XXXII CONGRESSO BRASILEIRO DE CIRURGIA

Carcinoma hepatocelular:
avaliação pré-operatória e algoritmo de tratamento

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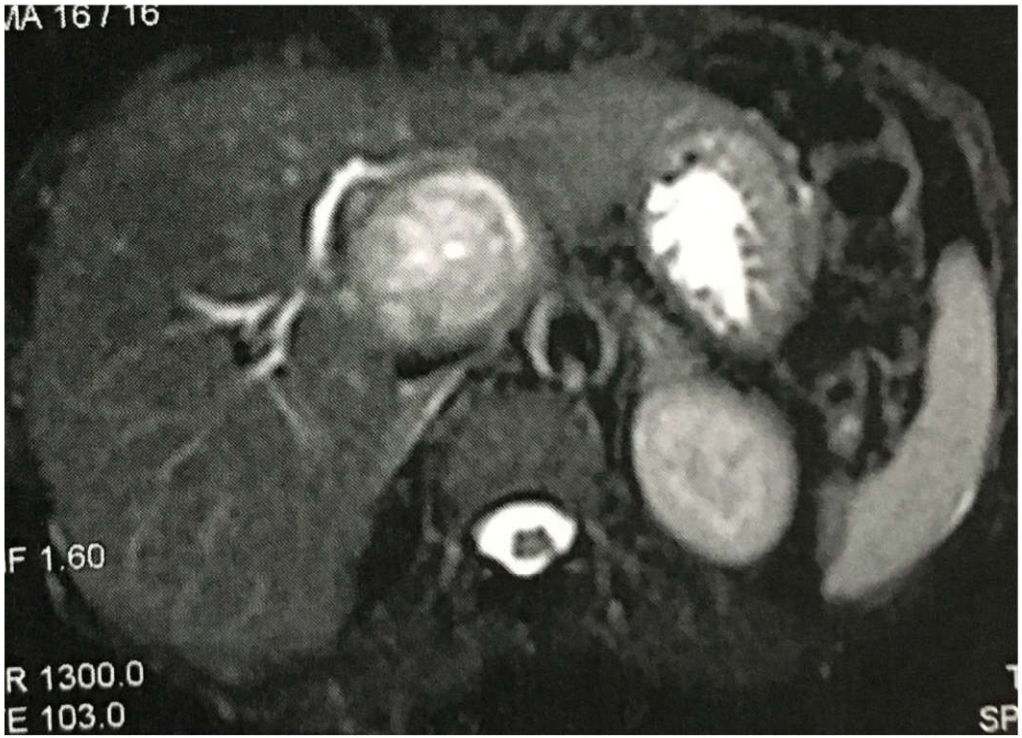
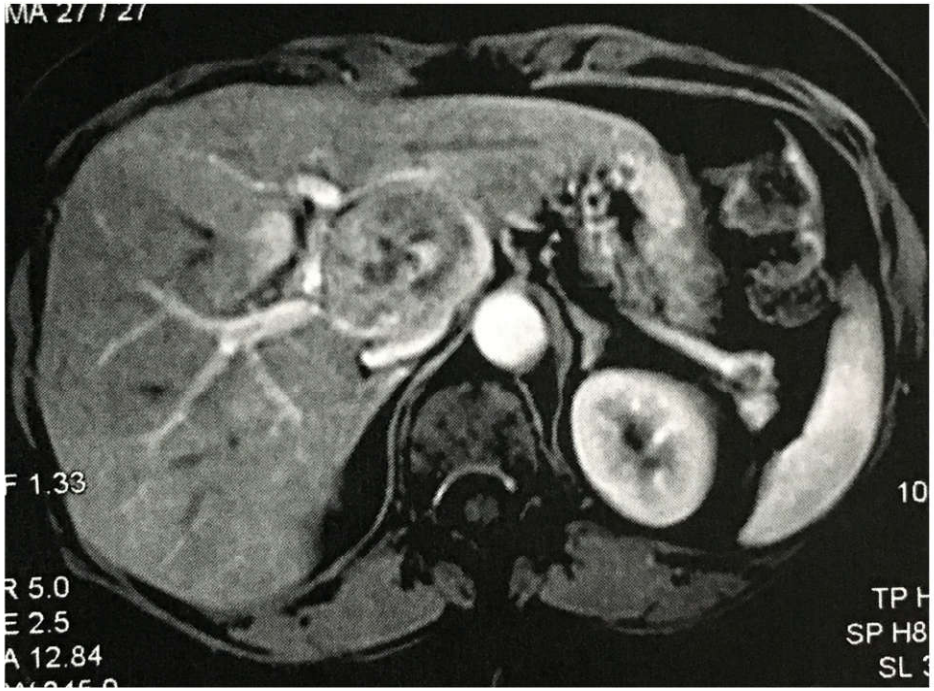
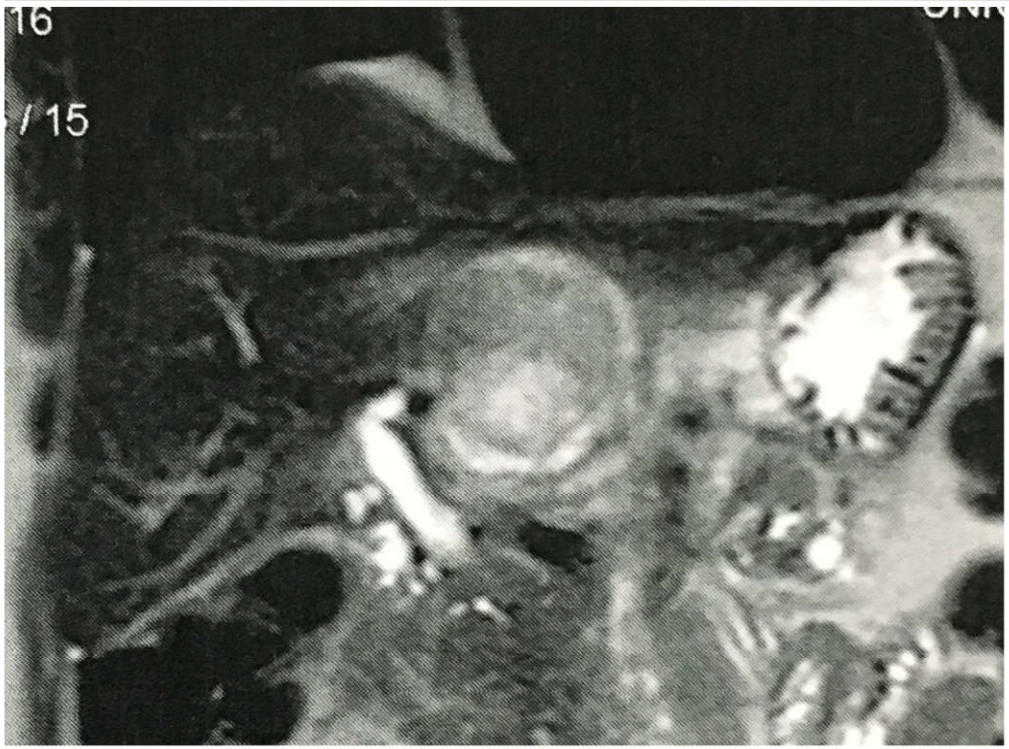
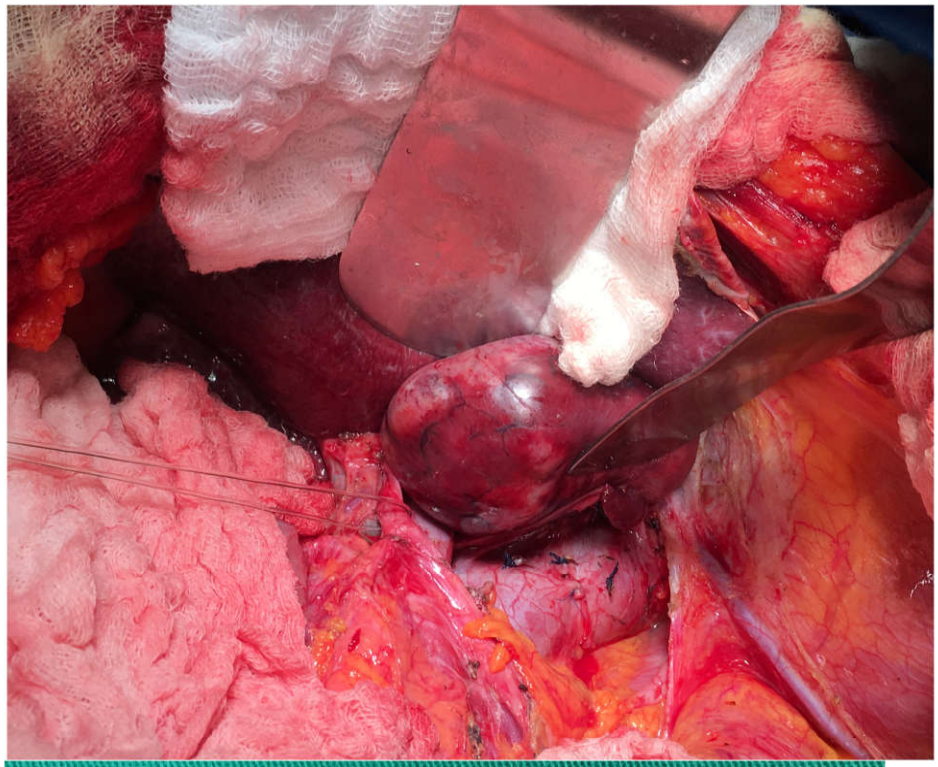
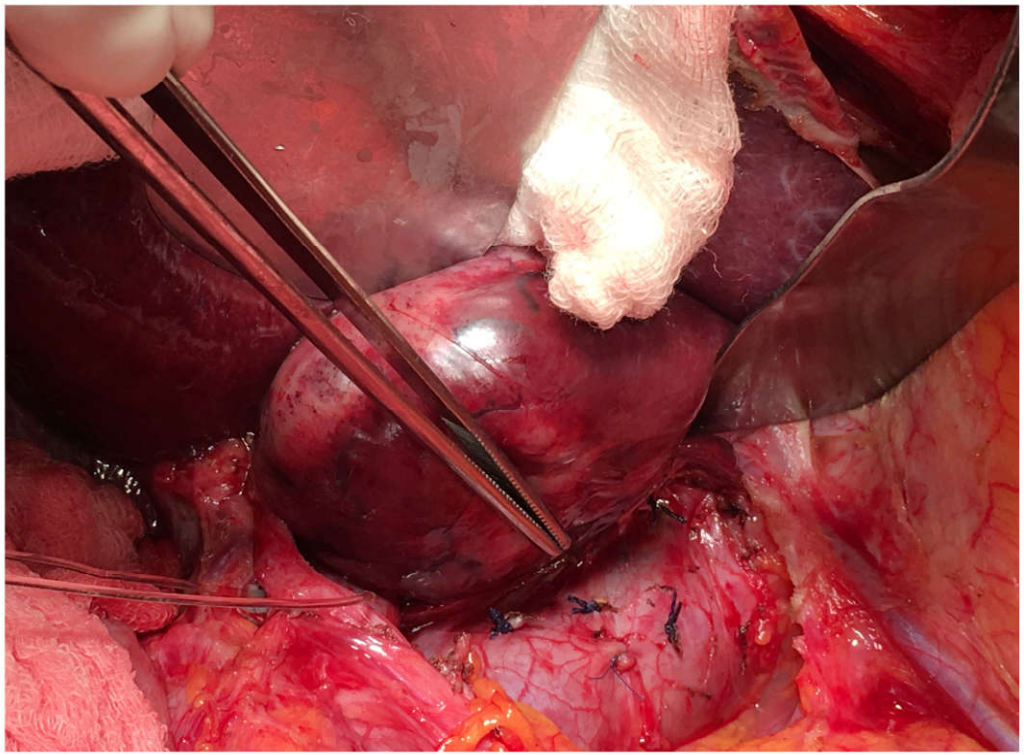


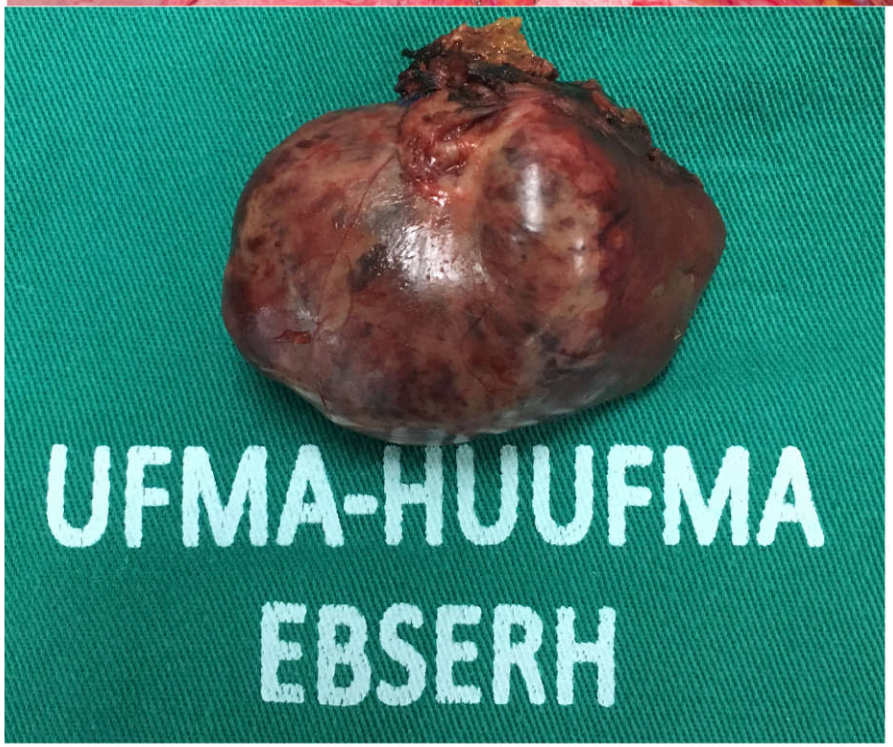




F, feminino, 70 a,
CHC em lobo caudado
Fígado normal
Child A5, MELD 8
Sem hipertensão porta







Cirurgia:
Ressecção de lobo caudado
Evolução satisfatória
Alta sem intercorrências

Tratamento do carcinoma hepatocelular

Cirurgia	Terapia ablativa local	Terapia loco-regional	Terapia sistêmica
Ressecção*	Radiofrequência	Terapia transcateter	Quimioterapia
Transplante*	Alcoolização	Quimio-lipiodolização	Hormonioterapia
	Ácido acético	TACE	Imunoterapia
	Microondas	TACE-DEB	Terapia alvo
	Crioablação	TAE	
	Eletroporação	Radioterapia	
	Terapia fotodinâmica	TARE	

*Sobrevida em 5 anos de 60-80%

Ressecção do carcinoma hepatocelular

Fígado não cirrótico → ❑ **Primeira linha de tratamento**

Fígado cirrótico * → ❑ **Função hepática preservada**
❑ **Sem sinais de hipertensão porta significante**
❑ **Sem doença extra-hepática**
❑ **Sem invasão vascular**

***Apenas 10-20% são candidatos**

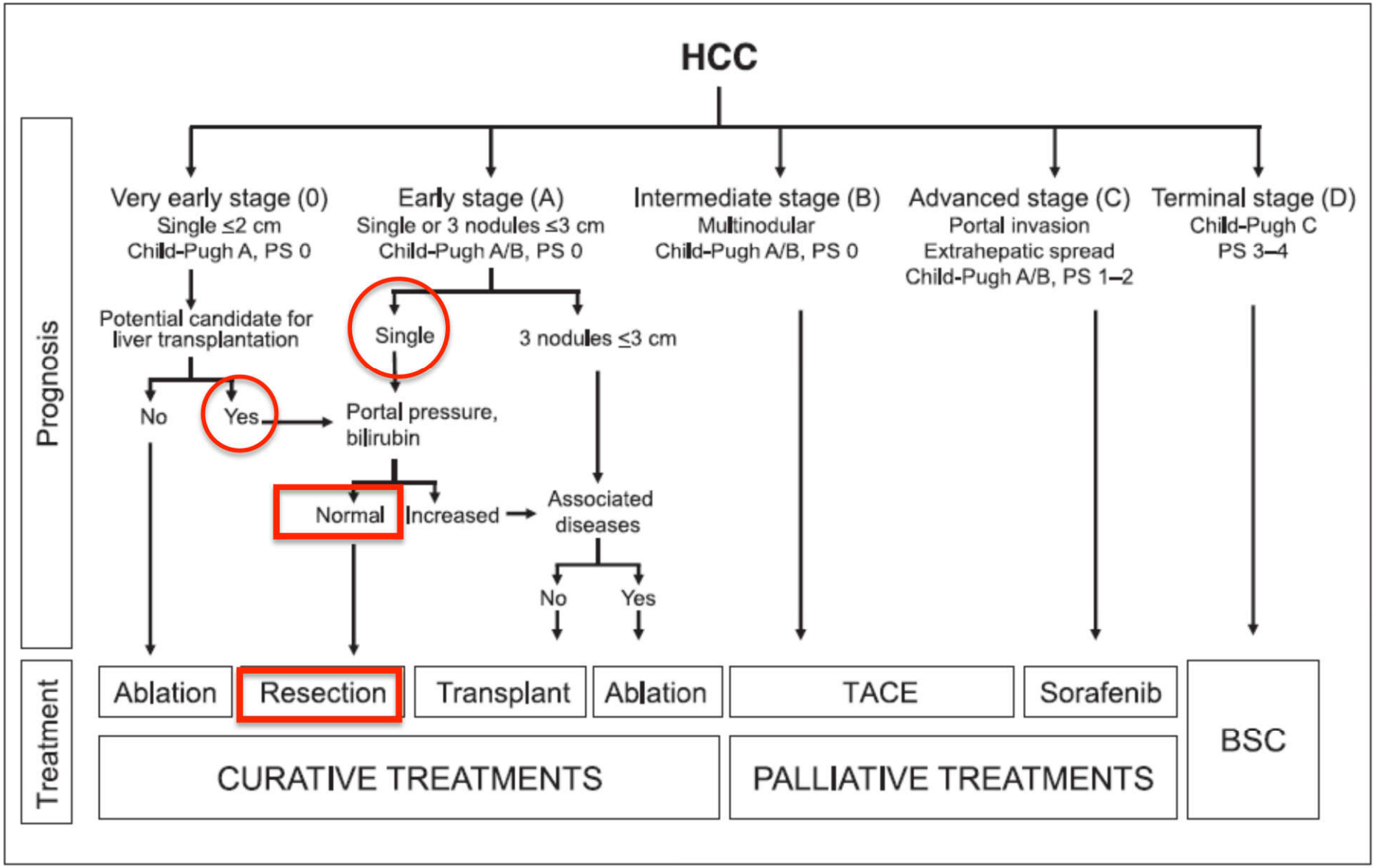
Lim et al. Br J Surg 2012

Ressecção do carcinoma hepatocelular

❑ Recorrência

Até 75% dos pacientes em 5 anos pós ressecção

- ❑ Metástase do tumor primário original
- ❑ Tumor de novo (predisposição pela cirrose)



Ressecção

Carrilho FL, et al. Arq Gastroenterol v 52, suppl 2015

Evolução da cirurgia do fígado

- Manuseio peri-operatório
- Seleção do paciente
- Refinamento da técnica
- Redução da mortalidade
- Laparoscopia

