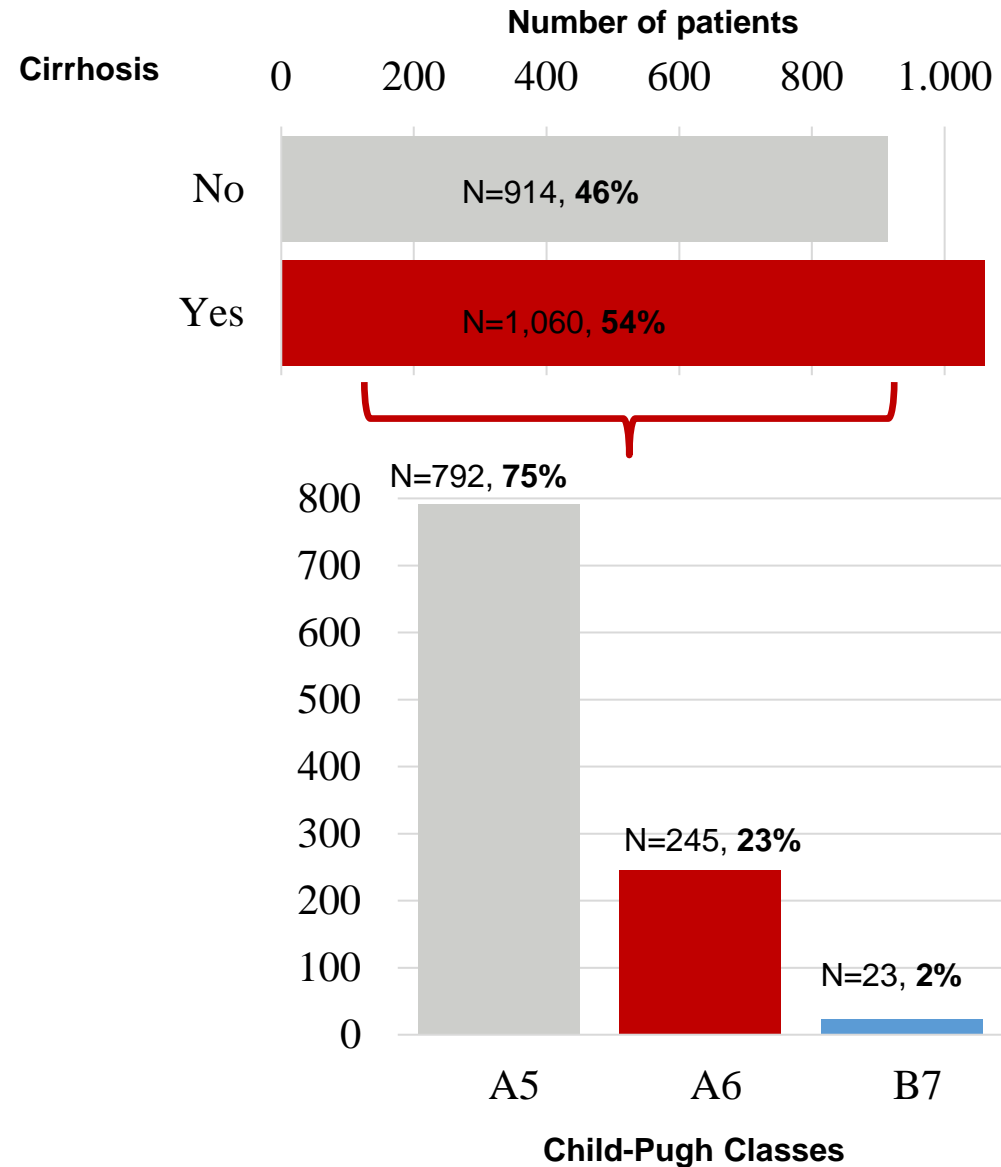
Variable	OR (CI 95%)	P Value
<b>ICG R15</b>	1.068 (1.033-1.103)	<0.001
<b>Portal Hypertension</b>		
No	Ref	
Yes	2.524 (1.134-5.620)	0.023
<b>Extent of resection</b>		
Minor	Ref	
Major	2-223 (0.864-5.718)	0.098
<b>MILS</b>		
No	Ref	
Yes	0.380 (0.184-0.784)	0.009
<b>Operative time</b>	1.004 (1.001-1.008)	0.023

*MILS in Impaired liver function*



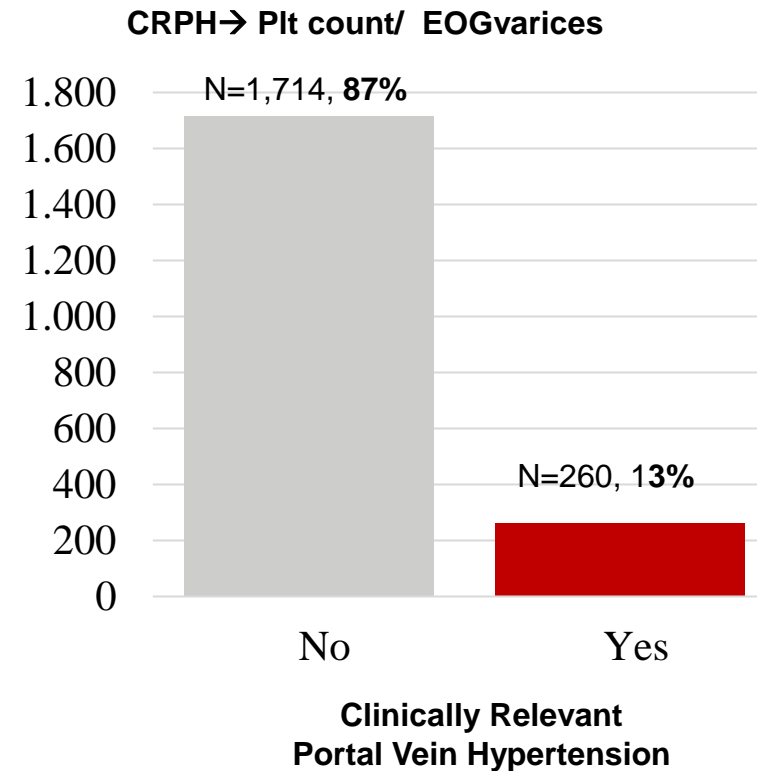


**Total Number of Patients: 1,974**



## Minimally Invasive Versus Open Liver Resection for Hepatocellular Carcinoma in the Setting of Portal Vein Hypertension: Results of an International Multi-institutional Analysis

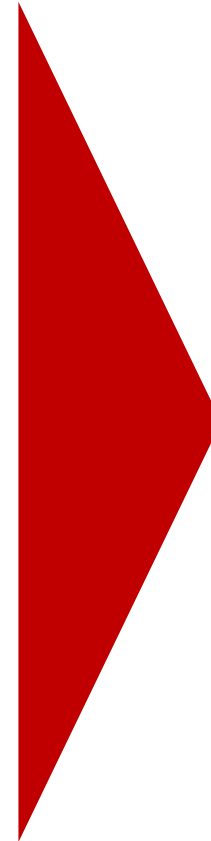
Andrea Ruzzenente, MD<sup>1</sup>, Fabio Bagante, MD<sup>1,2</sup>, Francesca Ratti, MD<sup>3</sup>, Laura Alaimo, MD<sup>1</sup>, Hugo P. Marques, MD<sup>4</sup>, Silvia Silva, MD<sup>4</sup>, Olivier Soubrane, MD<sup>5</sup>, Itaru Endo, MD<sup>6</sup>, Kota Sahara, MD<sup>6</sup>, Eliza W. Beal, MD<sup>2</sup>, Vincent Lam, MD<sup>7</sup>, George A. Poultsides, MD<sup>8</sup>, Eleftherios A. Makris, MD<sup>8</sup>, Irinel Popescu, MD<sup>9</sup>, Sorin Alexandrescu, MD<sup>9</sup>, Guillaume Martel, MD<sup>10</sup>, Aklile Workneh, MD<sup>10</sup>, Thomas J. Hugh, MD<sup>11</sup>, Alfredo Guglielmi, MD<sup>1</sup>, Luca Aldrighetti, MD<sup>3</sup>, and Timothy M. Pawlik, MD, MPH, PhD, FACS<sup>2,12</sup>