*Mortalidade peri-operatória de 3-5% em centros de grande volume

Avaliação pré-operatória

- Cirurgia deve ter intenção curativa
- Adequada reserva funcional hepática
- Risco operatório baixo
  - Geral
  - Nutricional
  - Comorbidades

Scatton O, et al. J Surg Oncol 2015; 111:1007-15

Avaliar reserva funcional hepática

- Child-Pugh
- MELD
- MD Anderson
- Verde de Indocianina

Child-Pugh A

	Points		
Clinical and biochemical parameters	1	2	3
Albumin (g/dL)	>3.5	2.8–3.5	<2.8
Bilirubin (mg/dL)	<2	2–3	>3
Prothrombin time			
Seconds prolonged	<4	4–6	>6
%	>60	40–60	<60
INR	<1.7	1.7–2.3	>2.3
Encephalopathy	Absent	Moderate (Stage I–II)	Severe (Stage III–IV)
Ascites	Absent	Moderate	Refractory

Total points: 5–6 points, Child–Pugh A; 7–9 points, Child–Pugh B; 10–15 points, Child–Pugh C

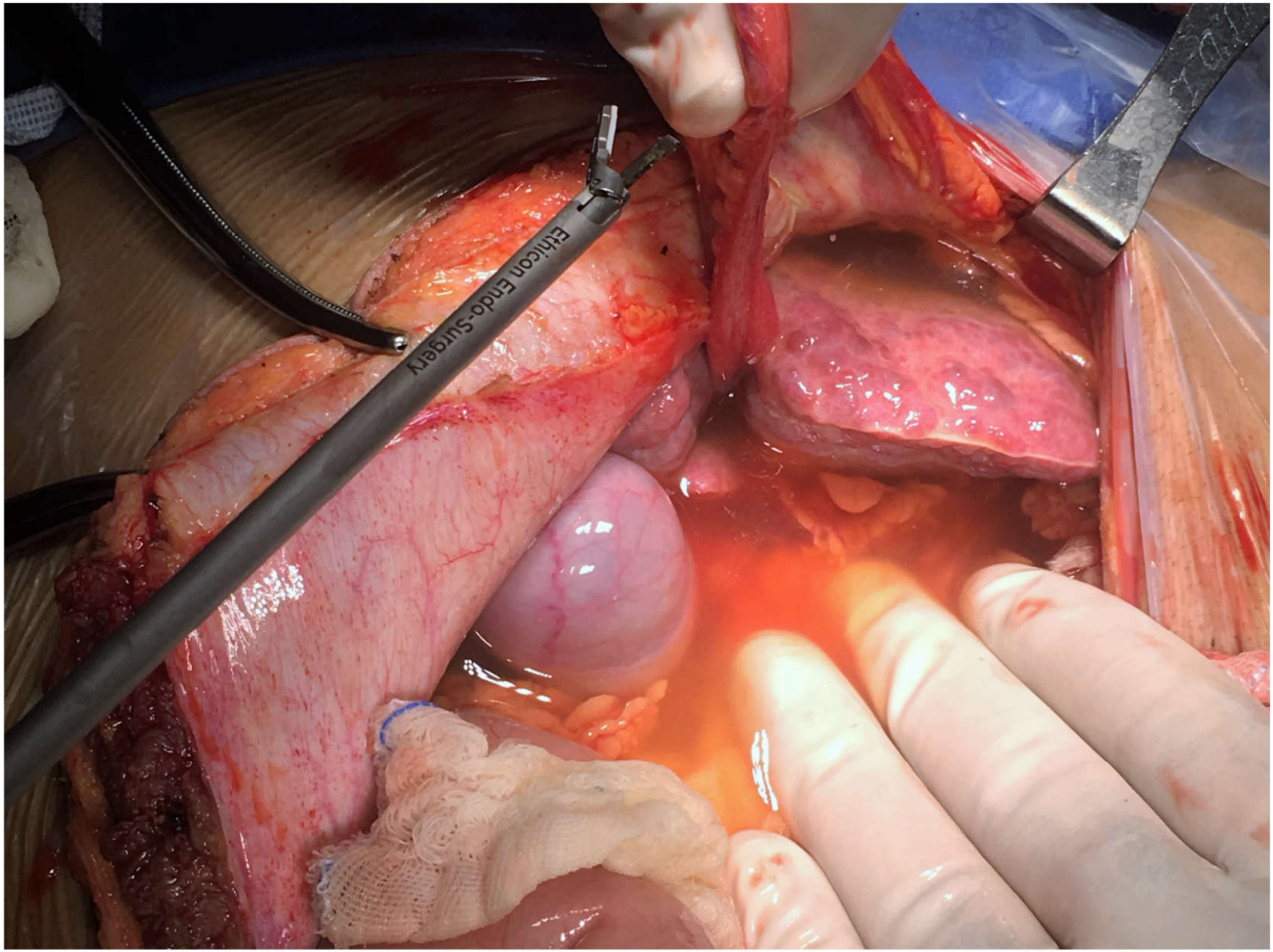
MELD < 9

- Bilirrubina
- Creatinina
- INR

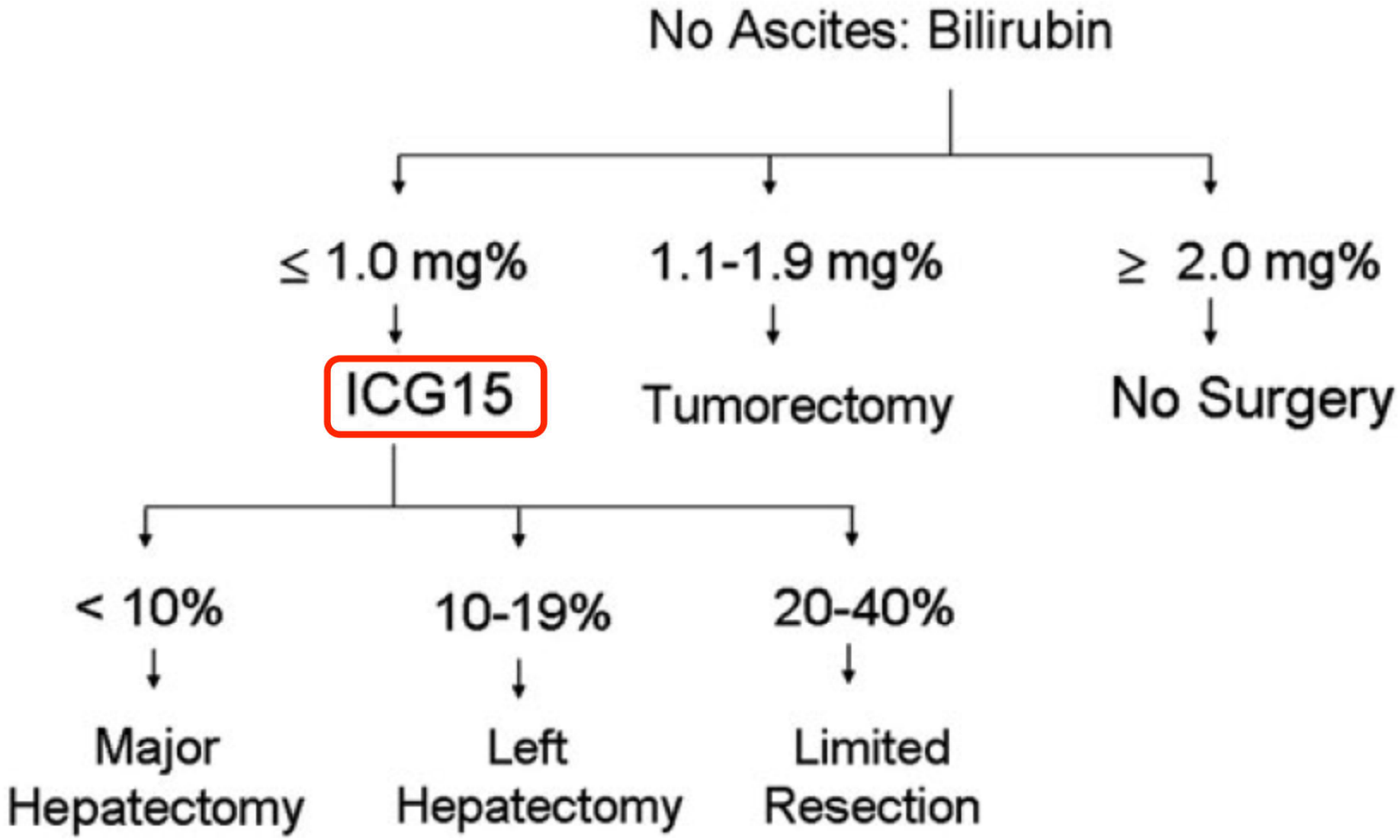
MD Anderson Cancer Center

Resection	Criteria
Minor	Child–Pugh A Bilirubin $\leq$ 2 mg/dL Absence of ascites Platelets > 100.000/mm3
Major	Criteria for minor resection plus: Bilirubin $\leq$ 1 mg/dL Absence of portal hypertension Portal vein embolization for future liver remnant of < 40%

Ausência de ascite



Verde de Indocianina



Yin L, et al. J Hepatol. 2014;61:82–8.

Hipertensão porta

- Plaquetas < 100.000
- Esplenomegalia
- Varizes esofagogástricas (endoscopia)
- Gradiente da pressão venosa hepática < 10 mmHg

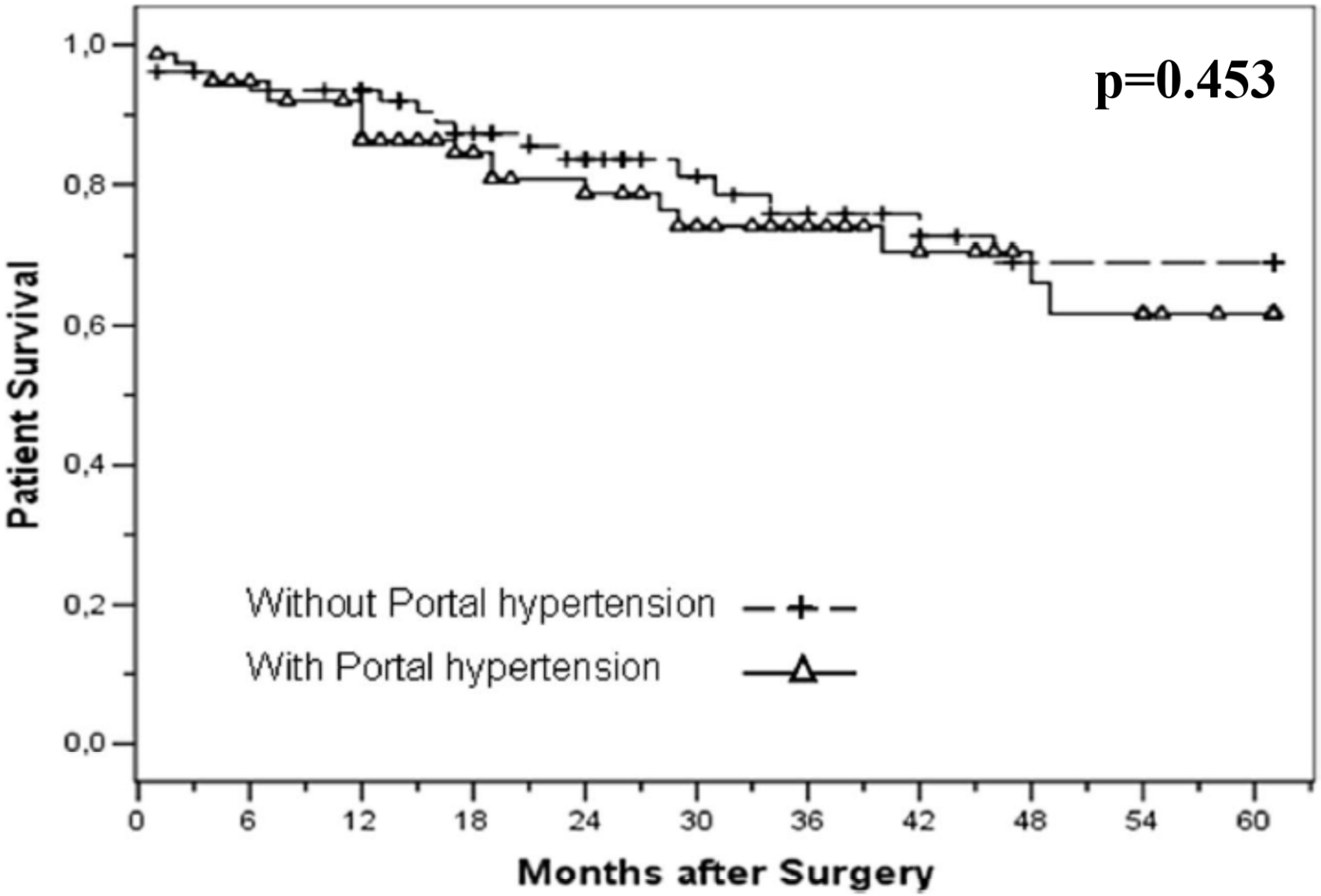
Is Portal Hypertension a Contraindication to Hepatic Resection?

Alessandro Cucchetti, MD, Giorgio Ercolani, MD,* Marco Vivarelli, MD,* Matteo Cescon, MD,* Matteo Ravaioli, MD,* Giovanni Ramacciato, MD,† Gian Luca Grazi, MD,* and Antonio Daniele Pinna, MD**

Background and Aims: The outcome of hepatic resection in cirrhotic patients has improved remarkably in recent years with improved surgical techniques and perioperative care; however, the role of portal hypertension is

trying to define the role of each therapeutic option. They reported well-defined indications for hepatectomy for HCC; in particular, portal hypertension was considered as a contraindication for liver

Cucchetti A, et al. Ann Surg 2009;250: 922-8



Cucchetti A, et al. Ann Surg 2009;250: 922-8

In conclusion, the EASL/AASLD guidelines clearly define indications for hepatic resection for HCC: patients with single HCC and completely preserved liver function without portal hypertension. These guidelines exclude from surgery many patients who could potentially benefit from curative resection. However, faced with the same MELD score and hepatectomy extent planning, the presence of esophageal varices, splenomegaly, and platelet count $<100{,}000/mm^3$ should not be considered as a contraindication for hepatic resection.

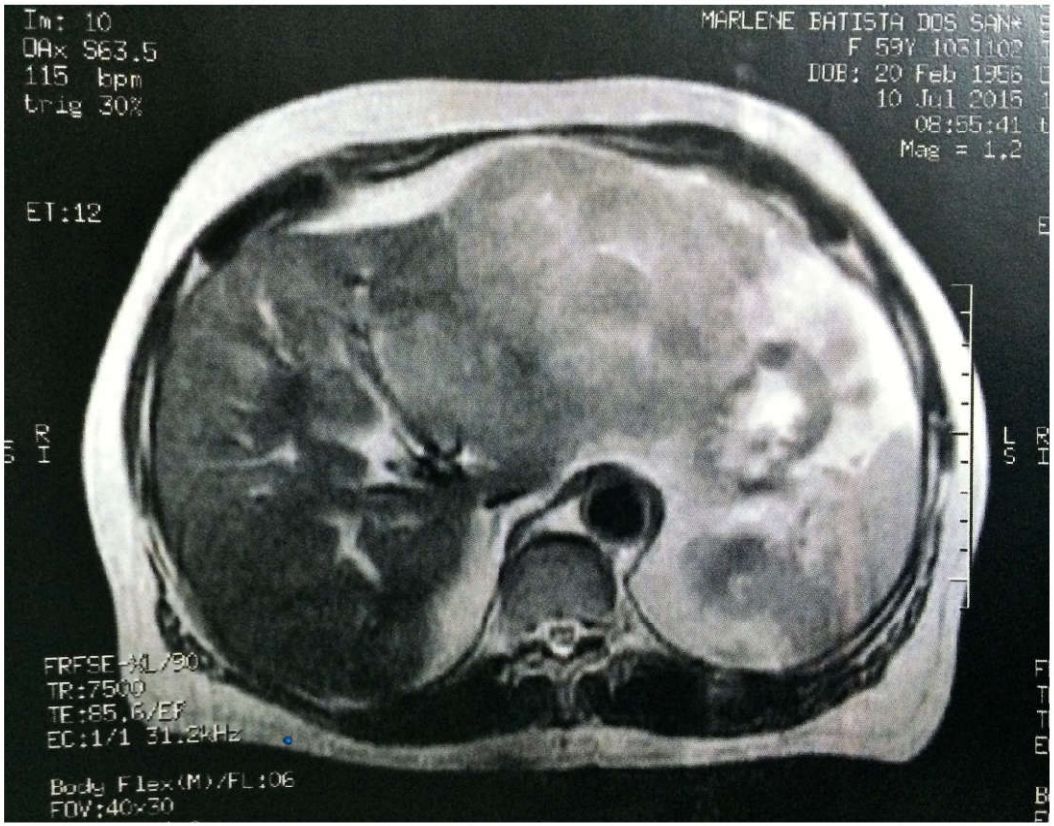
Cucchetti A, et al. Ann Surg 2009;250: 922-8

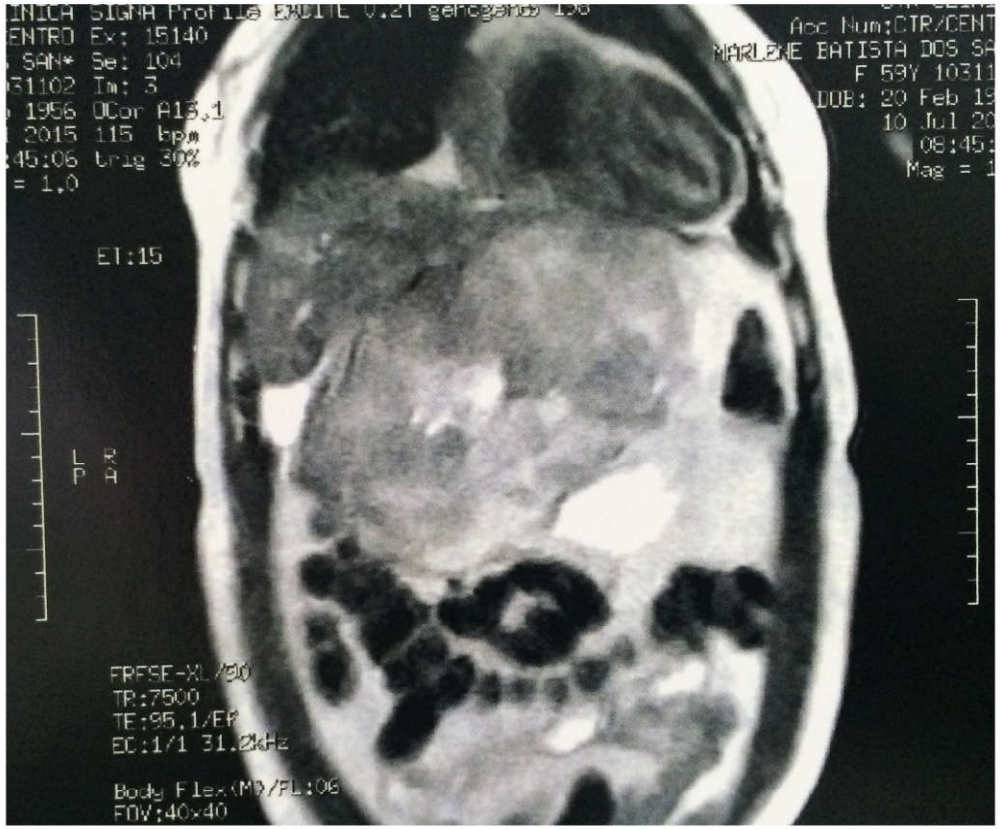
Ressecabilidade

- Tamanho
- Número
- Localização

Scatton O, et al. J Surg Oncol 2015; 111:1007-15

Extensão tumoral intra-hepática





Tamanho

International Journal of Surgery Case Reports xxx (2016) xxx-xxx

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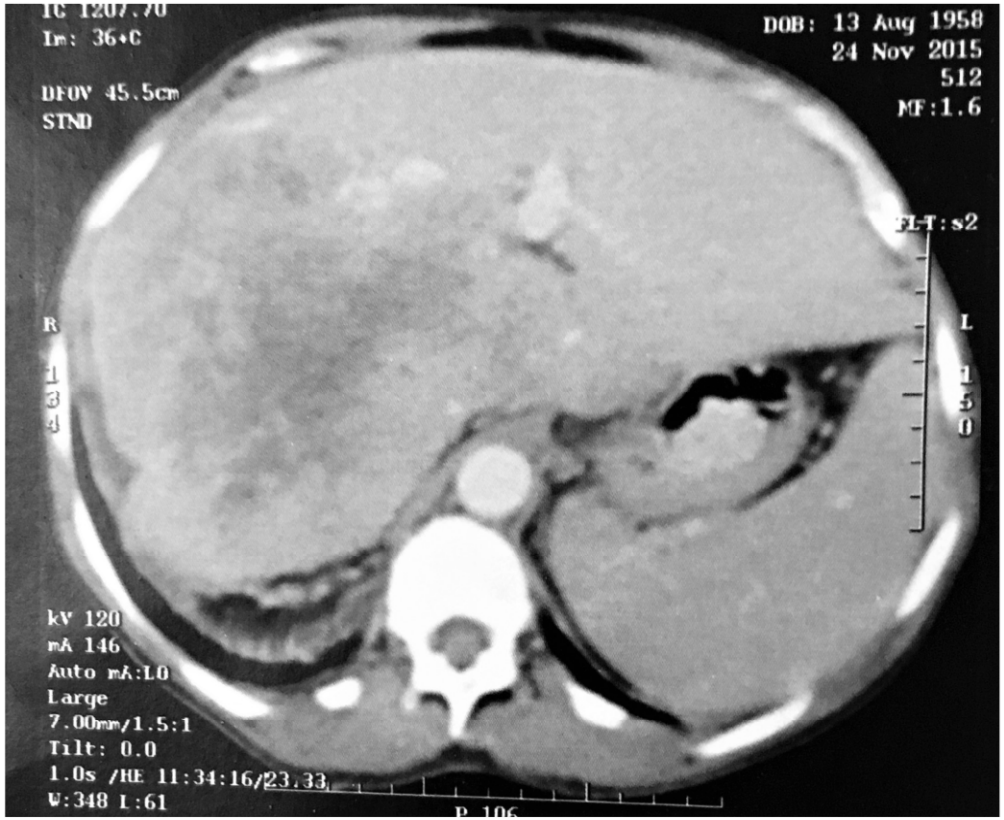
Case Report

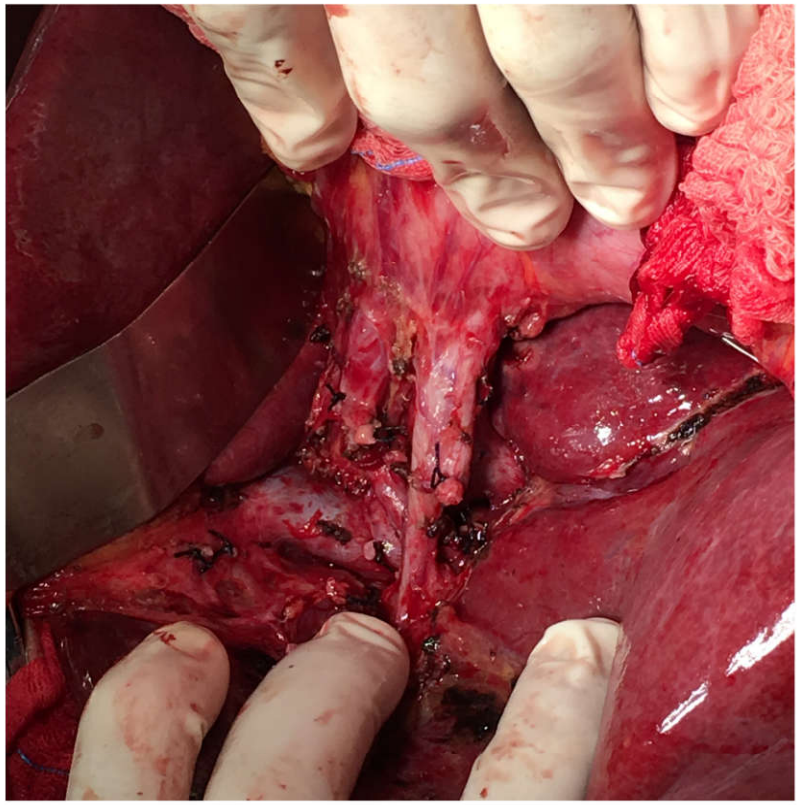
The ALPPS procedure for hepatocellular carcinoma larger than 10 centimeters

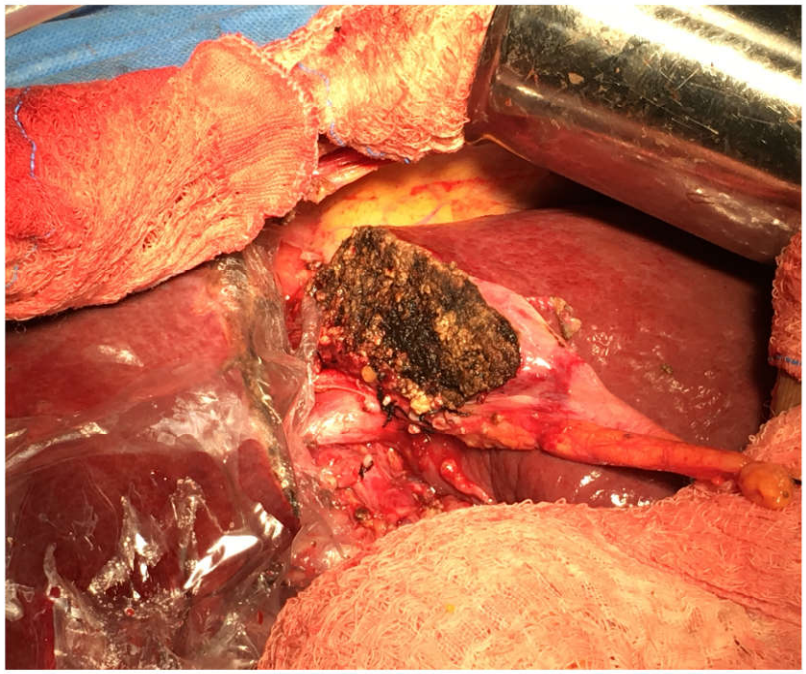
Orlando Jorge M. Torres *, Rodrigo Rodrigues Vasques, Thiago Henrique S. Silva, Miguel Eugenio L. Castelo-Branco, Camila Cristina S. Torres

Department of Digestive Surgery, Federal University of Maranhão, São Luiz, MA, Brazil

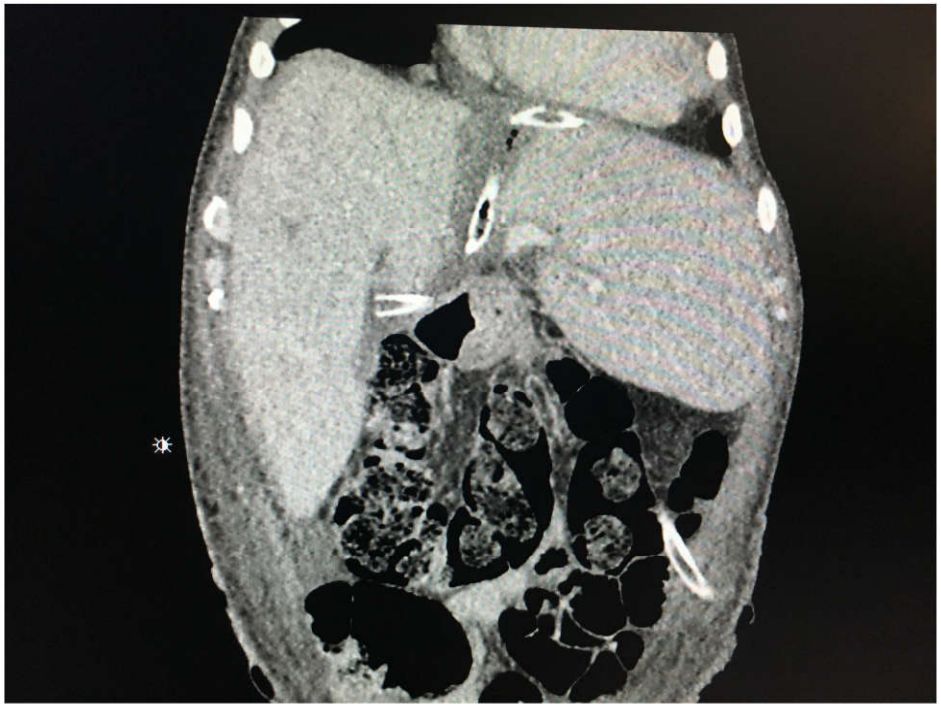


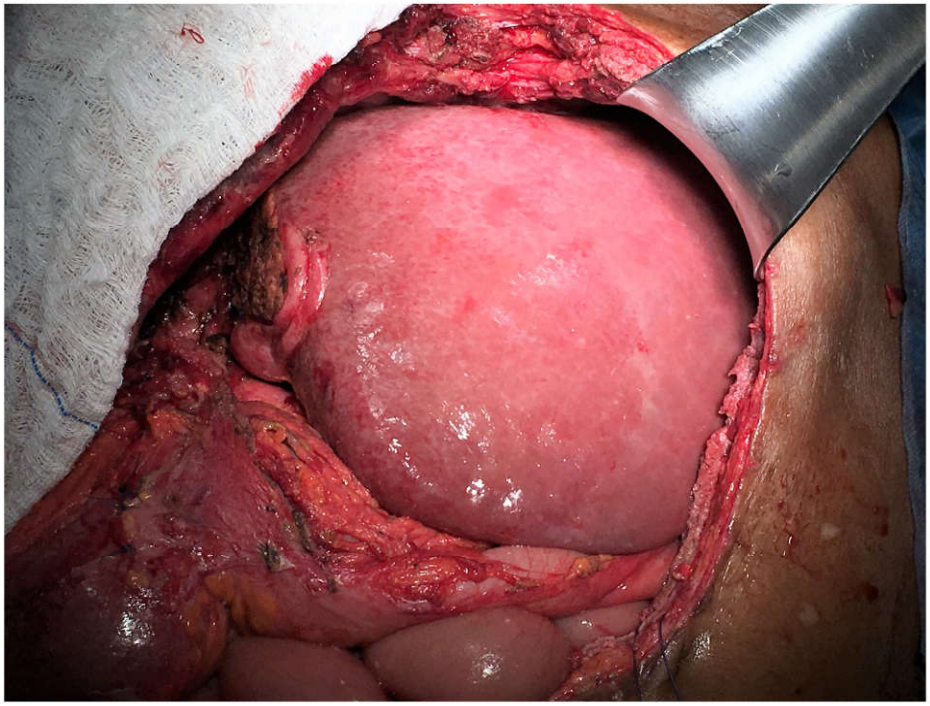
R, masculino, 57 a,
Hepatopatia crônica
Lesão única 19cm (CHC)
Child A5, MELD 9
AFP 508
123.000 plaquetas

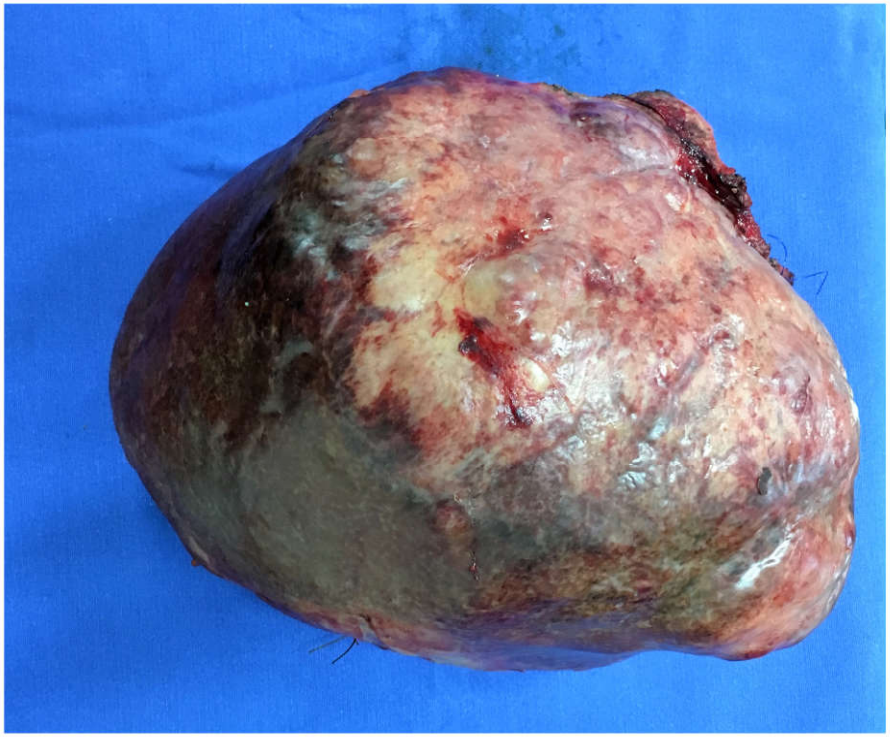




Conduta:
ALPPS





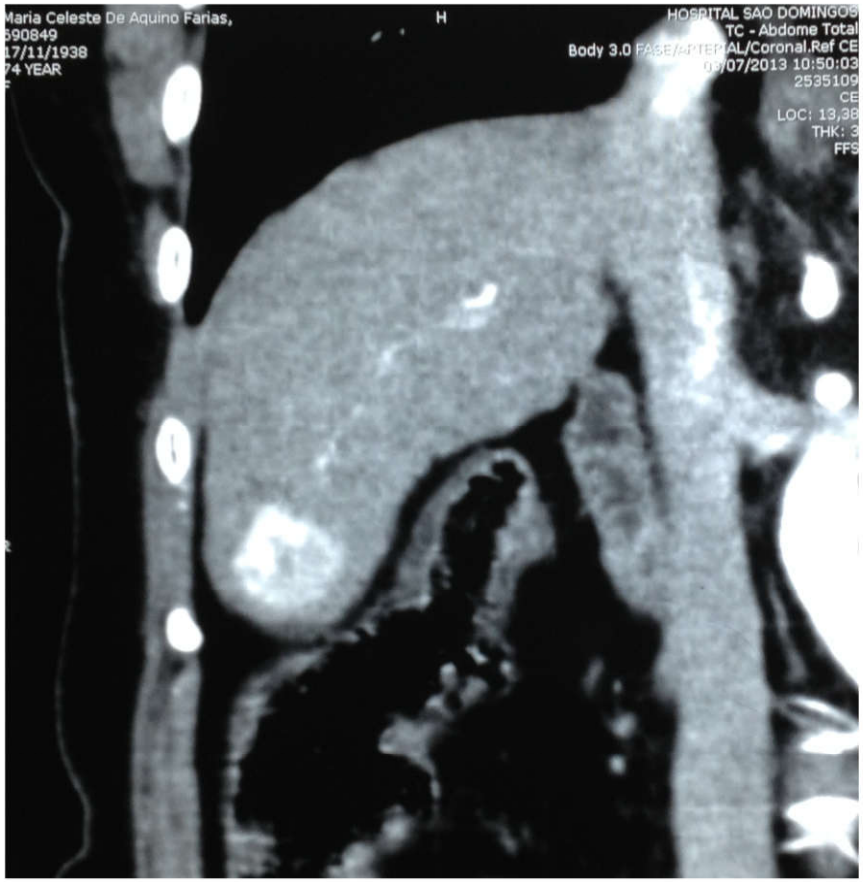


Pós-operatório:
Alta sem intercorrências

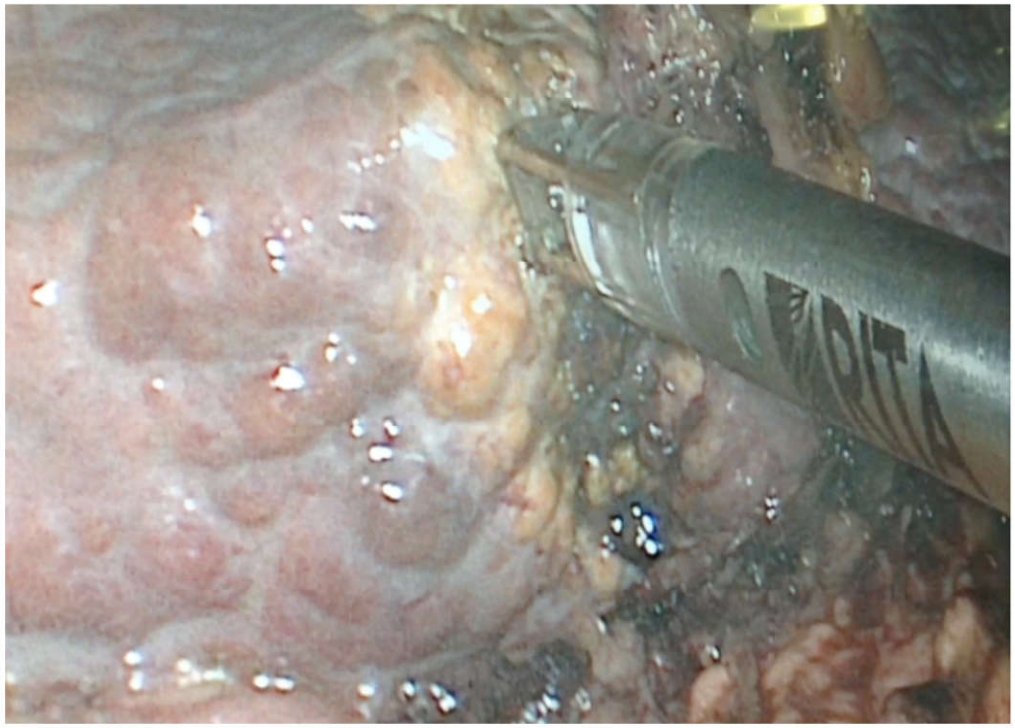
Extensão tumoral intra-hepática

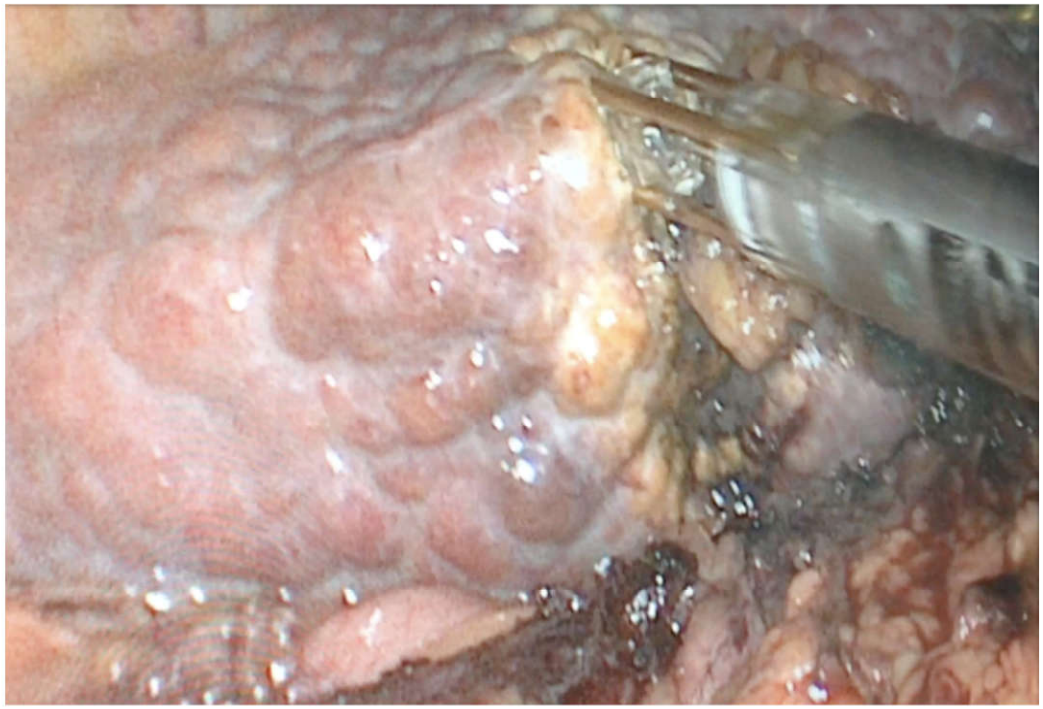
- Doença multifocal
- Invasão vascular grosseira
- Doença extra-hepática
- Envolvimento da veia cava inferior/veia porta