**ALL PATIENTS**

Variables	Non-MIS patients	MIS patients	p-value
Number of Patients	458	458	-
Length of Stay, median (IQR)	7 days (5-10)	5 days (4-7)	<0.001
Complication			
No	62.2%	71.2%	0.015
Clavien-Dindo 1-2	21.0%	16.6%	
Clavien-Dindo ≥ 3	16.8%	12.2%	
90-Death			
No	96.7%	98.7%	0.046
Yes	3.3%	1.3%	



**PORTAL HYPERTENSION**

Non-MIS patients	MIS patients	p-value
89	89	-
8 days (5-10)	6 days (4-7)	<0.001
56.2%	70.8%	0.042
24.7%	11.2%	
19.1%	16.9%	
93.3%	96.6%	0.30
6.7%	3.4%	

# EARLY HCC



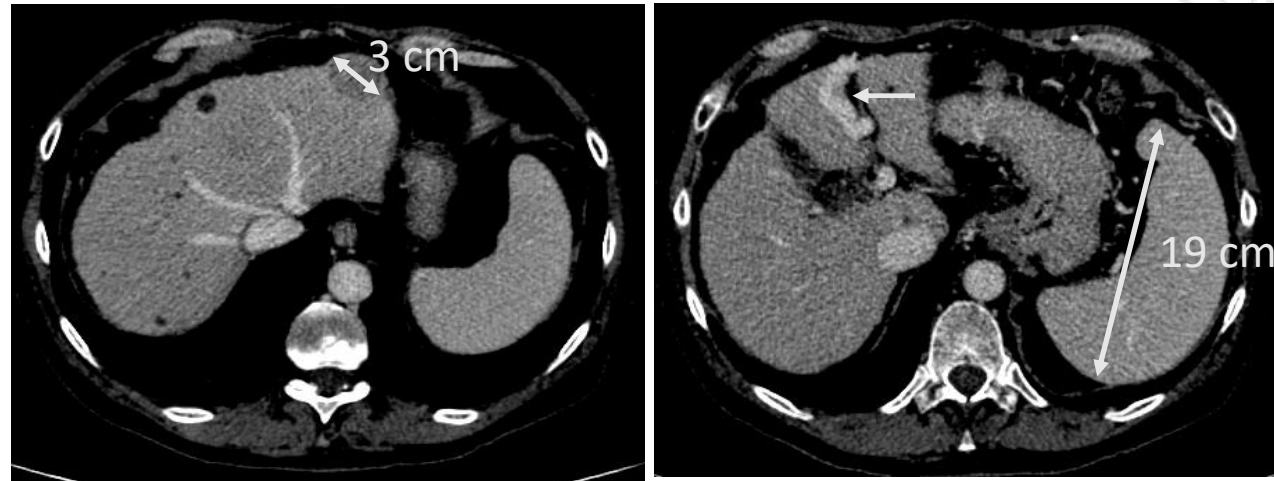
75 anni, M

HCC 3 cm

Child A6

ICGR15 66.3%

PLT 65.000



## Therapeutic options

ABLATION

TACE

MILS RESECTION

# EARLY HCC



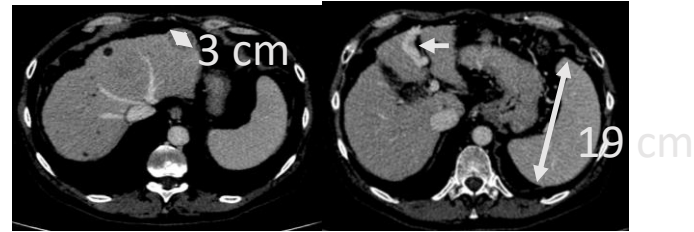
75 anni, M

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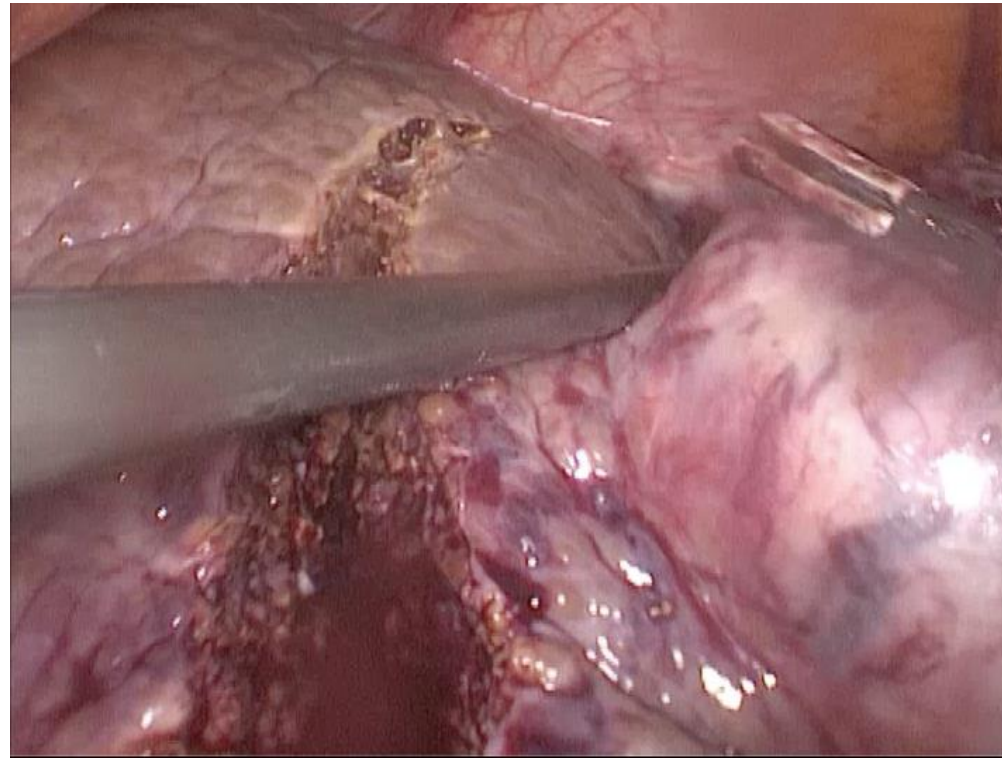