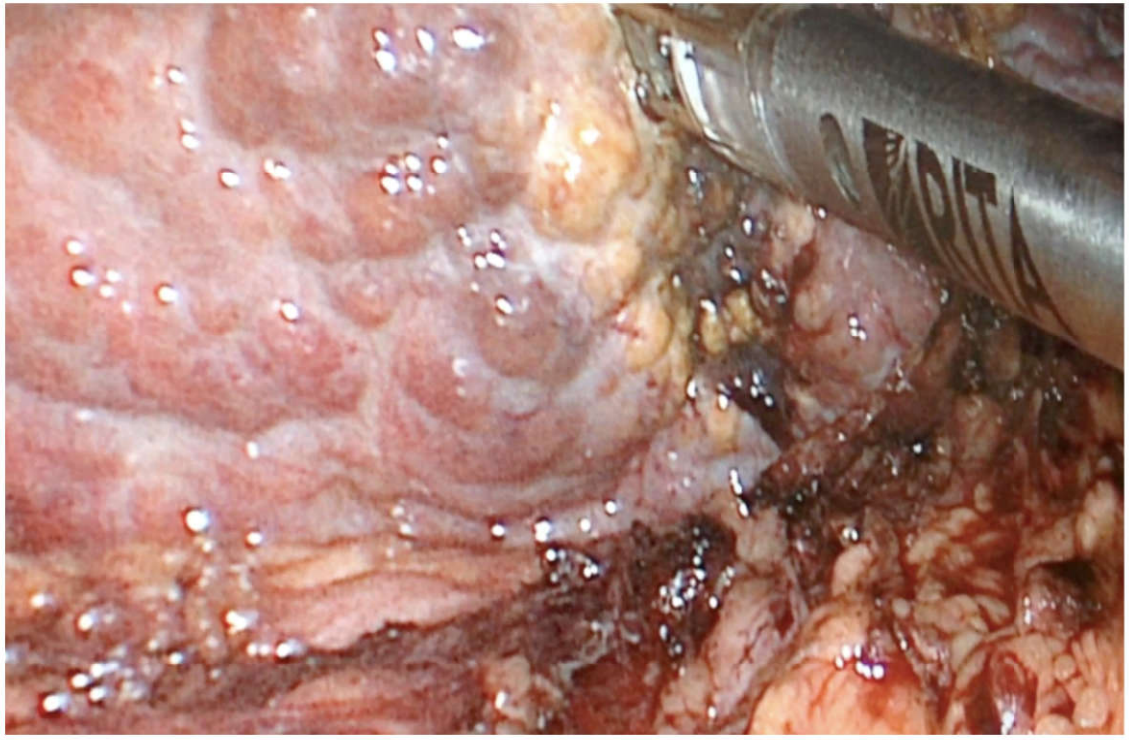
Yin L, et al. J Hepatol. 2014;61:82–8.



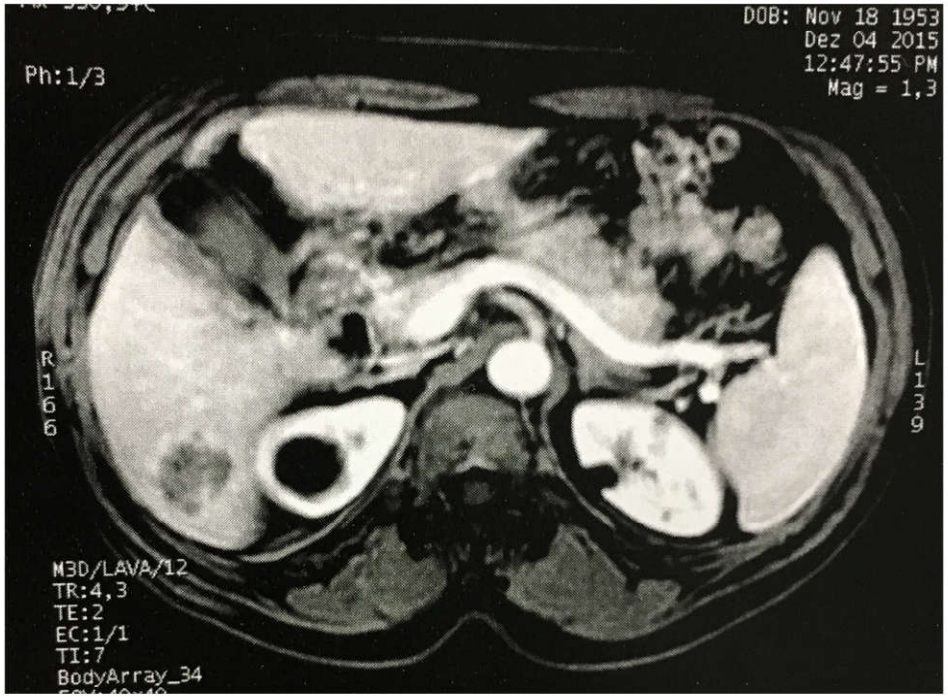
L, feminino, 72 a,
Hepatopatia crônica
Lesão única 6,5 cm Seg 6
Child A5, MELD 8
157.000 plaquetas

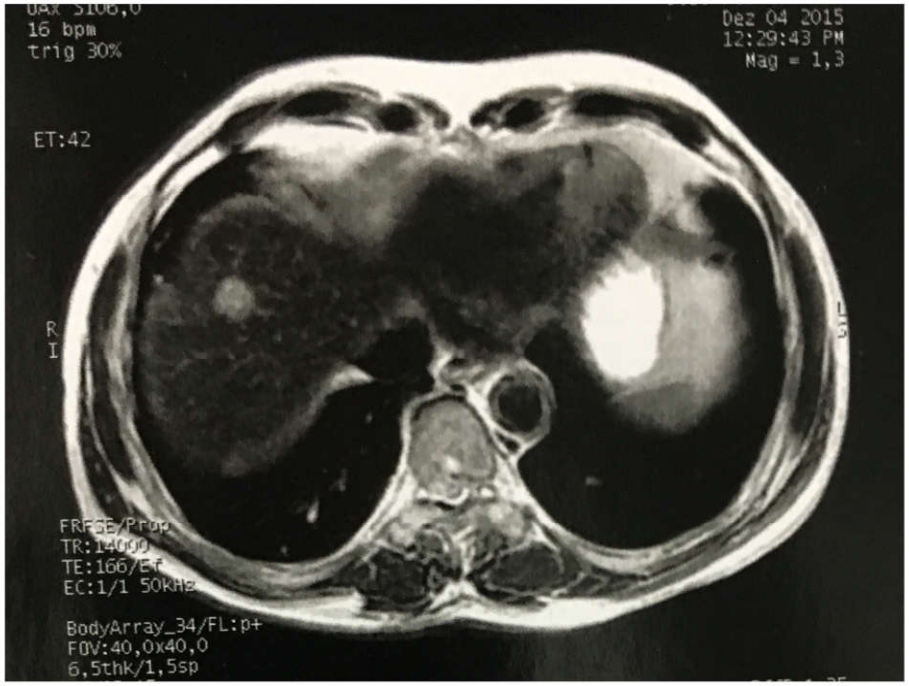






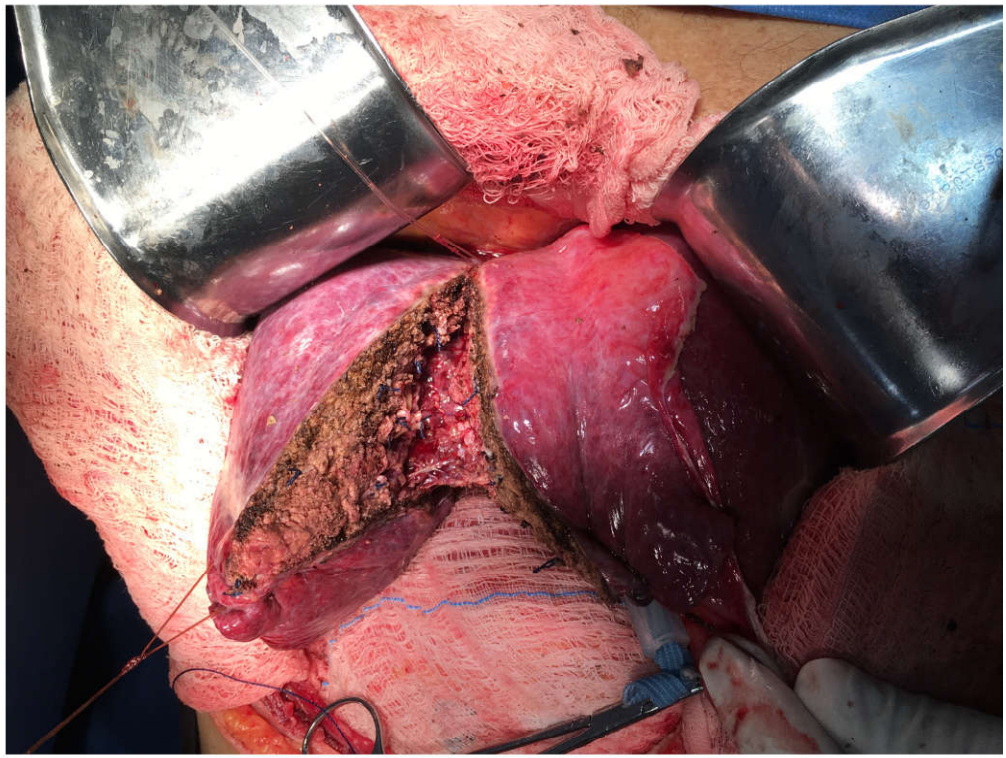
Hepatectomia laparoscópica
Com HABIB
Evolução favorável
Alta sem intercorrências

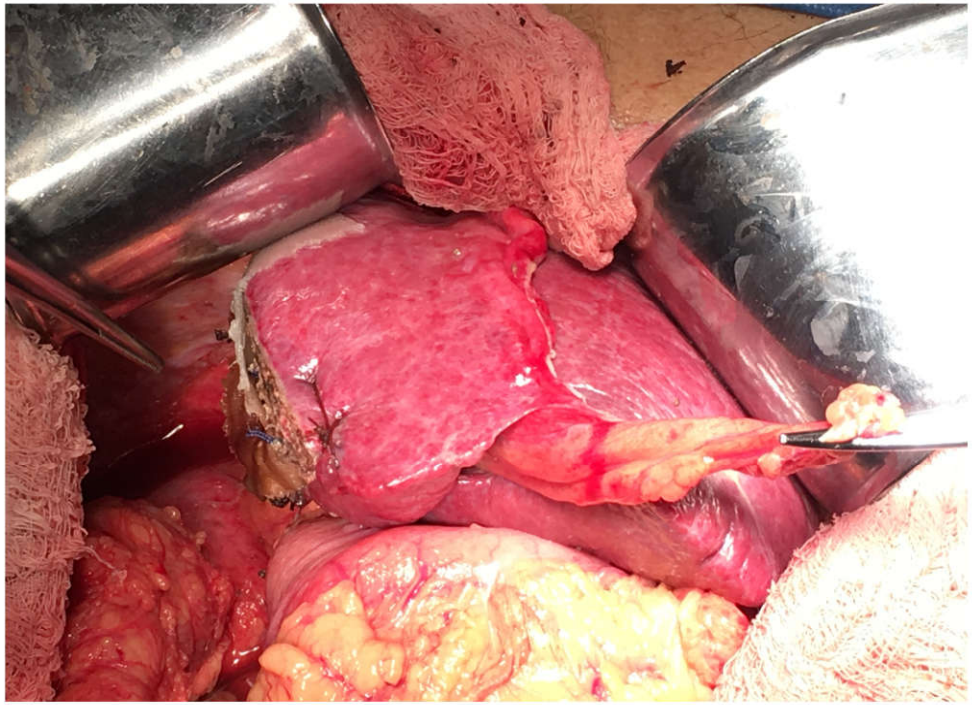




L, masculino, 62 a,
Hepatopatia crônica
2 nódulos (CHC)
Child A6, MELD 9
110.000 plaquetas

- **Doença multifocal**





Cirurgia:
Hepatectomia direita (5-8)
Evolução com ascite
Alta sem intercorrências

Ressecção hepática

- **MELD < 9**
- **Child-Pugh A**
- **Ausência de HP significante**

- **Ressecabilidade do tumor**

  Tamanho
  Número
  Localização
  Envolvimento microvascular

- **Estado geral preservado**

Scatton O, et al. J Surg Oncol 2015; 111:1007-15

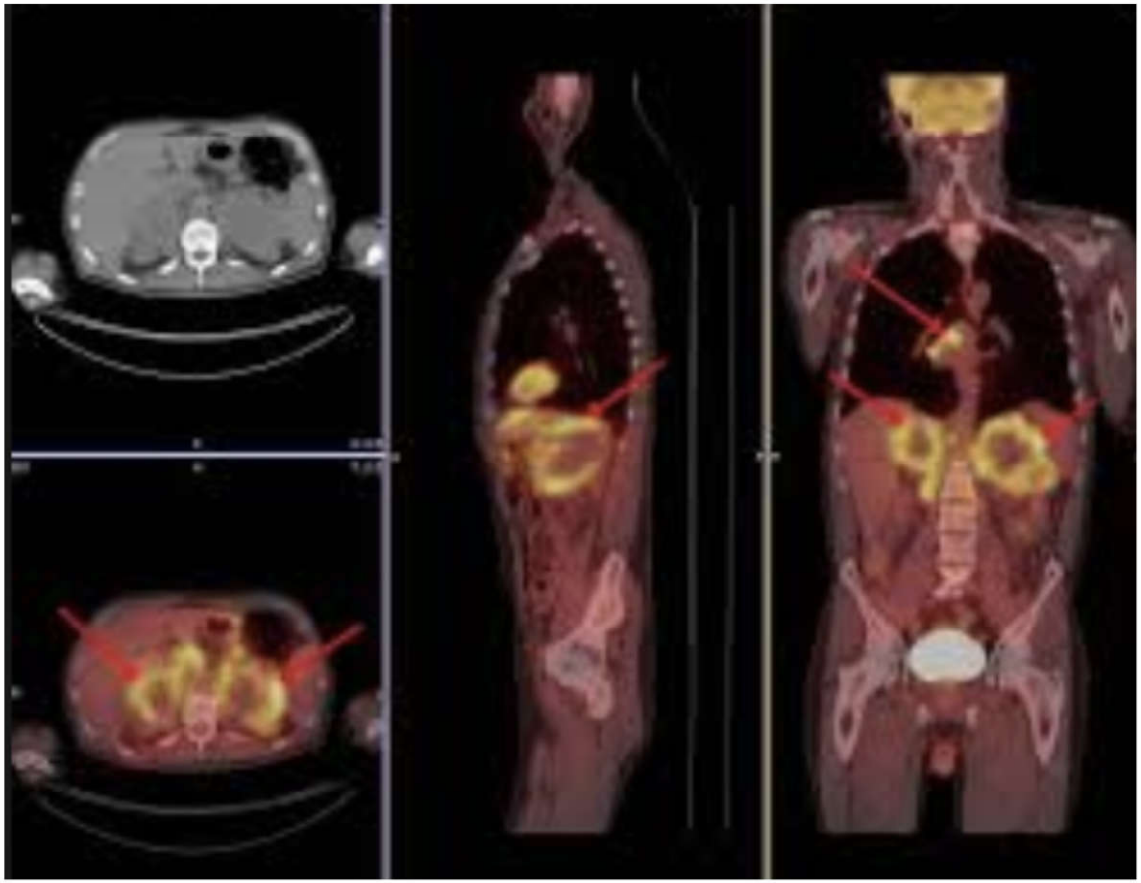
Risco operatório

- **Geral – Idade > 70**
- **ASA escore >3**
- **Insuficiência renal crônica**
- **Desnutrição**

Scatton O, et al. J Surg Oncol 2015; 111:1007-15

Avaliar doença extra-hepática

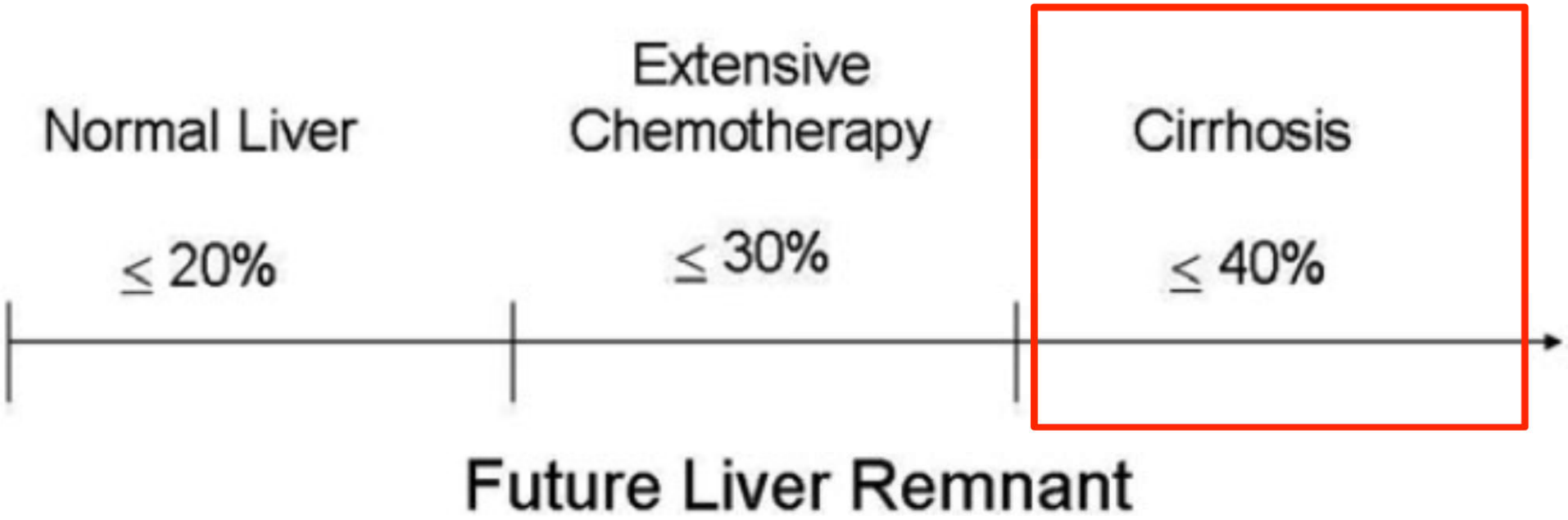
- Metástase pulmonar (TC de tórax)
- Metástase óssea/cerebral (PET-CT)



Remanescente hepático futuro > 40%

$$\text{sFLR} = \frac{\text{Measured FLR volume}}{\text{TLV} = -794 + 1267 \times \text{BSA}} = \text{\% of TLV}$$

Embolização da veia porta



***Fígado cirrótico tem a capacidade de hipertrofia reduzida**

Outras opções

- TACE-EVP sequencial
- Embolização da veia hepática
- Radioembolização em alta dose (Y90)

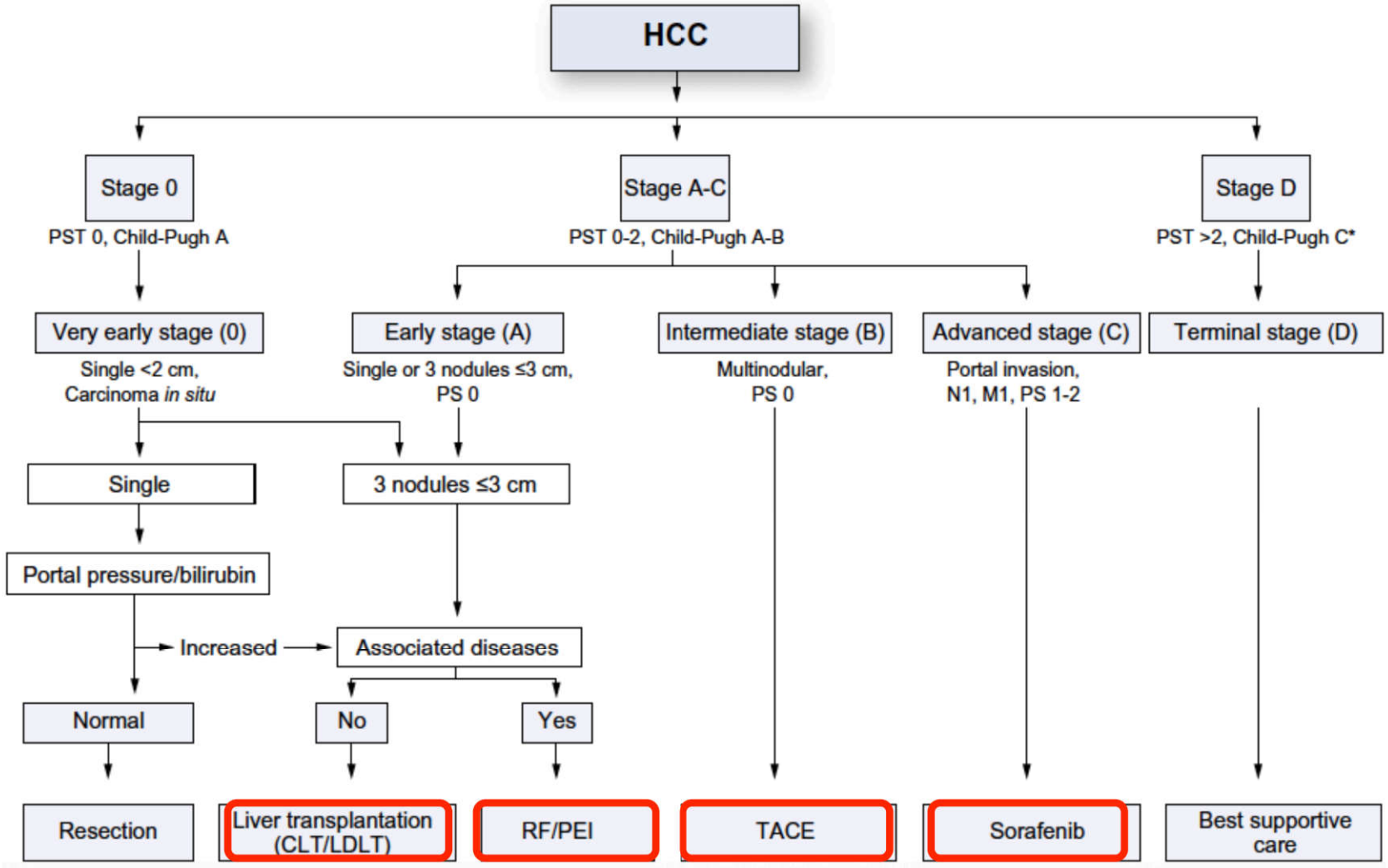
*Fígado cirrótico tem a capacidade de hipertrofia reduzida

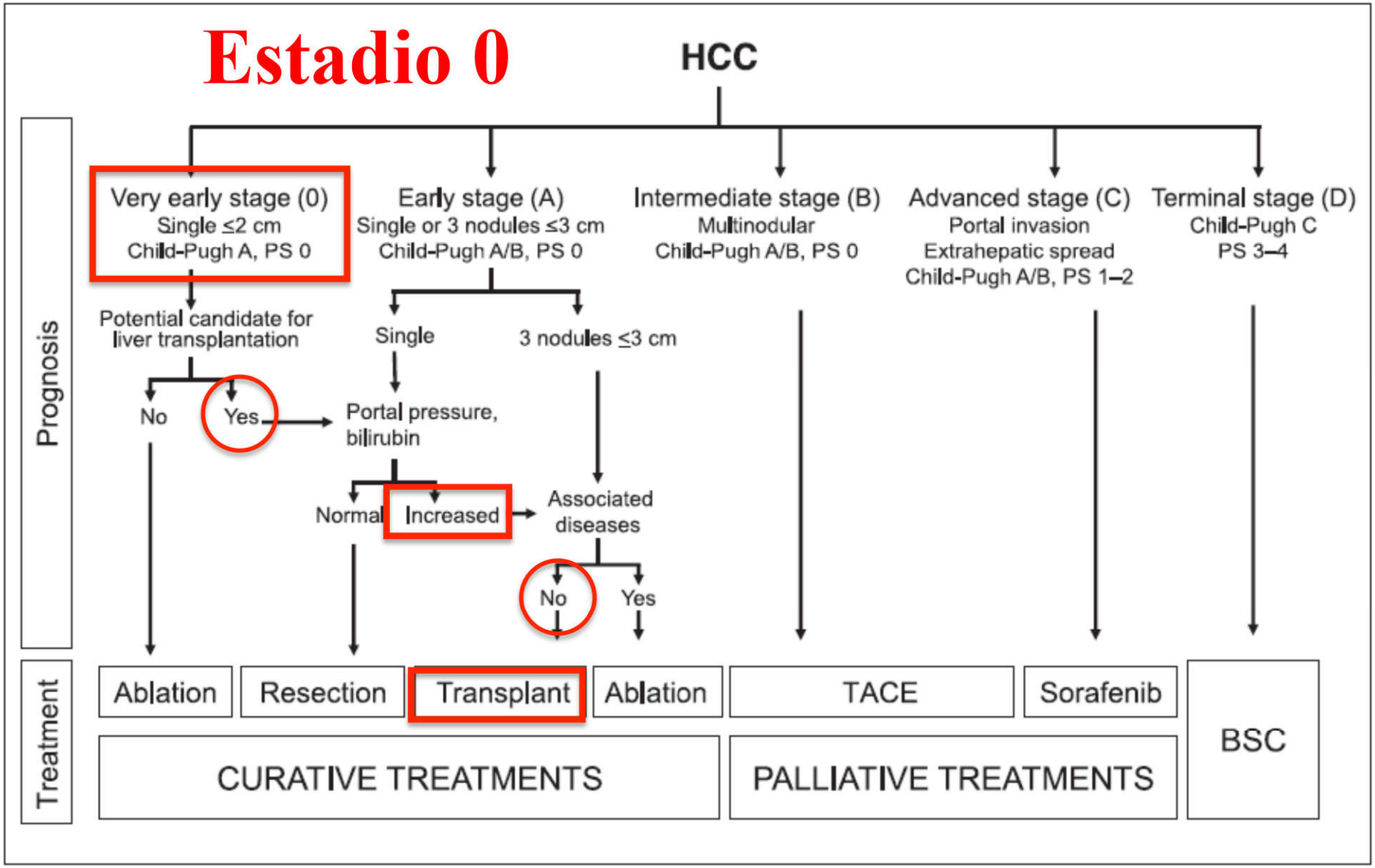
EASL EUROPEAN ASSOCIATION FOR THE STUDY OF THE LIVER | JOURNAL OF HEPATOLOGY

BCLC

EASL–EORTC Clinical Practice Guidelines: Management of hepatocellular carcinoma

European Association for the Study of the Liver*,
European Organisation for Research and Treatment of Cancer

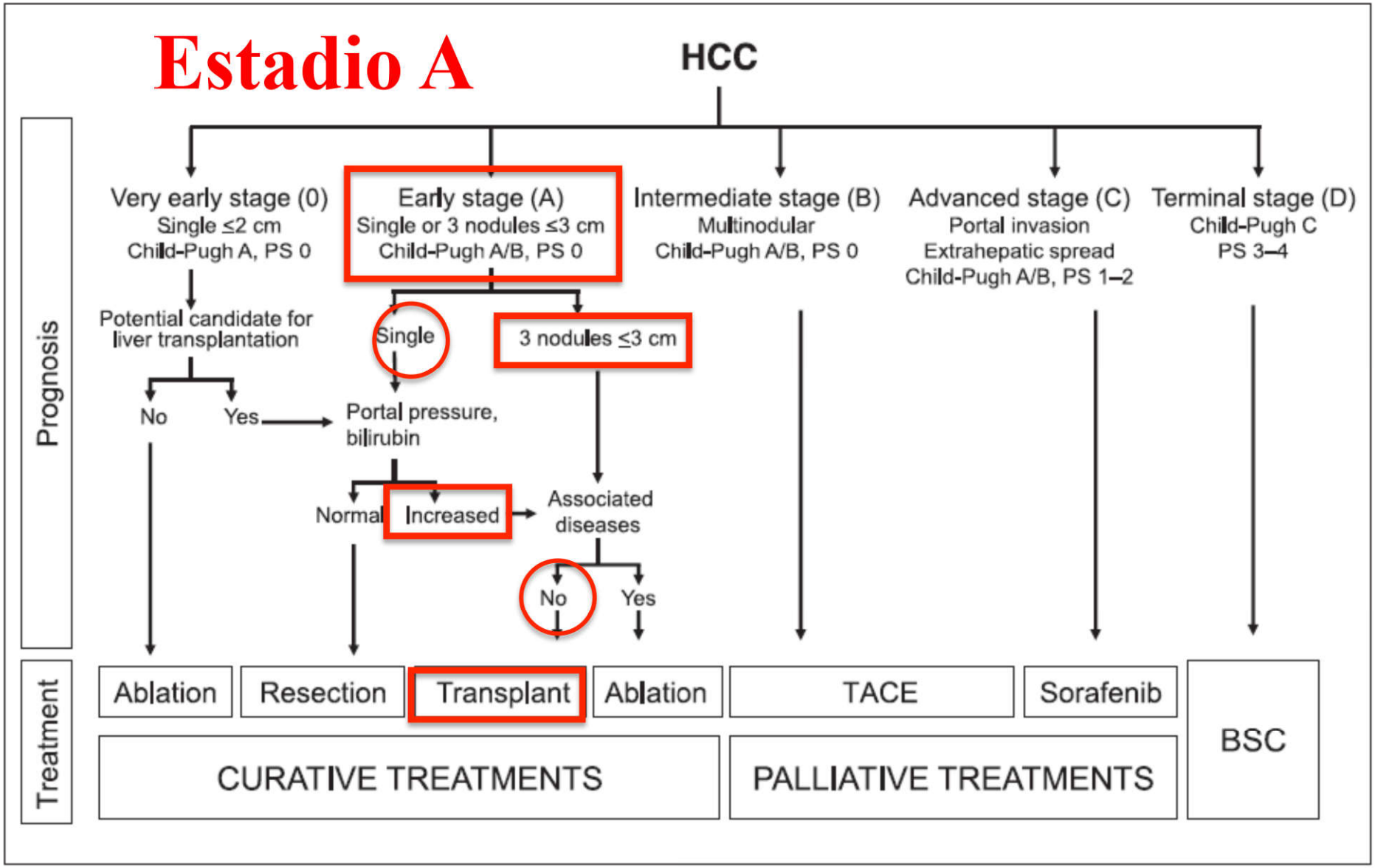




Transplante

Carrilho FL, et al. Arq Gastroenterol v 52, suppl 2015

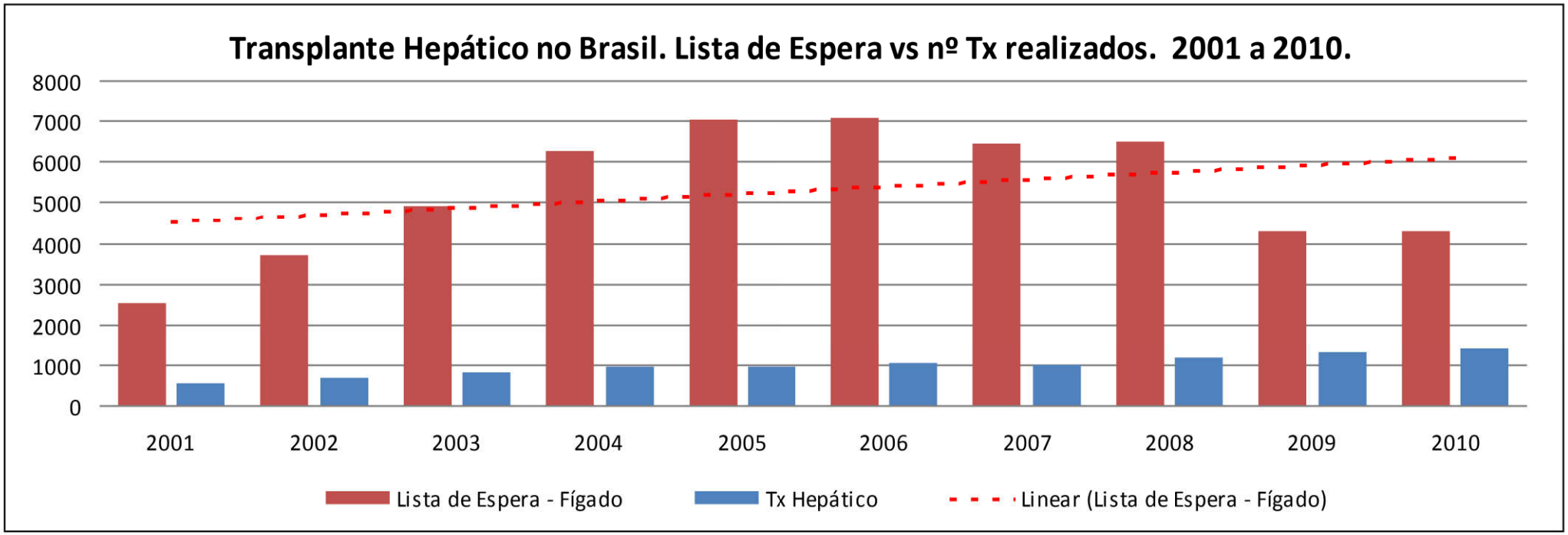
Estadio A



Transplante

Carrilho FL, et al. Arq Gastroenterol v 52, suppl 2015

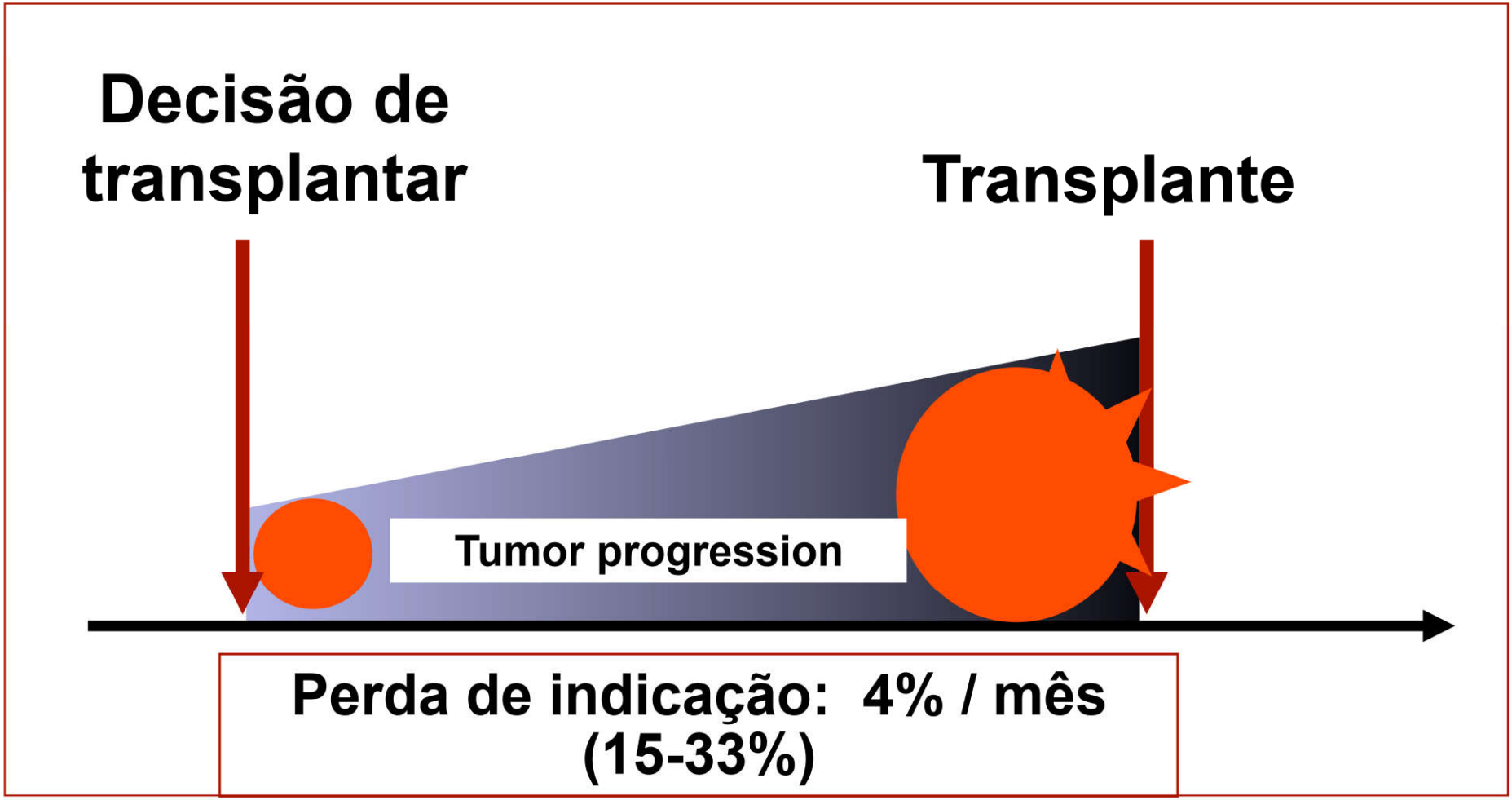
Necessidade de Transplante de Fígado - Brasil



Tx Fígado - Brasil		
Nº Tx em 2010:	**1413**	
Lista de Espera - 2010:	**4304**	
% Tx 2010/Lista de Espera:		**33%**

FALTA DE ÓRGÃOS!!!