## Therapeutic options

ABLATION

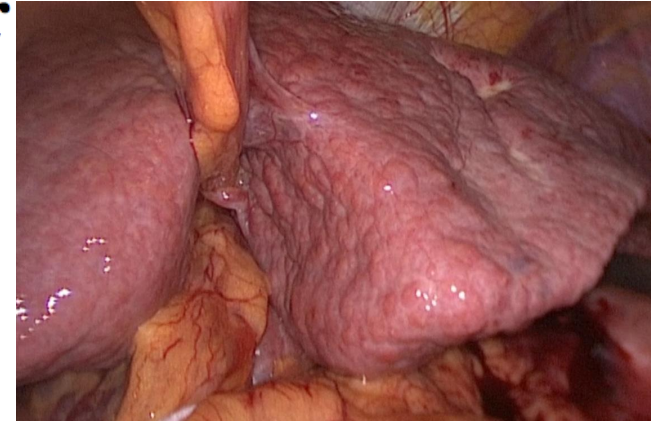
TACE

**MILS RESECTION**



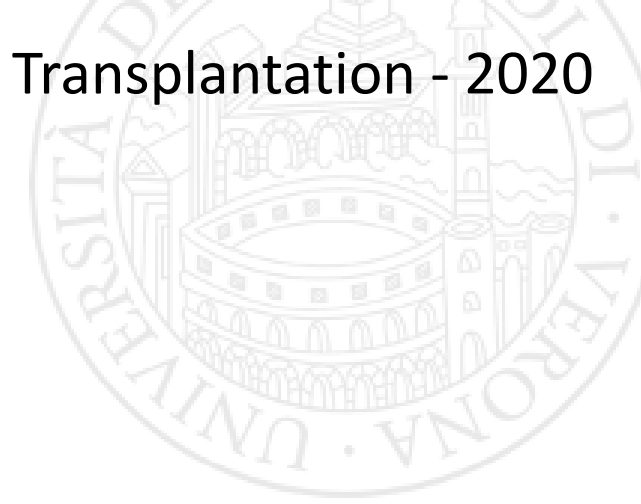
# Laparoscopic liver resection facilitates salvage liver transplantation for hepatocellular carcinoma

Alexis Laurent · Claude Tayar · Marion Andréoletti ·  
Jean-Yves Lauzet · Jean-Claude Merle ·  
Daniel Cherqui



**24 trasplants (LT) after resection**

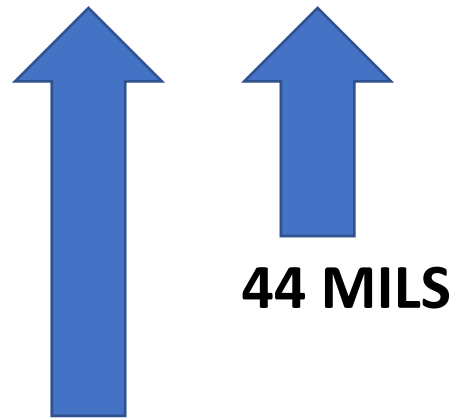
	<b>Laparoscopy N 12</b>	<b>Open N 12</b>	<b>P value</b>
<b>Time LT (h)</b>	6.2 (4.1-9)	8.5 (4.5-9.4)	< 0.05
<b>Blood losses (mL)</b>	1200 (400-2700)	2300 (1000-3200)	< 0.05



# The Role of Salvage Transplantation in Patients Initially Treated With Open Versus Minimally Invasive Liver Surgery: An Intention-to-Treat Analysis

Giovanni B. Levi Sandri <sup>1\*</sup>, Quirino Lai <sup>2\*</sup>, Matteo Ravaioli, <sup>3</sup> Stefano Di Sandro, <sup>4</sup> Emanuele Balzano, <sup>5</sup> Duilio Pagano, <sup>6</sup> Paolo Magistri, <sup>7</sup> Fabrizio Di Benedetto, <sup>7</sup> Massimo Rossi, <sup>2</sup> Salvatore Gruttadauria, <sup>6</sup> Paolo De Simone, <sup>5</sup> Giuseppe M. Ettorre, <sup>1</sup> Luciano De Carlis, <sup>4</sup> Matteo Cescon, <sup>3</sup> Marco Colasanti, <sup>1</sup> Gianluca Mennini, <sup>2</sup> Matteo Serenari, <sup>3</sup> Fabio Ferla, <sup>4</sup> Giovanni Tincani, <sup>5</sup> Fabrizio Di Francesco, <sup>6</sup> and Cristiano Guidetti <sup>6</sup>

**211** SALVAGE LT  
FOR HCC RECURRENCE



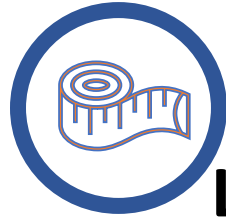
167 "OPEN" LIVER RESECTION

**Protective factor**

## Risk factors for deaths after LT

Variables	Univariate Analysis				Multivariate Analysis			
	Wald	OR	95% CI	P Value	Wald	OR	95% CI	P Value
logAFP at LR	7.04	1.97	1.19-3.25	0.008	5.59	2.18	1.14-4.15	0.02
MELD	3.10	1.08	0.99-1.18	0.08	3.47	1.10	1.00-1.22	0.06
MILS	5.44	0.30	0.11-0.83	0.02	5.91	0.22	0.07-0.75	0.02
Male sex	2.74	5.86	0.72-47.53	0.10	—	—	—	—
Major lesion diameter	2.28	1.03	0.99-1.06	0.13	—	—	—	—
Wait-list duration	0.85	1.02	0.98-1.07	0.36	—	—	—	—
HCV	0.51	0.68	0.24-1.97	0.48	—	—	—	—
Age at LR	0.32	0.99	0.93-1.04	0.57	—	—	—	—
Post-LR LOS ≥10 days	0.28	0.69	0.17-2.72	0.59	—	—	—	—
Microvascular invasion	0.24	1.27	0.49-3.32	0.62	—	—	—	—

# SURGERY IN INTERMEDIATE-ADVANCED HCC



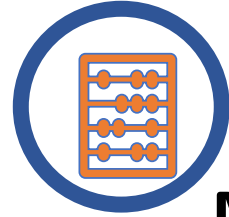
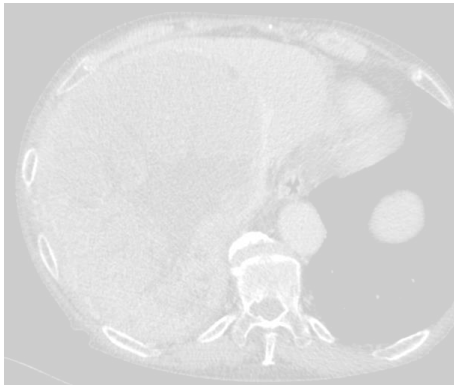
Large HCC



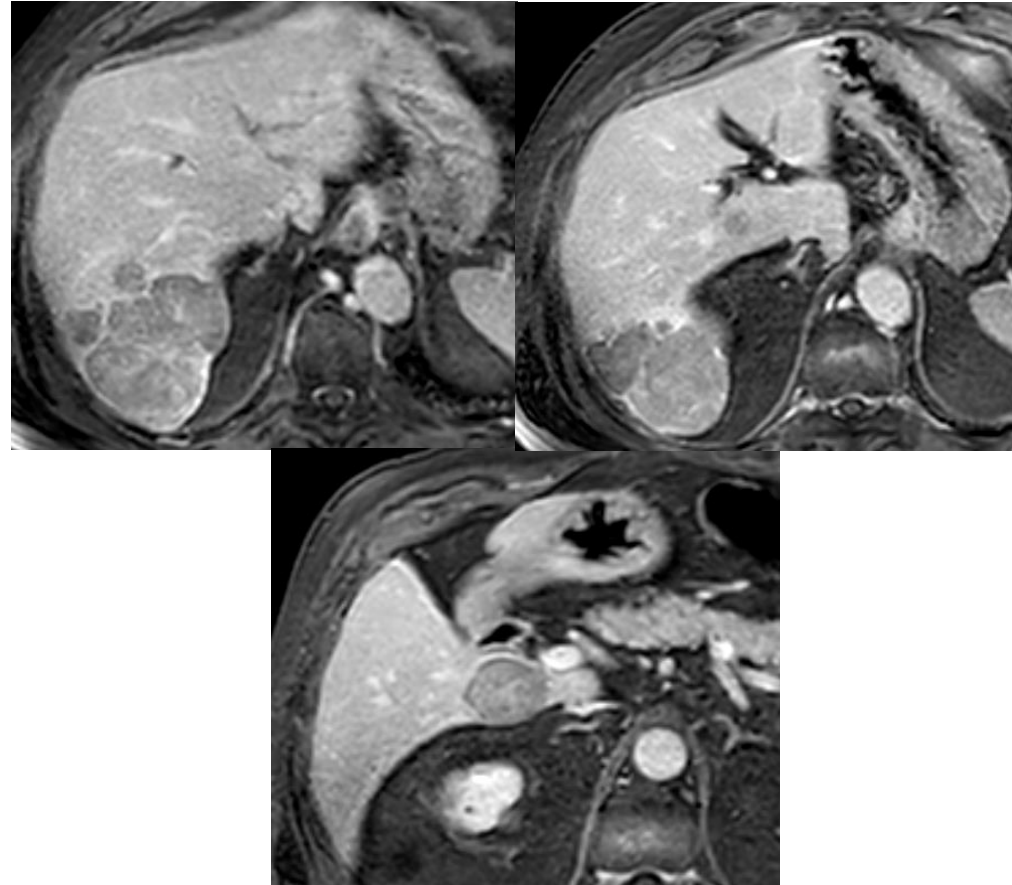
# SURGERY IN INTERMEDIATE-ADVANCED HCC



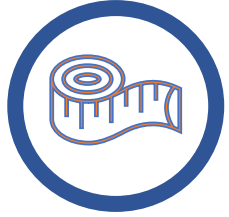
**Large HCC**



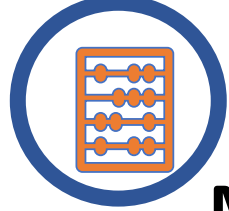
**Multifocality**



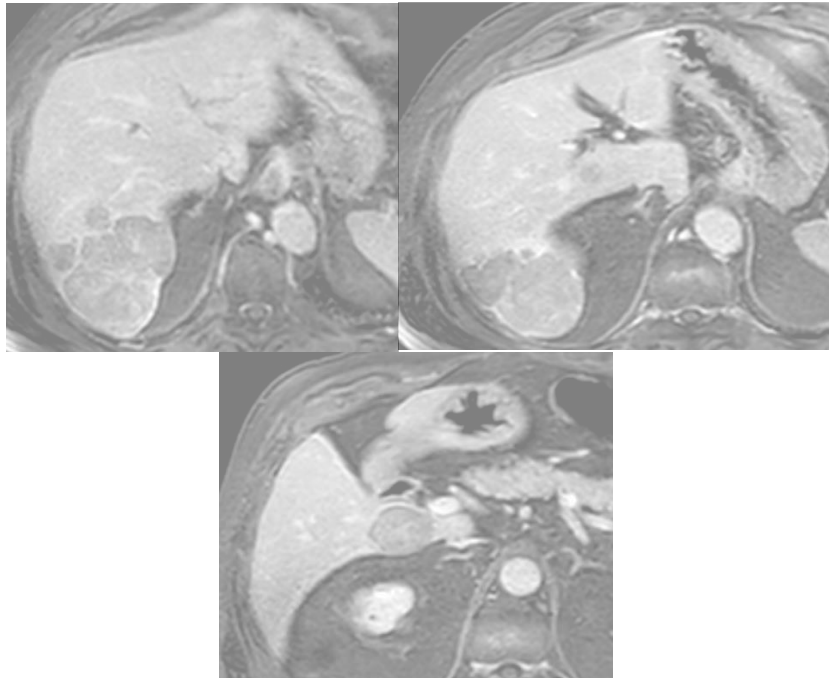
# SURGERY IN INTERMEDIATE-ADVANCED HCC



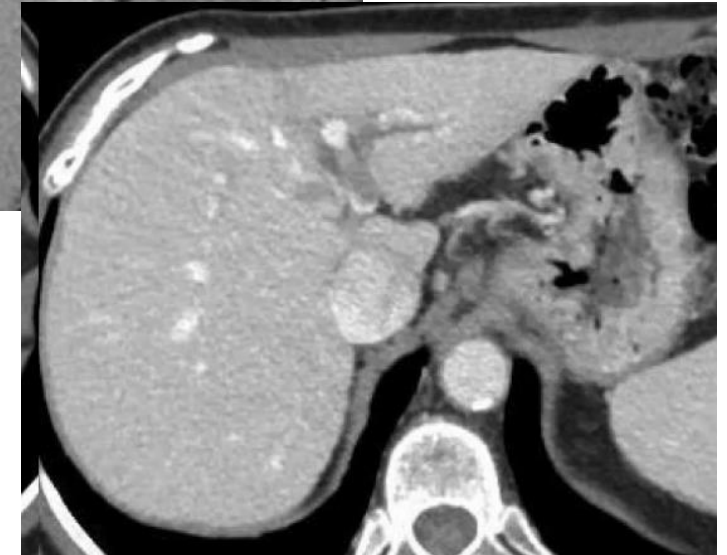
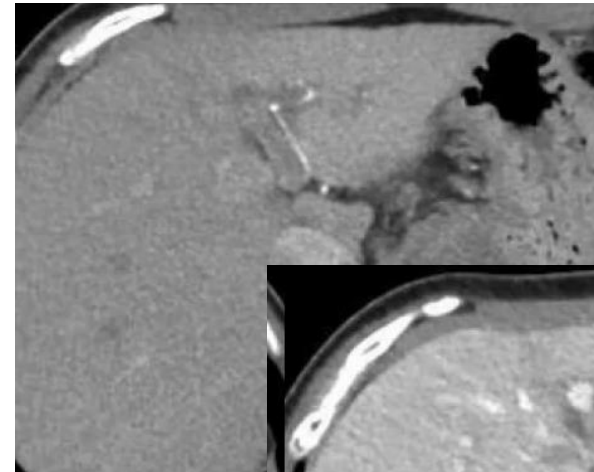
Large HCC