Transplante para CHC



Yao FY, et al. Liver Transpl. 2002
Roayaie S et al. Clin Liver Dis 2005

Mortalidade na Lista de Espera - CHC

Mortalidade na lista de espera (MLE)	Jan 2013 - dez 2013
Mortalidade global	34,1%
Mortalidade pediátrica	29,15%
Mortalidade Adulto	34,4%
Mortalidade CHC (Milan + Downstaging)	28,25%

Source: Secretaria de Estado da Saúde do Estado de SP – Sistema Estadual de Transplantes

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EJSO 35 (2009) 11–15
EJSO the Journal of Cancer Surgery
www.ejso.com

For Debate

Liver resection for HCC with cirrhosis: Surgical perspectives out of EASL/AASLD guidelines

L. Capussotti [a,b,*], A. Ferrero [a,b], L. Viganò [a,b], R. Polastri [a,b], M. Tabone [c]

Table 1
Tumor characteristics in recent large published series

28-75% **24-39%** **3-14%**

Author	Year	Pts	Diameter (cm)		Multiple HCC	Major vascular invasion
			Median	>5 cm		
Fong[41]	1999	154	–	116 (75.3%)	42 (27.3%)	–
Poon[40]	2001	377	–	229 (60.7%)	–	–
Grazi[20]	2001	264	–	95 (36%)	0%	–
Belghiti[44]	2003	187	6	–	70 (39%)	16 (9%)
Vauthey/Nagorney[44]	2003	169	8	–	55 (33%)	24 (14%)
Ikai[44]	2003	230	3.5	–	72 (31%)	24 (10%)
Makuuchi[45]	2005	203		57 (28.1%)	57 (28.1%)	14 (6.9%)
Italian multicenter study[46]	2006	150	–	–	36 (24%)	5 (3.3%)

Capussotti L, et al. Eur J Surg Oncol 2009;35:11-15.

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For Debate

Liver resection for HCC with cirrhosis: Surgical perspectives out of EASL/AASLD guidelines

L. Capussotti [a,b,*], A. Ferrero [a,b], L. Viganò [a,b], R. Polastri [a,b], M. Tabone [c]

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Accepted 20 June 2007
Available online 3 August 2007

Abstract

EASL/AASLD guidelines clearly define indications for liver surgery for HCC: patients with single HCC and completely preserved liver function without portal hypertension. These guidelines exclude from operation many patients that could benefit from radical resection and that are daily scheduled for hepatectomy in surgical centers. Patients with large tumors or with portal vein thrombosis cannot be transplanted or treated by interstitial treatments. In selected cases liver resection may obtain good long-term outcomes, significantly better than non-curative therapies. In cases of multinodular HCC, liver transplantation is the treatment of choice within Milan criteria; patients beyond these limits can benefit from liver resection, especially if only two nodules are diagnosed: even if they have a worse prognosis, survival results after liver surgery are better than those reported after TACE or conservative treatments. EASL/AASLD guidelines excluded from operating patients with portal hypertension but data about this topic are not conclusive and further studies are necessary. Selected patients with mild portal hypertension could probably be scheduled for liver resection and, considering the shortage of donors, listing for transplantation could be avoided.

In conclusion, guidelines for HCC treatment should consider good results of liver resection for advanced HCC, and indications for hepatectomy should be expanded in order not to exclude from radical therapy patients that could benefit from it.

Capussotti L, et al. Eur J Surg Oncol 2009;35:11-5

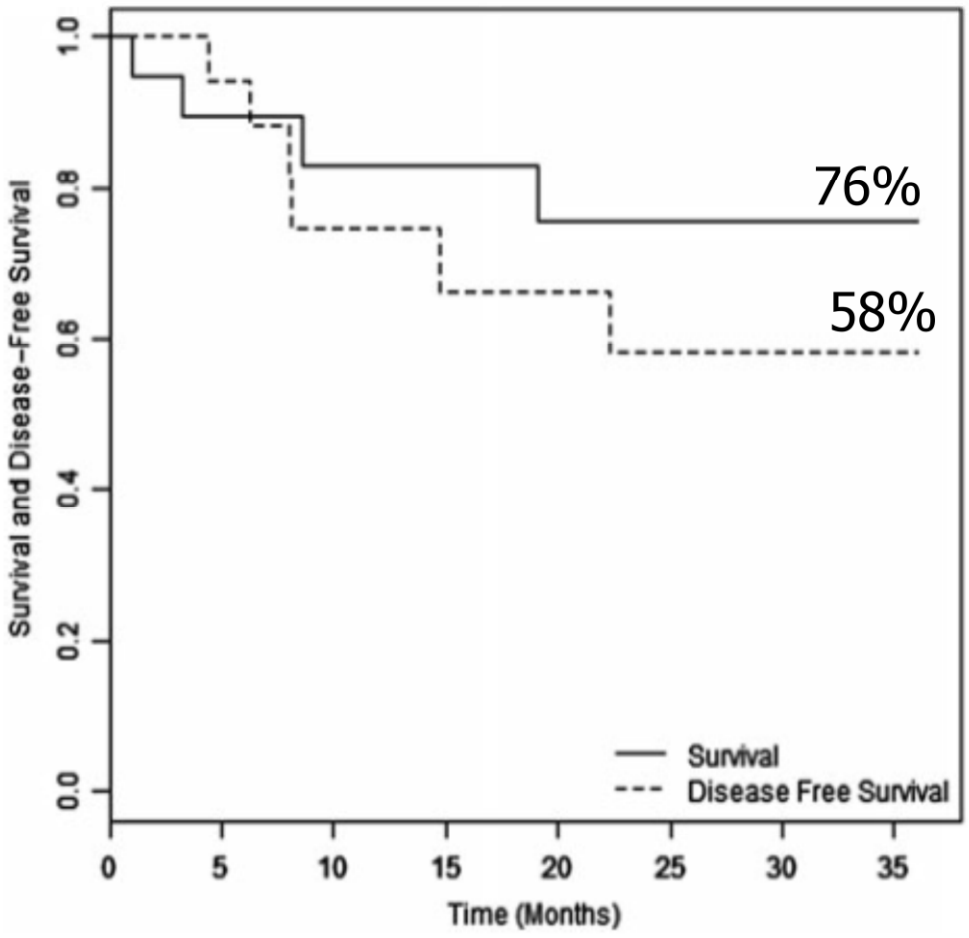
JOURNAL OF LAPAROENDOSCOPIC & ADVANCED SURGICAL TECHNIQUES
Volume 24, Number 4, 2014

Laparoscopic Resection of Hepatocellular Carcinoma: When, Why, and How? A Single-Center Experience

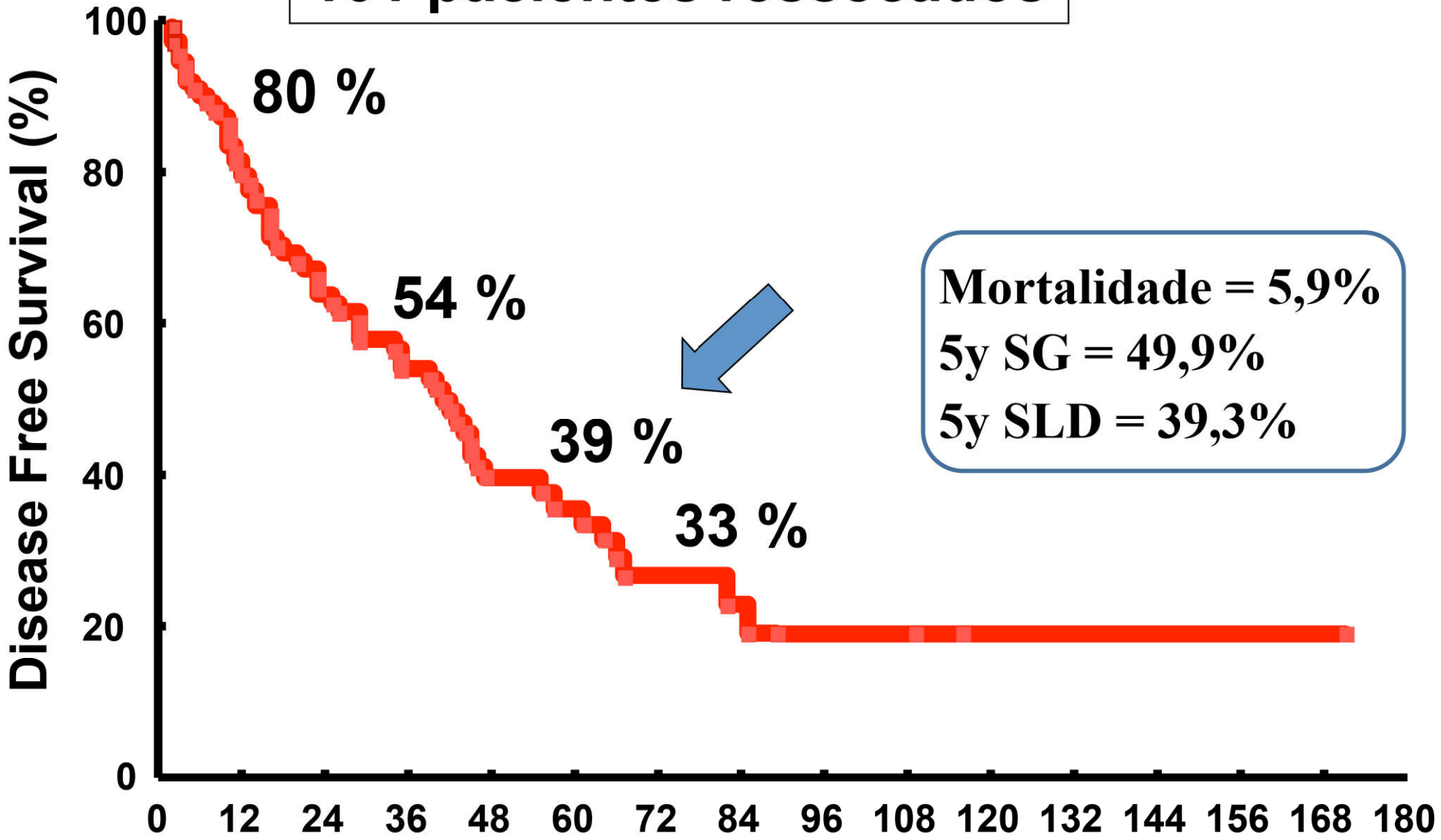
Paulo Herman, MD, Marcos Vinicius Perini, MD, Fabricio Ferreira Coelho, MD, Jaime Arthur Pirolla Kruger, MD, Renato Micelli Lupinacci, MD, Gilton Marques Fonseca, MD, Felipe de Lucena Moreira Lopes, MD, and Ivan Cecconello, MD

- CHC: n=30 (35,2%) – 2007/2013
- 21 homens, média idade= 54,7 a
- Procedimentos:
  - 10 não-anatômicas
  - 14 bissegmentectomia 2/3
  - 4 bissegmentectomia 6/7
  - 1 hepatectomia D
  - 1 hepatectomia E

- Margens livres = 100%
- Conversão= 13,3%
- Mortalidade= 3,3%



Sobrevida
101 pacientes ressecados



Mortalidade = 5,9%
5y SG = 49,9%
5y SLD = 39,3%

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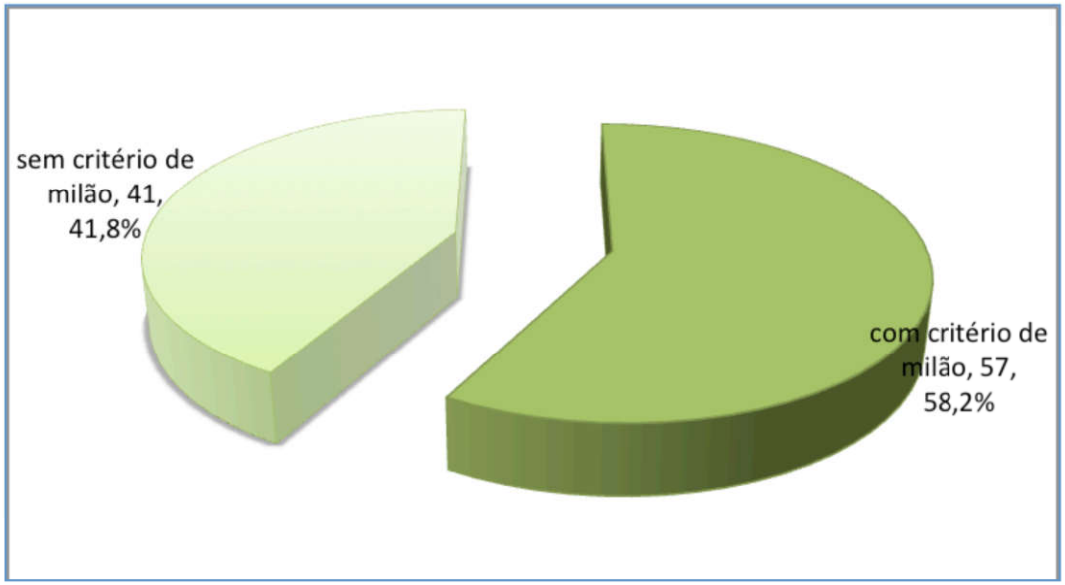
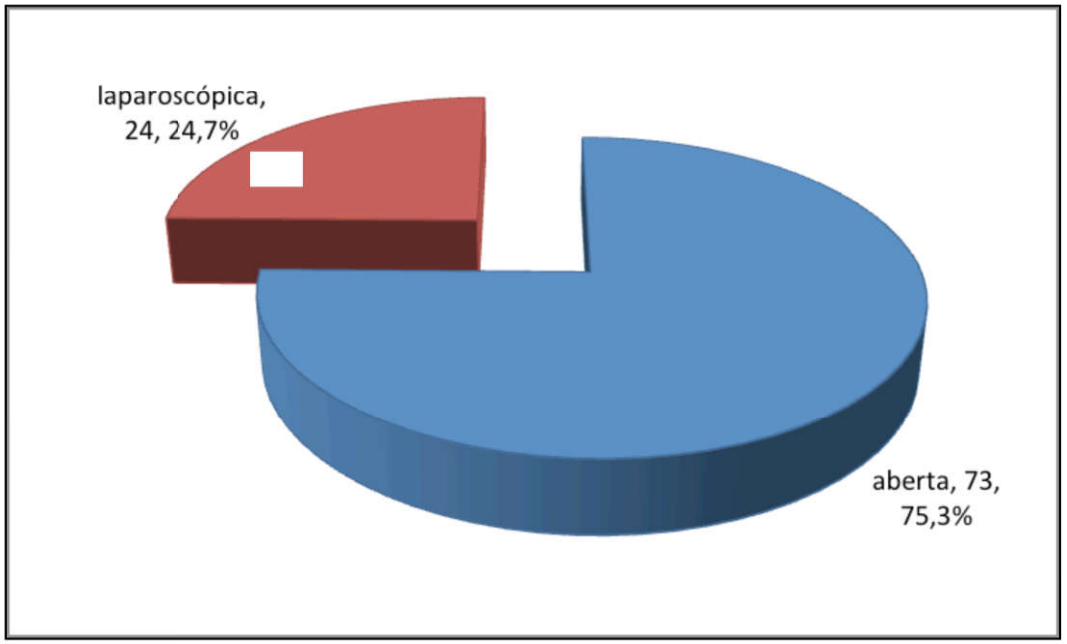
Cirurgia do Fígado - USP

HCFMUSP

HCFMUSP
101 pacientes ressecados





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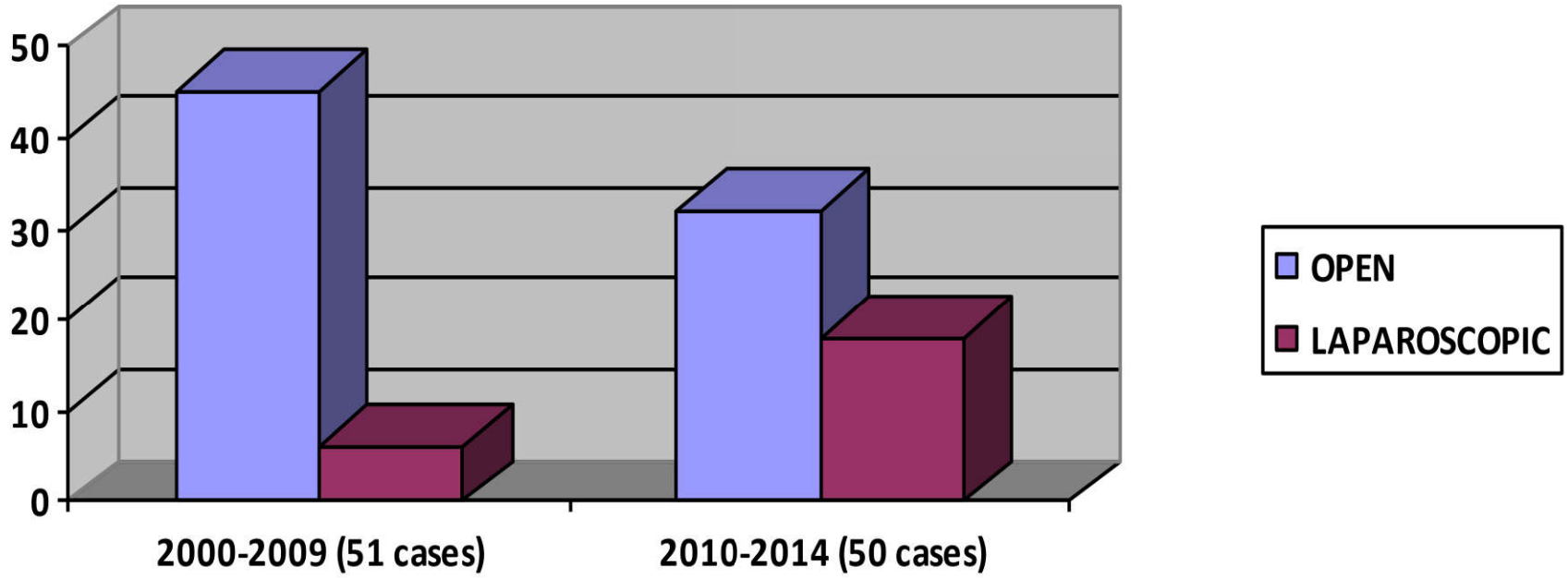
MEDICINA
USP