Multifocality



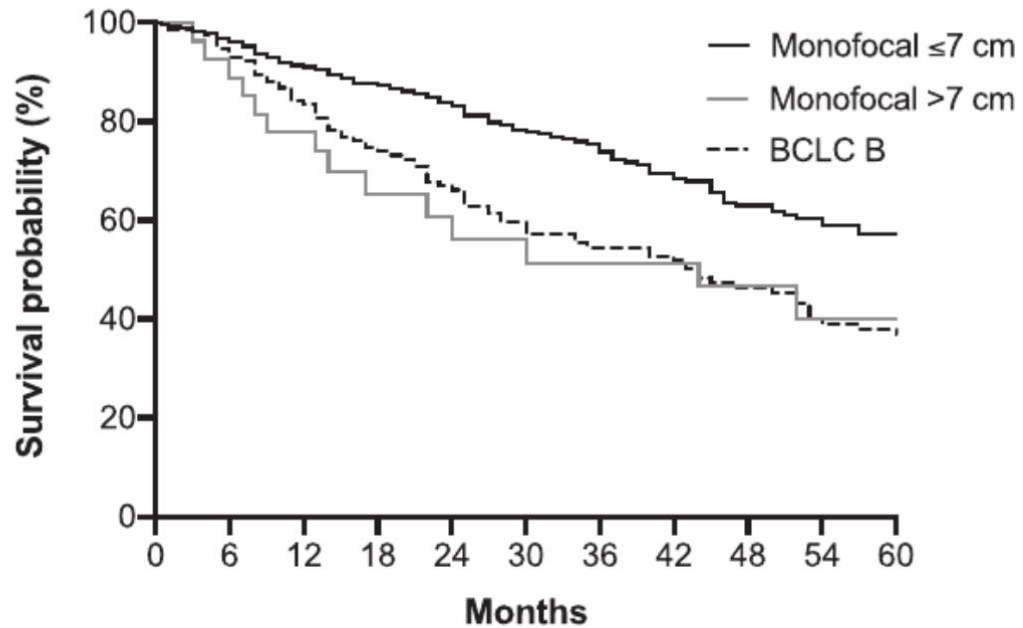
Vascular Invasion





# LARGE HCC

Monofocal hepatocellular carcinoma: How much does size matter?  
Pelizzaro et ITA.LI.CA group



Patients at risk:

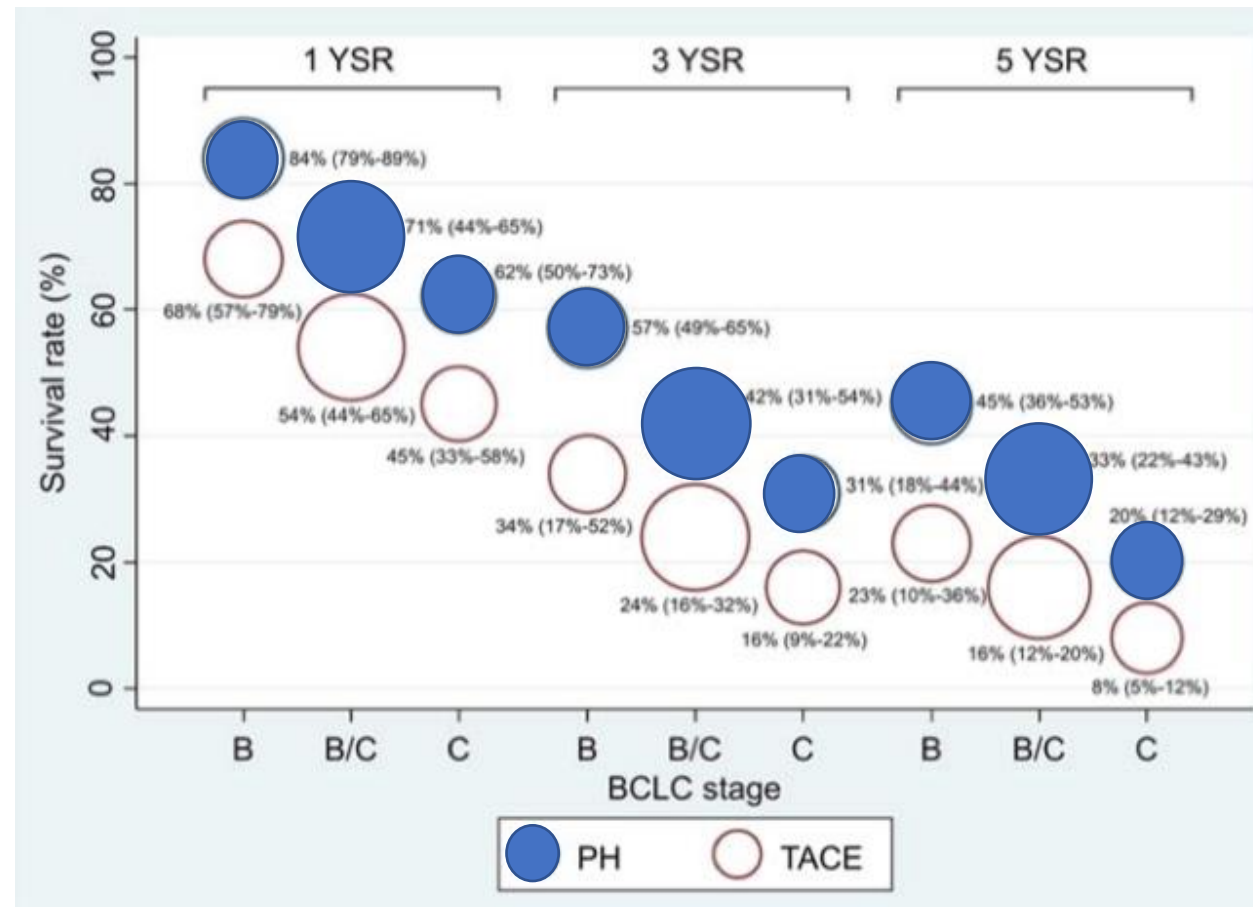
Monofocal ≤7 cm	279	262	234	211	186	164	144	126	97	83	73
Monofocal >7 cm	27	25	37	26	20	17	16	15	11	9	9
BCLC-B	160	144	120	99	84	72	64	59	47	38	35

	5-Y SURV (%)	MEDIAN OS	HR
<b>RESECTION</b>	<b>38</b>	<b>44</b>	<b>0.18</b>
<b>ABLATION</b>	<b>31</b>	<b>37</b>	<b>0.25</b>
<b>TACE</b>	<b>23</b>	<b>28</b>	<b>0.32</b>
<b>SYSTEMIC</b>	<b>0</b>	<b>8</b>	<b>0.52</b>
<b>BSC</b>	<b>0</b>	<b>8</b>	<b>Ref.</b>

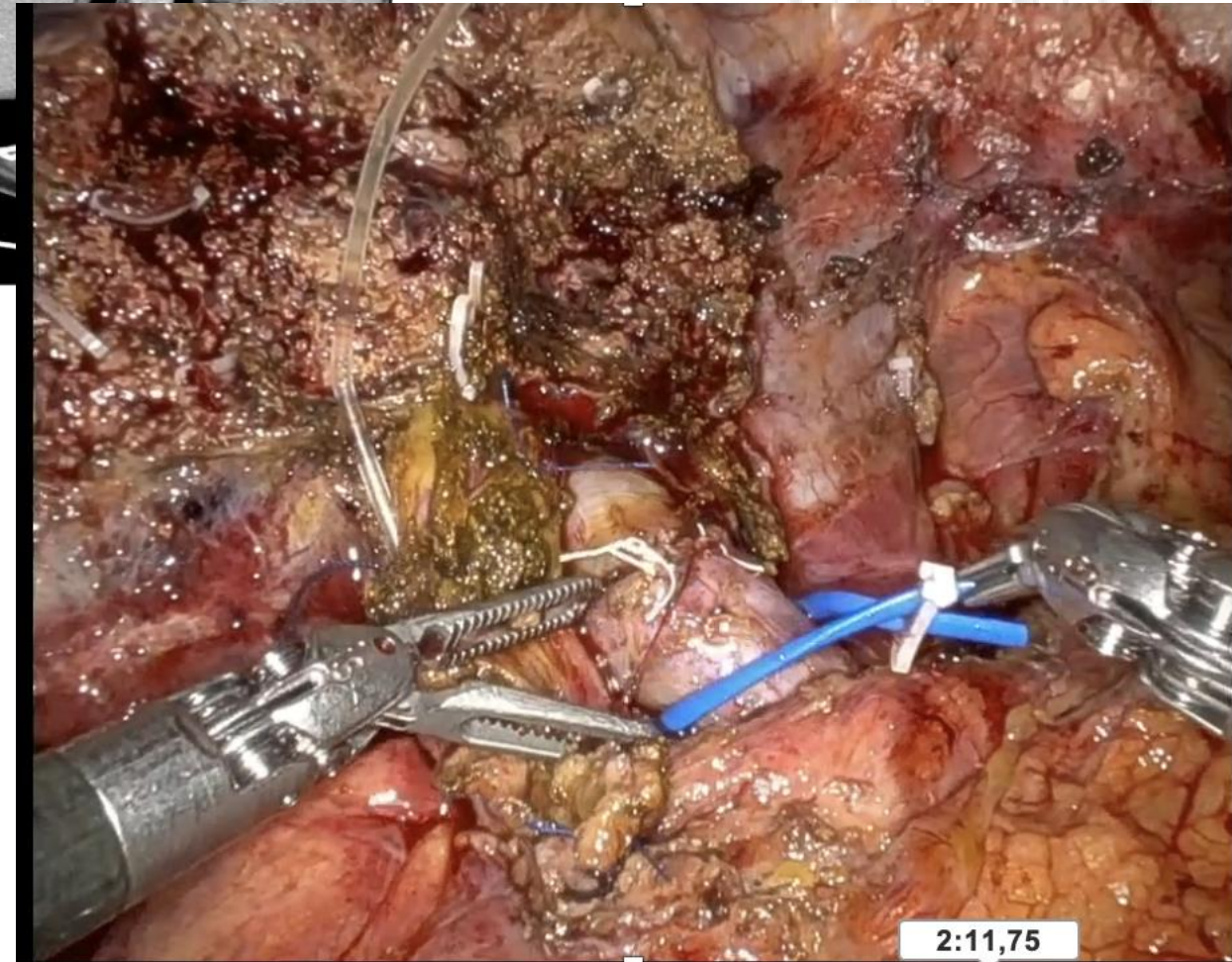
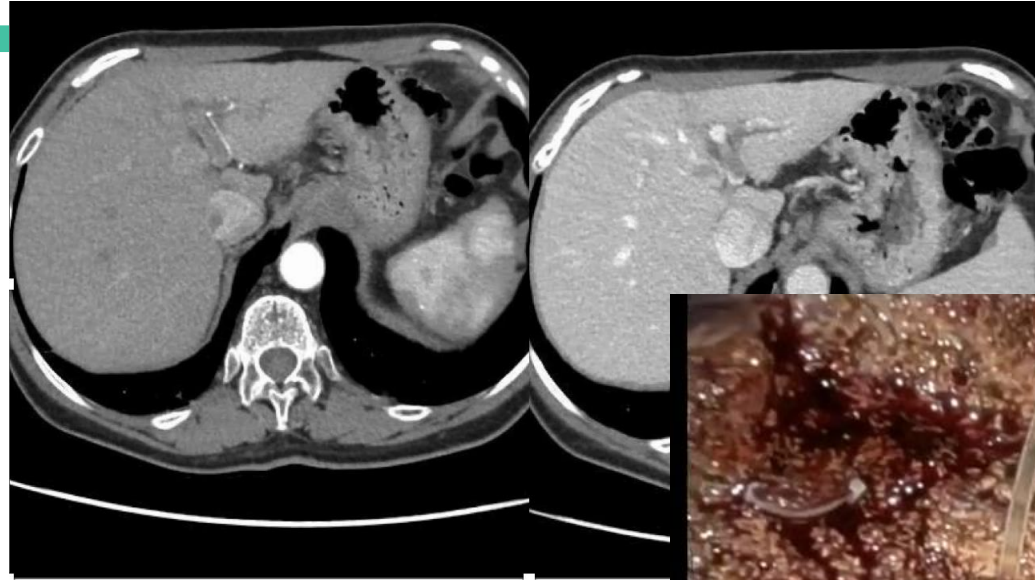
# MULTINODULAR

Hepatic resection compared to chemoembolization in intermediate- to advanced-stage hepatocellular carcinoma: A meta-analysis of high-quality studies

Hyun et Al.



# MACROSCOPIC VASCULAR INVASION



2:11,75

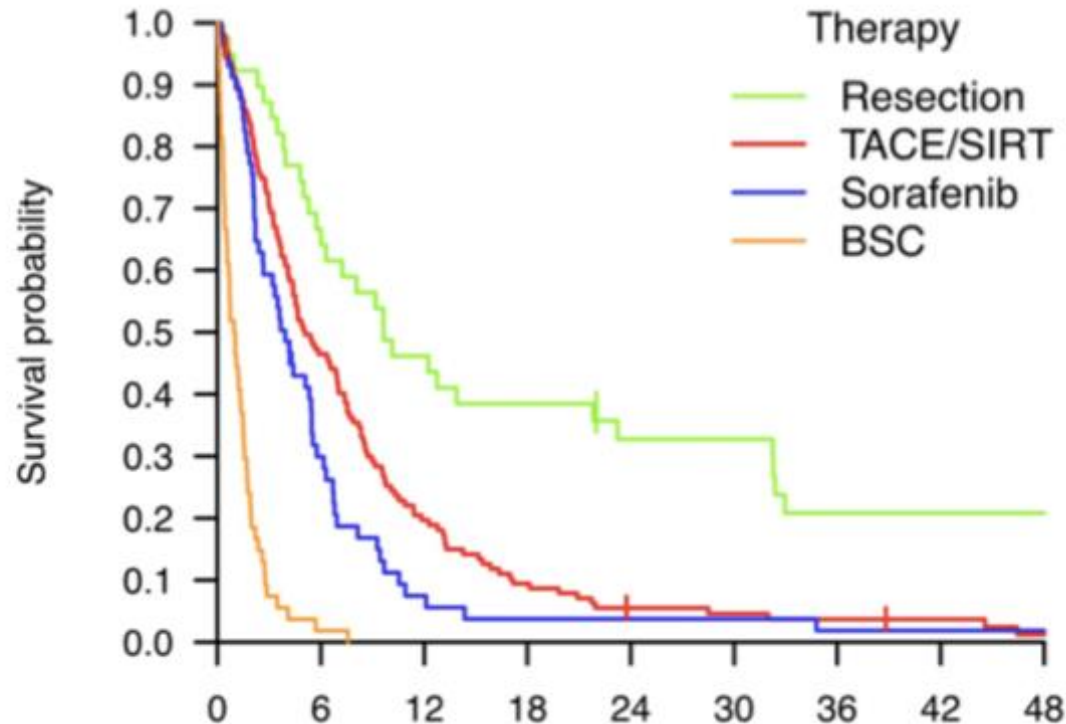


**69 Years, F**  
**HCC 2 cm with left**  
**portal invasion**  
**CHILD A5;**  
**ICG R15 6.5%**  
**Plts 247.000**

The impact of portal vein tumor thrombosis on survival in patients with hepatocellular carcinoma treated with different therapies: A cohort study

Mähringer-Kunz A et Al.