HCFMUSP
101 pacientes ressecados



Ressecção CHC - Laparoscopia
68% - 2014/2015

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Cirurgia do Fígado - USP

ORIGINAL ARTICLE

Laparoscopic resection of hepatocellular carcinoma: a French survey in 351 patients

Olivier Soubrane[1], Claire Goumard[1], Alexis Laurent[2], Hadrien Tranchart[3], Stéphanie Truant[4], Brice Gayet[5], Chadi Salloum[6], Guillaume Luc[7], Safi Dokmak[8], Tullio Piardi[9], Daniel Cherqui[2], Ibrahim Dagher[3], Emmanuel Boleslawski[4], Eric Vibert[6], Antonio Sa Cunha[7], Jacques Belghiti[8], Patrick Pessaux[9], Pierre-Yves Boelle[1,10,11] & Olivier Scatton[1]

[1]Department of Hepatobiliary Surgery and Liver Transplant, St Antoine Hospital, Assistance Publique–Hôpitaux de Paris (AP-HP), University of Pierre and Marie Curie (UPMC), Paris, France, [2]Department of Digestive and Hepatobiliary Surgery, Henri Mondor Hospital, AP-HP, University of Paris East Créteil Val de Marne, Créteil, France, [3]Department of Digestive and Hepatobiliary Surgery, Antoine Béclère Hospital, AP-HP, University of Paris South, Clamart, France, [4]Department of Digestive and Hepatobiliary Surgery, Claude Huriez Hospital, University of Lille and North France, Lille, France, [5]Department of Digestive and Hepatobiliary Surgery, Institut Mutualiste Montsouris, Paris, France, [6]Department of Hepatobiliary Surgery and Liver Transplant, Paul Brousse Hospital, AP-HP, University of Paris South, Villejuif, France, [7]Department of Digestive and Hepatobiliary Surgery, Haut-Lévêque Hospital, University of Bordeaux, Bordeaux, France, [8]Department of Digestive and Hepatobiliary Surgery, Beaujon Hospital, University Denis Diderot Paris, Clichy, France, [9]Department of Digestive and Hepatobiliary Surgery, Hautepierre Hospital, University of Strasbourg, Strasbourg, France, [10]Department of Statistics, UPMC, UMR S 707, Paris, France and [11]National Institute of Health and Medical Research (INSERM), U707, Paris, France

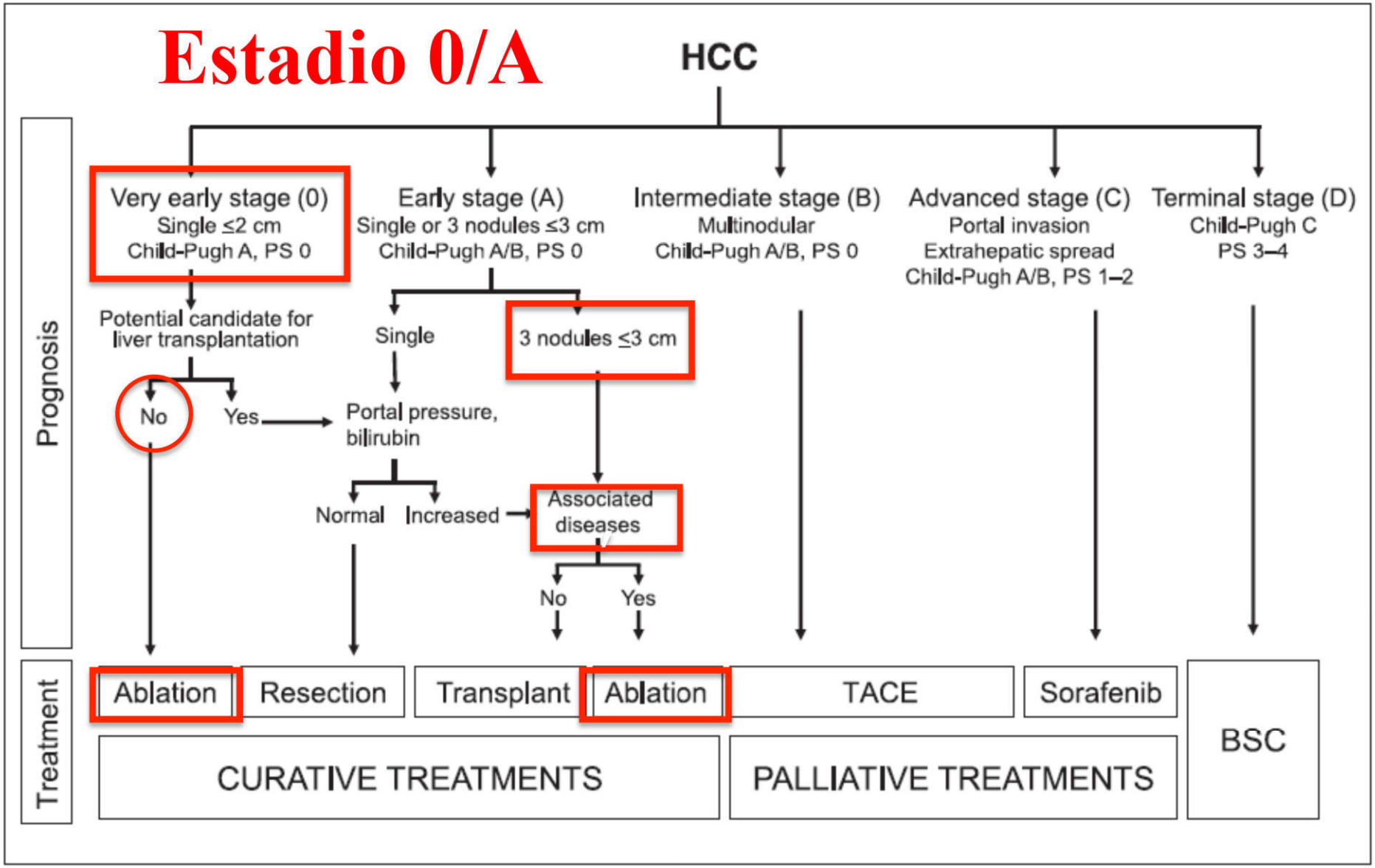
Soubrane O, et al. HPB 2016;16:357-65

Table 4 Pathological features in 351 patients submitted to laparoscopic liver resection for hepatocellular carcinoma (HCC)

Postoperative data	Value
Histological cirrhosis, *n* (%)	247 (70%)
Histological fibrosis F2, F3, *n* (%)	55 (16%)
Maximum tumour size, mm, median (range)	35 (5–170)
Single HCC, *n* (%)	302 (86%)
Multiple HCC, *n* (%)	49 (14%)
Bilobar HCC, *n* (%)	24 (7%)
Encapsulated HCC, *n* (%)	162 (46%)
Satellite nodules, *n* (%)	81 (23%)
Well or moderately differentiated HCC, *n* (%)	319 (91%)
Poorly differentiated HCC, *n* (%)	32 (9%)
Vascular invasion, *n* (%)	119 (34%)
Tumour-free margin, *n* (%)	323 (92%)
Margin, mm, median (range)	10 (0–78)

Soubrane O, et al. HPB 2016;16:357-65

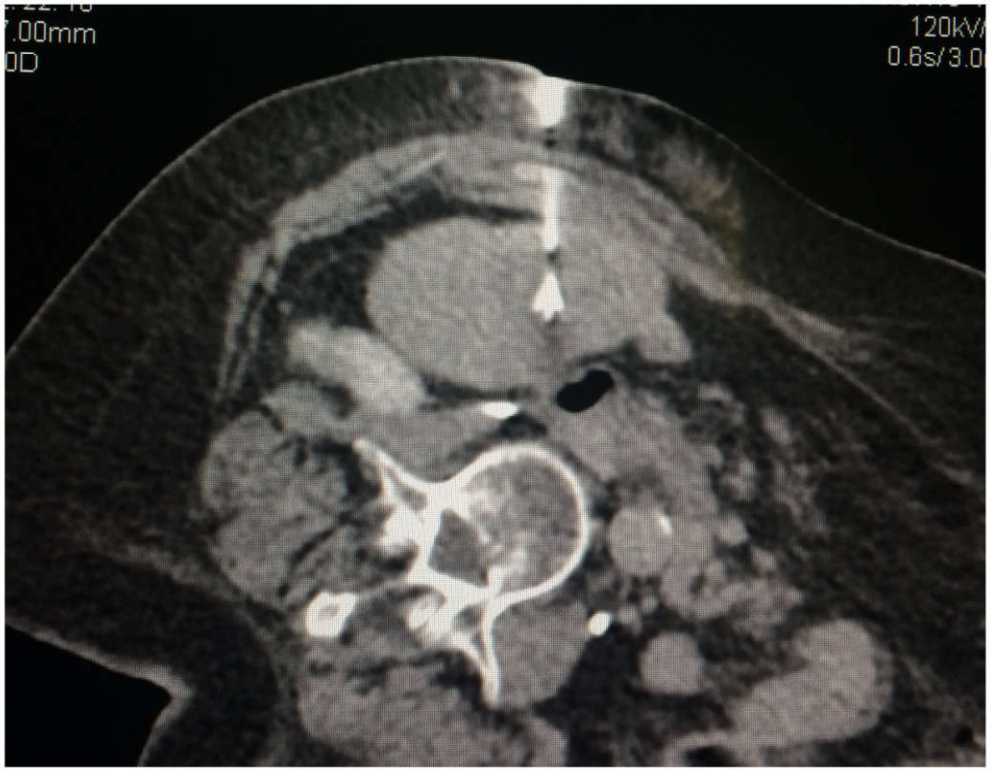
Estadio 0/A



Ablação

Carrilho FL, et al. Arq Gastroenterol v 52, suppl 2015

C, feminino, 80 a,
CHC em lobo segmento 6
Fígado cirrótico
Child A5, MELD 9
Sem hipertensão porta
Comorbidades



Conduta:
Ablação por RF:
Evolução satisfatória
Alta sem intercorrências

DOI:10.1111/hpb.12446 HPB

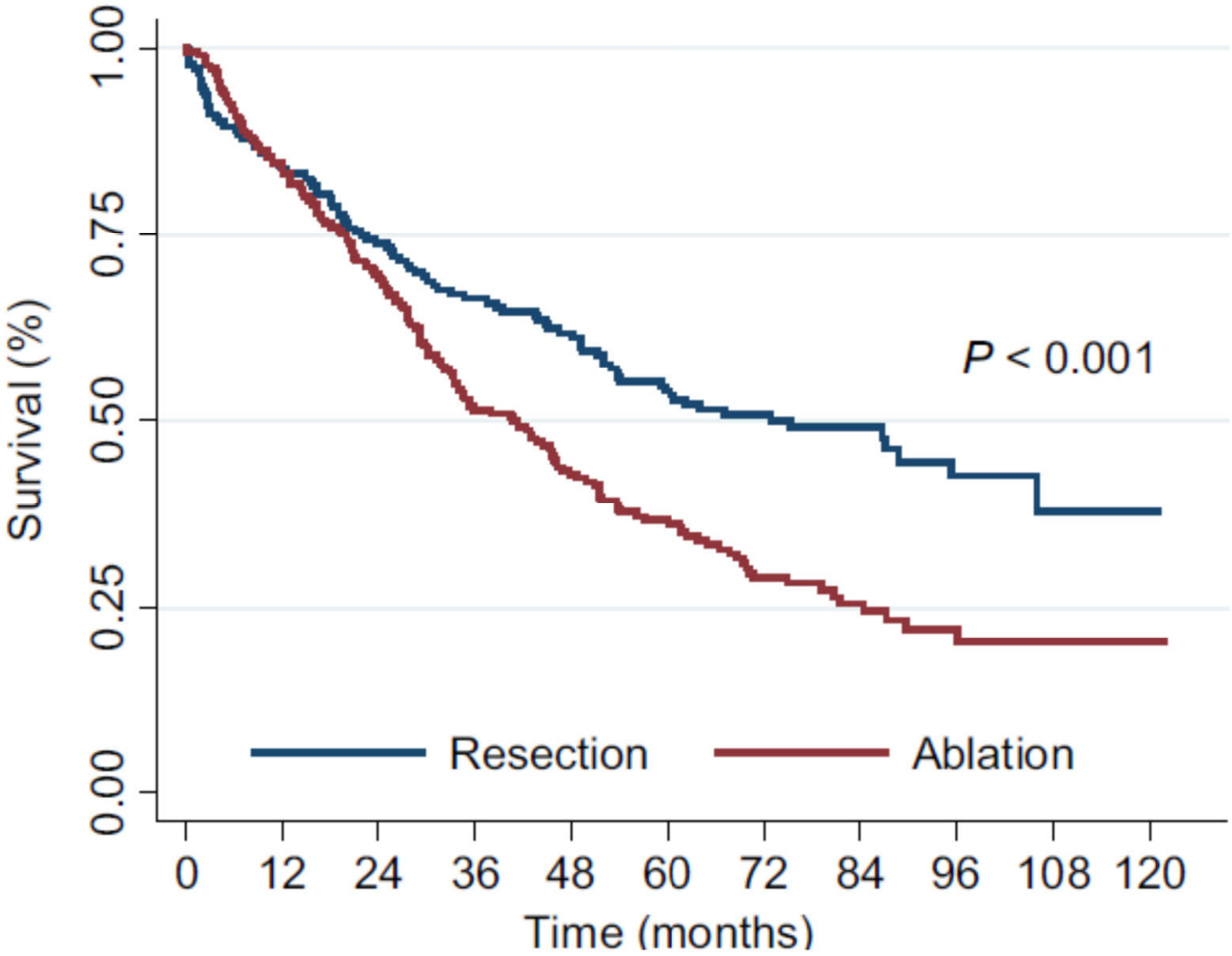
ORIGINAL ARTICLE

Surgical resection versus ablation for hepatocellular carcinoma ≤ 3 cm: a population-based analysis

John T. Miura[1], Fabian M. Johnston[1], Susan Tsai[1], Dan Eastwood[2], Anjishnu Banerjee[2], Kathleen K. Christians[1], Kiran K. Turaga[1] & T. Clark Gamblin[1]

[1]Division of Surgical Oncology, and [2]Department of Biostatistics, Medical College of Wisconsin, Milwaukee, WI, USA

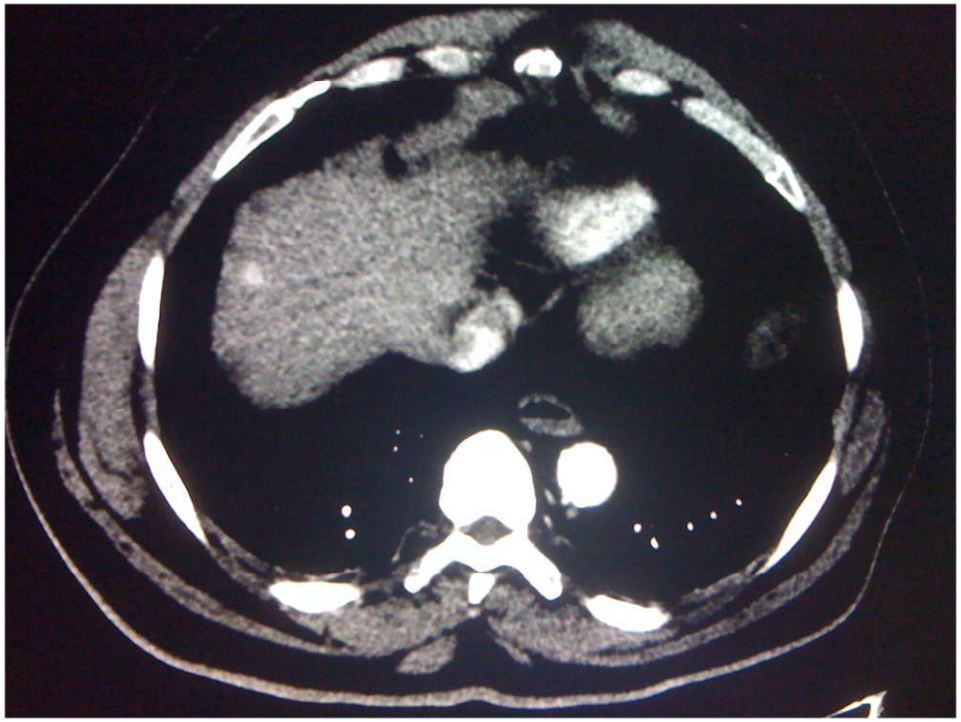
Miura JT, et al. HPB 2015;17:896-901



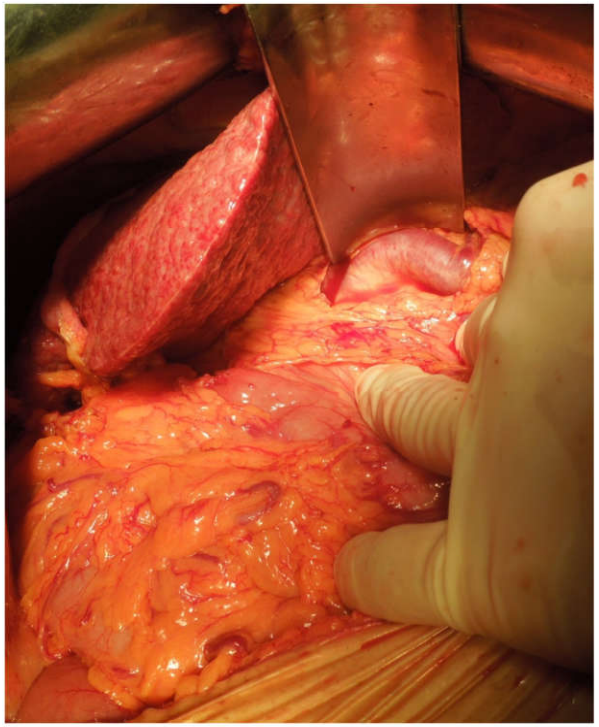
Miura JT, et al. HPB 2015;17:896-901

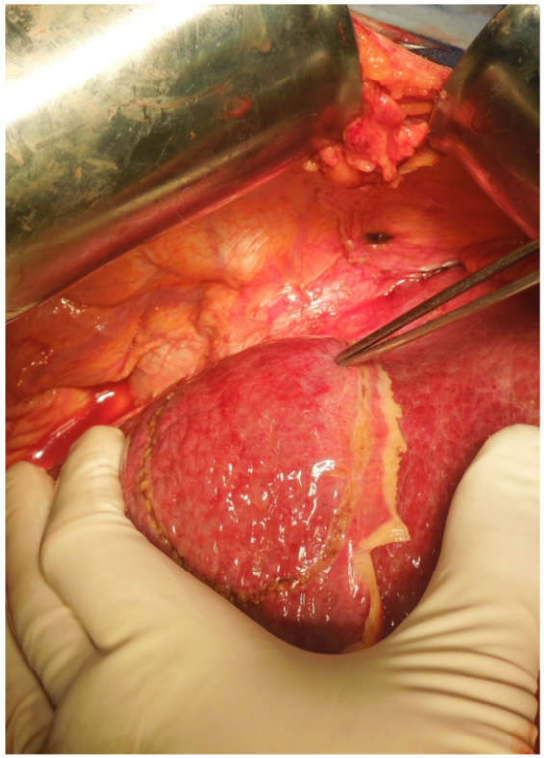
In conclusion, the present study provides further evidence supporting HR over ablation for patients with small, unifocal, HCC tumours. Numerous factors, both patient and tumour specific, continue to have a major influence on treatment allocation. Therefore, it would be short-sighted to suggest that ablation has no role for this subset of HCC tumours. Instead, in the setting of a good surgical candidate, treatment strategies should continue to emphasize a HR first approach for single, <3 cm HCC tumours, with ablation being reserved for patients less suited for the operating room.