## 278 HCC CON MACROSCOPIC VASCULAR INVASION

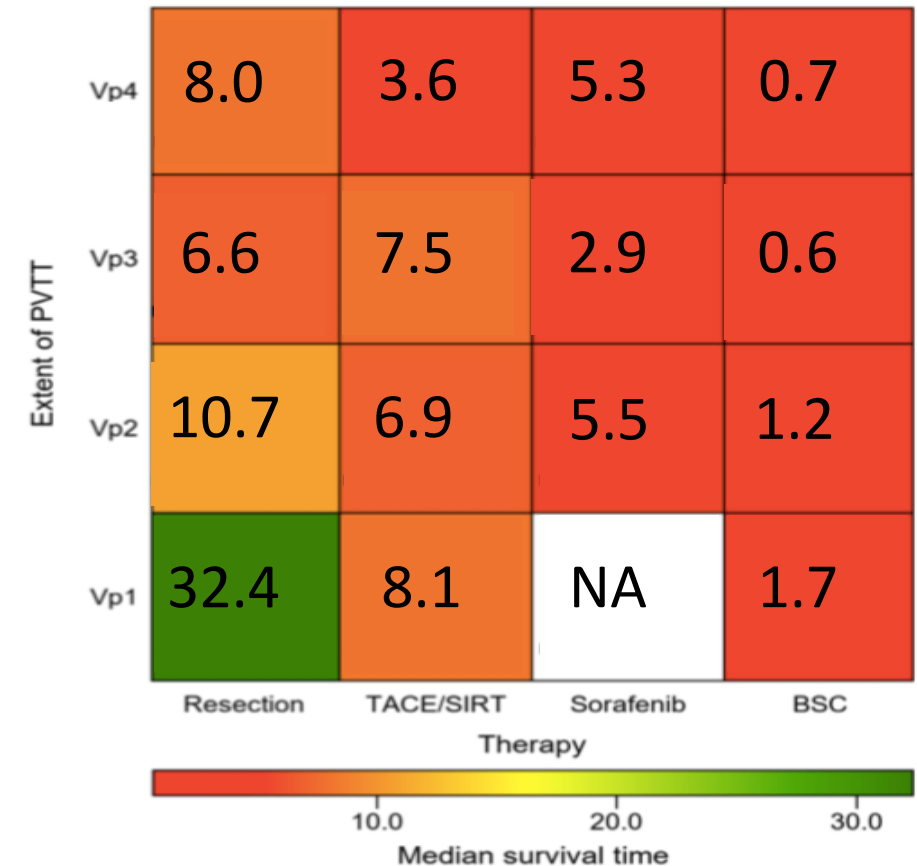
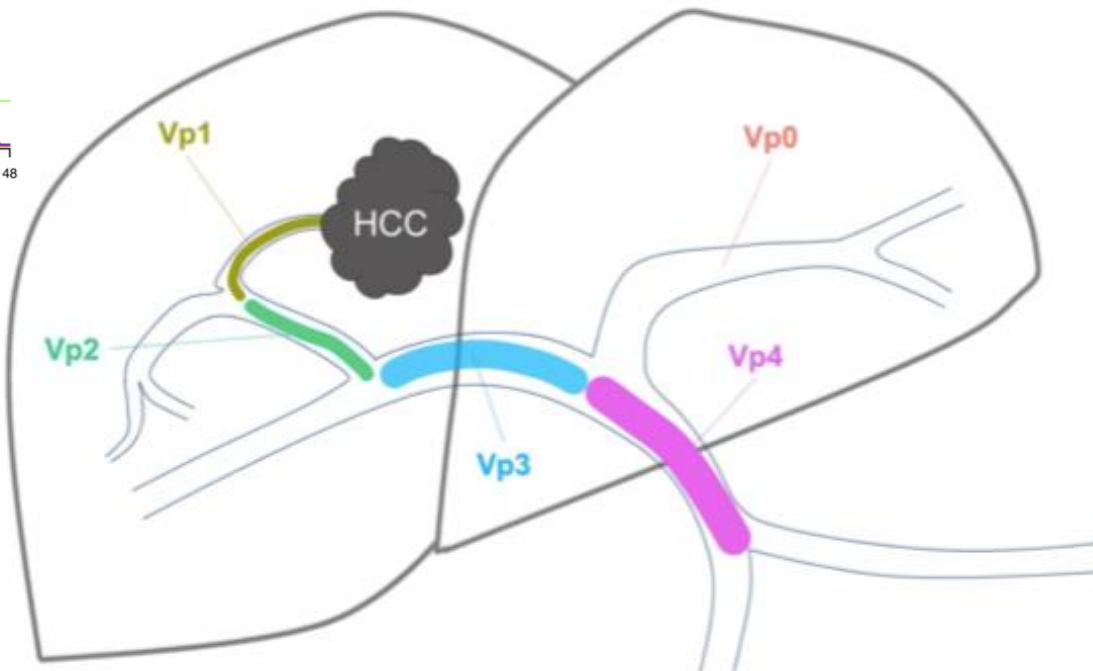
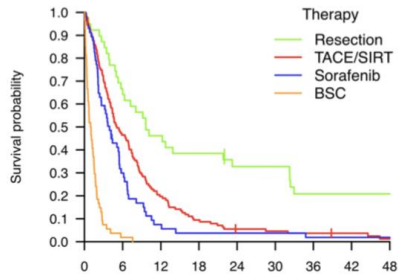


# MACROSCOPIC VASCULAR INVASION

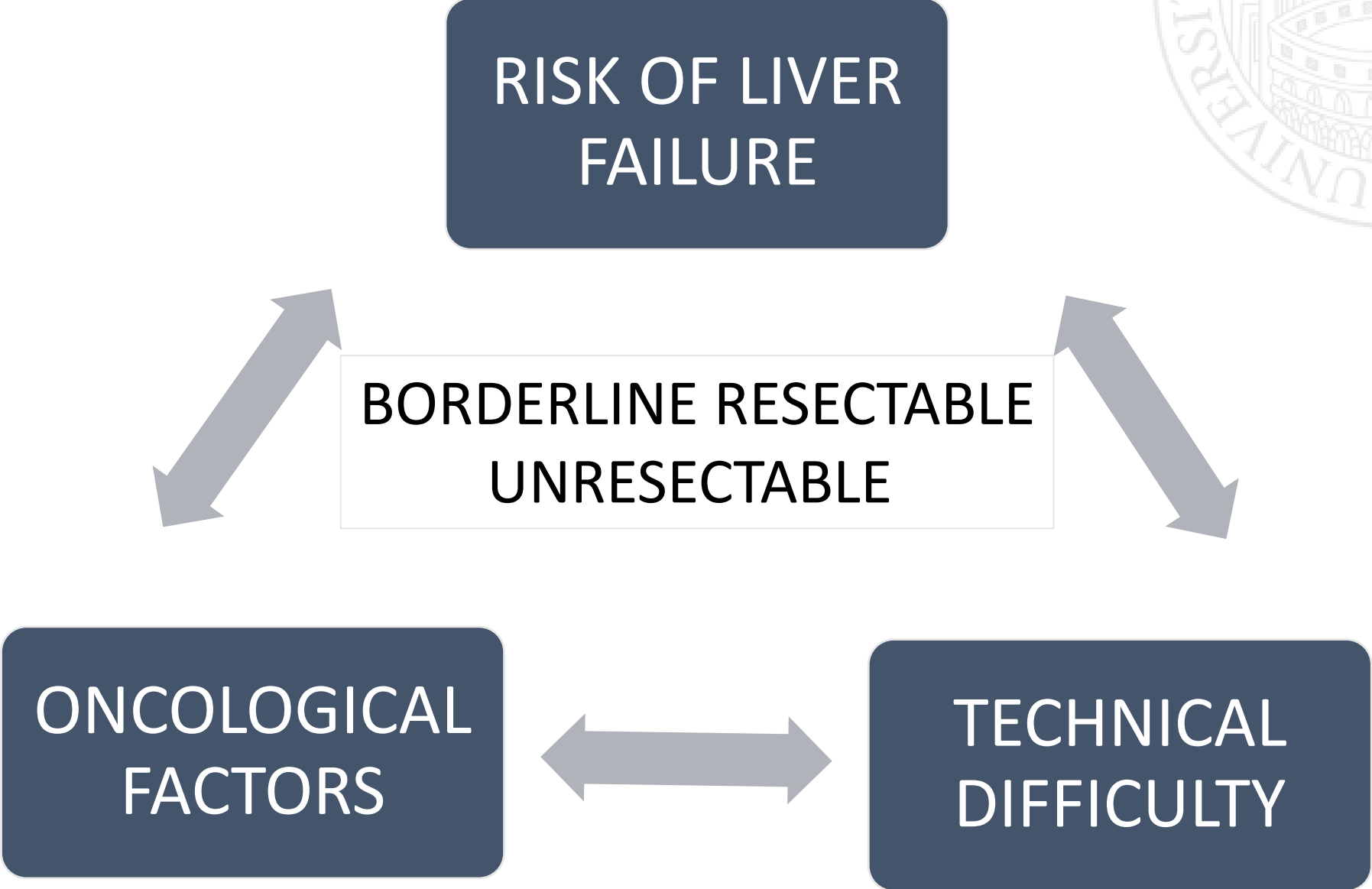
The impact of portal vein tumor thrombosis on survival in patients with hepatocellular carcinoma treated with different therapies: A cohort study

Mähringer-Kunz A et Al.

## 278 HCC CON MACROSCOPIC VASCULAR INVASION



# HCC INTERMEDIATE ADVANCED



# BORDERLINE RESECTABLE UNRESECTABLE



## CONVERSION THERAPY

### Original Paper

Liver Cancer

Liver Cancer 2021;10:320–329  
DOI: 10.1159/000514313

Received: September 3, 2020  
Accepted: January 7, 2021  
Published online: March 30, 2021

## Downstaging and Resection of Initially Unresectable Hepatocellular Carcinoma with Tyrosine Kinase Inhibitor and Anti-PD-1 Antibody Combinations

Xiao-Dong Zhu<sup>a</sup> Cheng Huang<sup>a</sup> Ying-Hao Shen<sup>a</sup> Yuan Ji<sup>b</sup> Ning-Ling Ge<sup>c</sup> Xu-Dong Qu<sup>d</sup>  
Lingli Chen<sup>b</sup> Wen-Kai Shi<sup>e</sup> Mei-Ling Li<sup>a</sup> Jin-Jin Zhu<sup>a</sup> Chang-Jun Tan<sup>a</sup> Zhao-You Tang<sup>a</sup>  
Jian Zhou<sup>a</sup> Jia Fan<sup>a</sup> Hui-Chuan Sun<sup>a</sup>

<sup>a</sup>Department of Liver Surgery and Transplantation, Liver Cancer Institute and Zhongshan Hospital, Fudan University, Shanghai, China; <sup>b</sup>Department of Pathology, Zhongshan Hospital, Fudan University, Shanghai, China; <sup>c</sup>Department of Hepatic Oncology, Liver Cancer Institute and Zhongshan Hospital, Fudan University, Shanghai, China; <sup>d</sup>Department of Interventional Radiology, Zhongshan Hospital, Fudan University, Shanghai, China; <sup>e</sup>Department of Hepatobiliary and Pancreatic Surgery, The First Affiliated Hospital of Zhengzhou University, Zhengzhou, China

Surgical resection in 10 out of 63

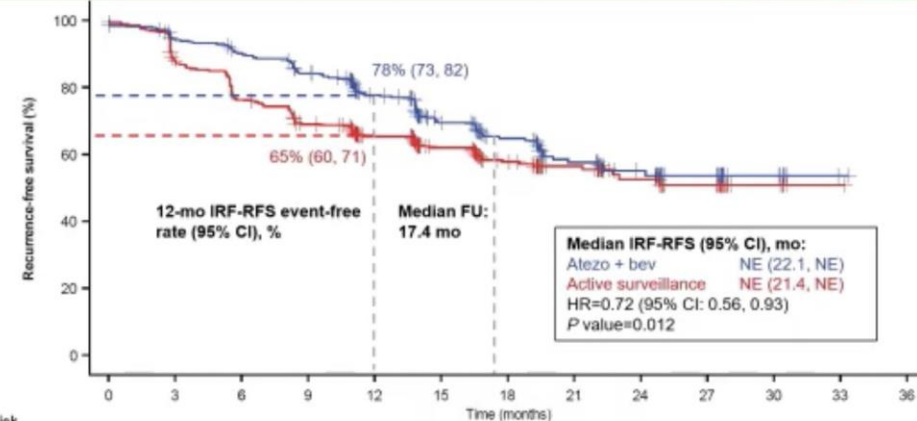
## ADJUVANT THERAPY

ORAL PRESENTATIONS - PROFFERED ABSTRACTS | MAY 29 2023

## Abstract CT003: IMbrave050: Phase 3 study of adjuvant atezolizumab + bevacizumab versus active surveillance in patients with hepatocellular carcinoma (HCC) at high risk of disease recurrence following resection or ablation FREE

Pierce Chow; Minshan Chen; Ann-Lii Cheng; Ahmed O. Kaseb; Masatoshi Kudo; Han Chu Lee; Adam Yopp; Jian Zhou; Lu Wang; Xiaoyu Wen; Jeong Heo; Won Young Tak; Shinichiro Nakamura; Kazushi Numata; Thomas Uguen; David Hsiehchen; Edward Cha; Stephen P. Hack; Qinshu Lian; Jessica Spahn; Chun Wu; Shukui Qin

Primary endpoint: IRF-assessed RFS was significantly improved with atezo + bev vs active surveillance



No. at risk	0	3	6	9	12	15	18	21	24	27	30	33	36
Atezo + bev	334	305	290	268	211	139	97	63	37	22	9	1	NE
Active surveillance	334	283	245	214	179	131	93	57	36	20	6	1	NE

Clinical cutoff: October 21, 2022; median follow-up duration: 17.4 mo. At clinical cutoff, 110 of 334 patients (33%) in the atezo + bev arm and 133 of 334 (40%) in the active surveillance arm experienced disease recurrence or death. FU, follow-up; NE, not estimable. HR is stratified. P value is a log rank.

# CONCLUSIONI



- 1 Panorama del paziente con HCC è cambiato**
- 2 La terapia chirurgica dell'hcc è in costante evoluzione**
- 3 Sempre piu' necessaria una stadiazione ad hoc del paziente con HCC – Molecolare → Casadei-Gardini**
- 4 Fondamentale l'approccio multidisciplinare al paziente con epatocarcinoma**