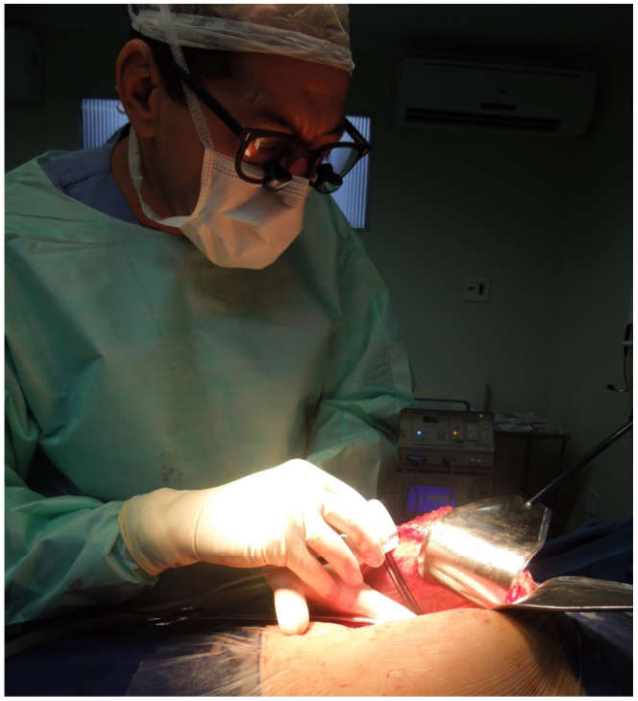
Miura JT, et al. HPB 2015;17:896-901

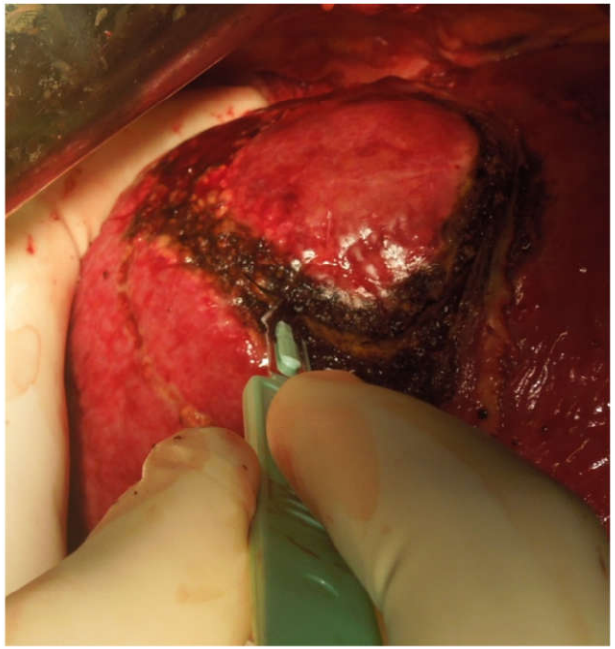


F, masculino, 66 anos
Cirrose, vírus C.
CHC (2 cm) em segmento 8
Child A6 MELD 9
Hipertensão porta
Sem comorbidades

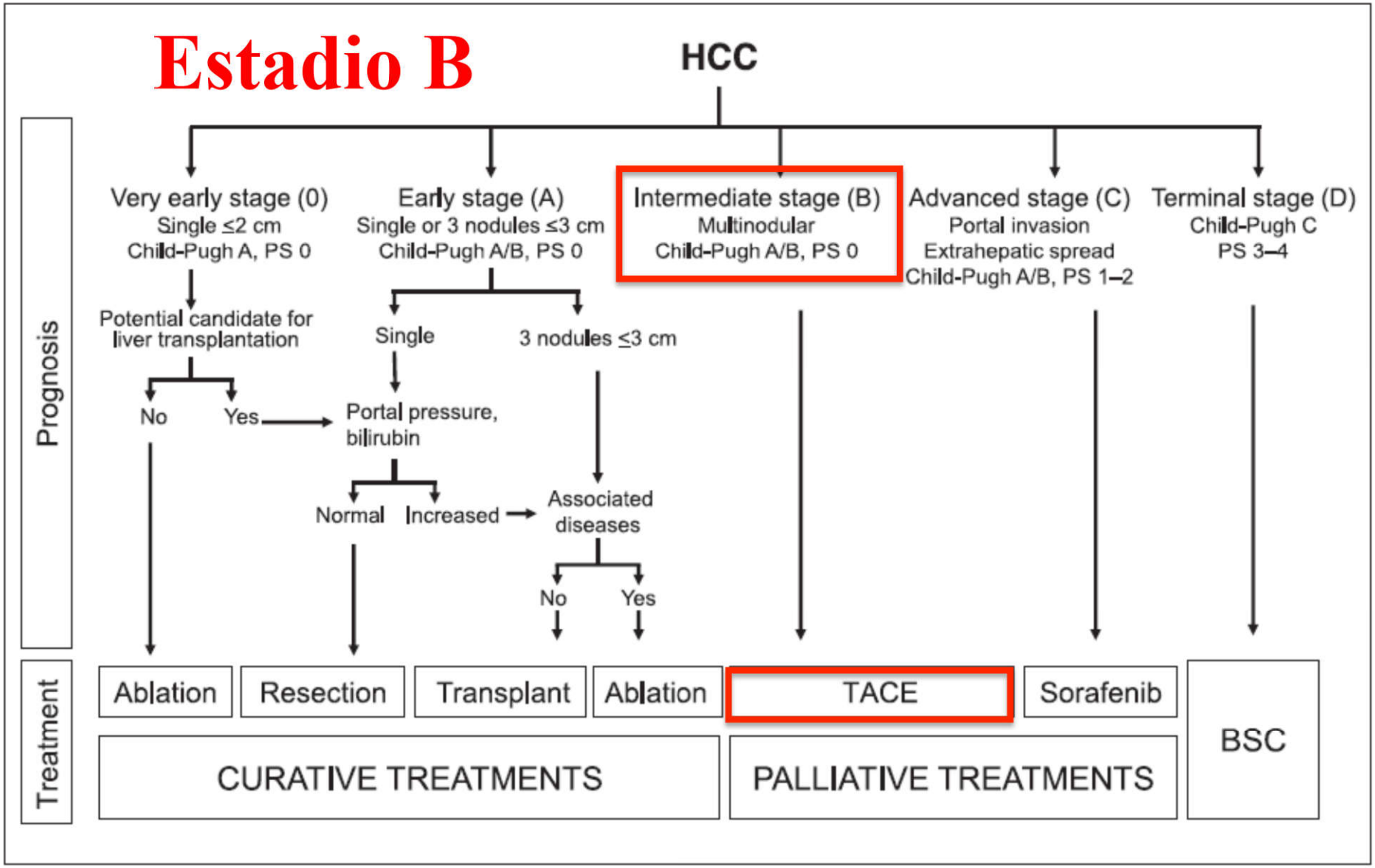








Hepatectomia com Habib
Evolução favorável
Alta sem intercorrências



TACE

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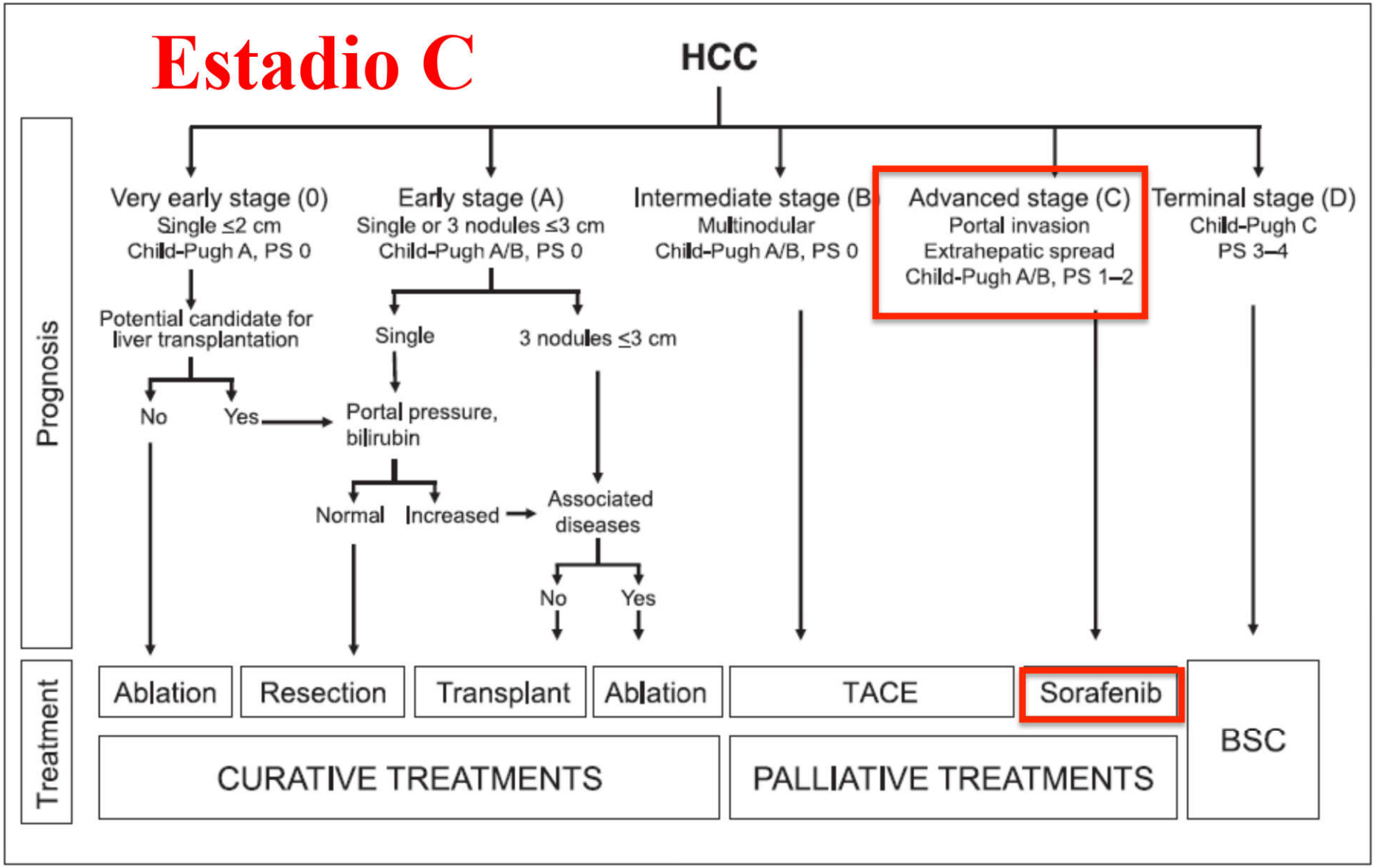
Estadio C



Sorafenib

Carrilho FL, et al. Arq Gastroenterol v 52, suppl 2015

A Snapshot of the Effective Indications and Results of Surgery for Hepatocellular Carcinoma in Tertiary Referral Centers: Is It Adherent to the EASL/AASLD Recommendations?

An Observational Study of the HCC East-West Study Group

Guido Torzilli, MD, PhD, Jacques Belghiti, MD,† Norihiro Kokudo, MD, PhD,‡ Tadatoshi Takayama, MD, PhD,§ Lorenzo Capussotti, MD,¶ Gennaro Nuzzo, MD,|| Jean-Nicolas Vauthey, MD,** Michael A. Choti, MD,†† Eduardo De Santibanes, MD,‡‡ Matteo Donadon, MD,* Emanuela Morenghi,§§ and Masatoshi Makuuchi, MD, PhD¶¶*

Torzilli G, et al. Ann Surg 2013;257: 929-37

TABLE 2. Pattern of Presentation According to the BCLC Classification

BCLC Class	n (%)
BCLC 0-A [n = 931]*	
Single ≤2 cm	204 (22)
Single ≤5 cm	604 (65)
Up to 3 tumors, none >3 cm	123 (13)
BCLC B [n = 666]	
Single >5 cm	456 (68.5)
Multiple	210 (31.5)
BCLC C [n = 222]	
PV invasion	60 (27)
First-order PV	20 (9)
Second-order PV	16 (7)
Third-order PV	24 (11)
HV invasion	77 (35)
IVC invasion	15 (7)
PV + HV invasion	63 (28)
PV + IVC invasion	—
HV + IVC invasion	7 (3)

*The number of patients for whom the data were available.
HV indicates hepatic vein; IVC, inferior vena cava; PV, portal vein.

Torzilli G, et al. Ann Surg 2013;257: 929-37

TABLE 3. Surgical Procedures Stratified According to the BCLC Classification

	BCLC 0-A	BCLC B	BCLC C	*P**
Type of resection [n = 1674]†				
Minor	684 (88)	365 (58)	102 (38)	**0.000**
Major	93 (12)	268 (42)	162 (62)	
No. removed segments [n = 1674]				
≤1	565 (73)	231 (37)	53 (20)	**0.000**
2	119 (15)	134 (21)	49 (18)	
3	14 (2)	53 (8)	41 (16)	
>3	79 (10)	215 (34)	121 (46)	

Bold values indicate statistically significant.
Values given are number (percentage).
*χ^2 test.
†The number of patients for whom the data were available.

Torzilli G, et al. Ann Surg 2013;257: 929-37

Mortalidade pós-operatória – 2,7%

	30 Dias (%)	90 Dias (%)
BCLC 0-A	1,6	2,0
BCLC B	3	3
BCLC C	2,5	3

Torzilli G, et al. Ann Surg 2013;257: 929-37

TABLE 6. Main Published Studies of Surgical Resection for BCLC B, C, and B-C HCC in the Last Decade

Author	Year	BCLC Class	No. Patients	3-yr OS, %	5-yr OS, %	3-yr DFS, %	5-yr DFS, %	Operative Mortality, %
Minagawa et al[14]	2001	C	18	42	42	—	—	5
Ng et al[15]	2005	B	380	50	39	38	26	2.4
Chirica et al[17]	2008	B-C	20	56	45	20	17	5
Ishizawa et al[19]	2008	C	98	71	56	37	25	0.2
Wang et al[12]	2008	B	243	64	50	—	—	—
		C	14	29	29	—	—	—
Torzilli et al[18]	2008	B	24	80	—	44	—	0
		C	28	74	—	17	—	3.6
Present series	2011	B	737	71	57	38	27	3.1
		C	297	49	38	28	18	2.5

DFS indicates disease-free survival; OS, overall survival.

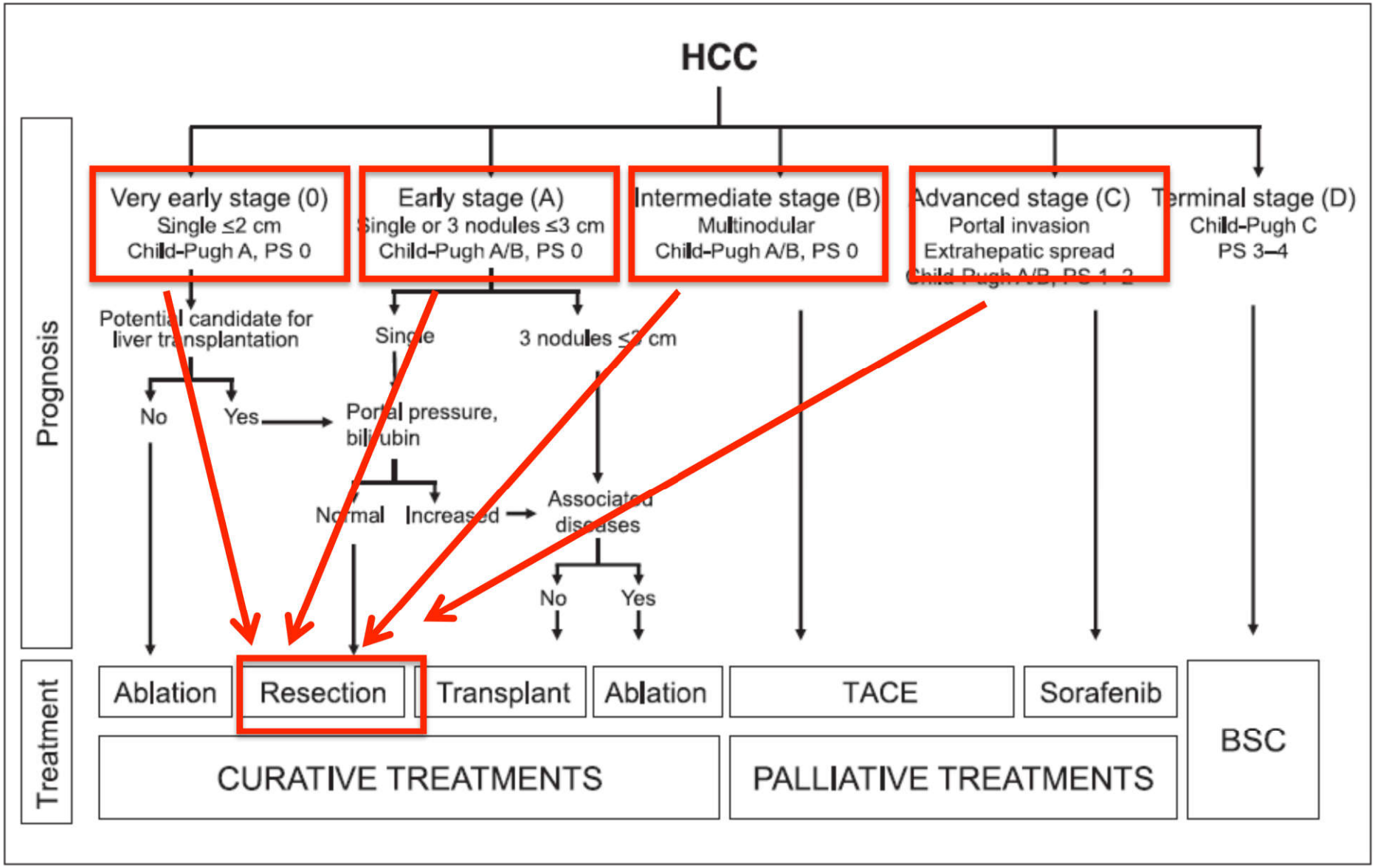
29-57%

Torzilli G, et al. Ann Surg 2013;257: 929-37

Conclusões

The herein analyzed numbers are large enough to request an update of the EASL/AASLD therapeutic guidelines related to BCLC B and C patients: for the latter, if within Child class A and performance status 0-1, evaluation by a surgical team specifically expert in liver surgery should be mandatory. It is hoped that this study will also stimulate prospective studies able to better disclose the proportion of patients harboring intermediate or advanced HCC who could benefit from a surgical approach.

Torzilli G, et al. Ann Surg 2013;257: 929-37



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CB-IHPBA 2017

VIII CONGRESSO BRASILEIRO DE CIRURGIA DO FÍGADO, PÂNCREAS E VIAS BILIARES

7 a 9 de setembro de 2017

Centro de Eventos do Hotel Plaza São Rafael

Porto Alegre RS