



XXXII CONGRESSO BRASILEIRO DE
CIRURGIA

28/04 a 01/05/2017 - SÃO PAULO - SHERATON WTC

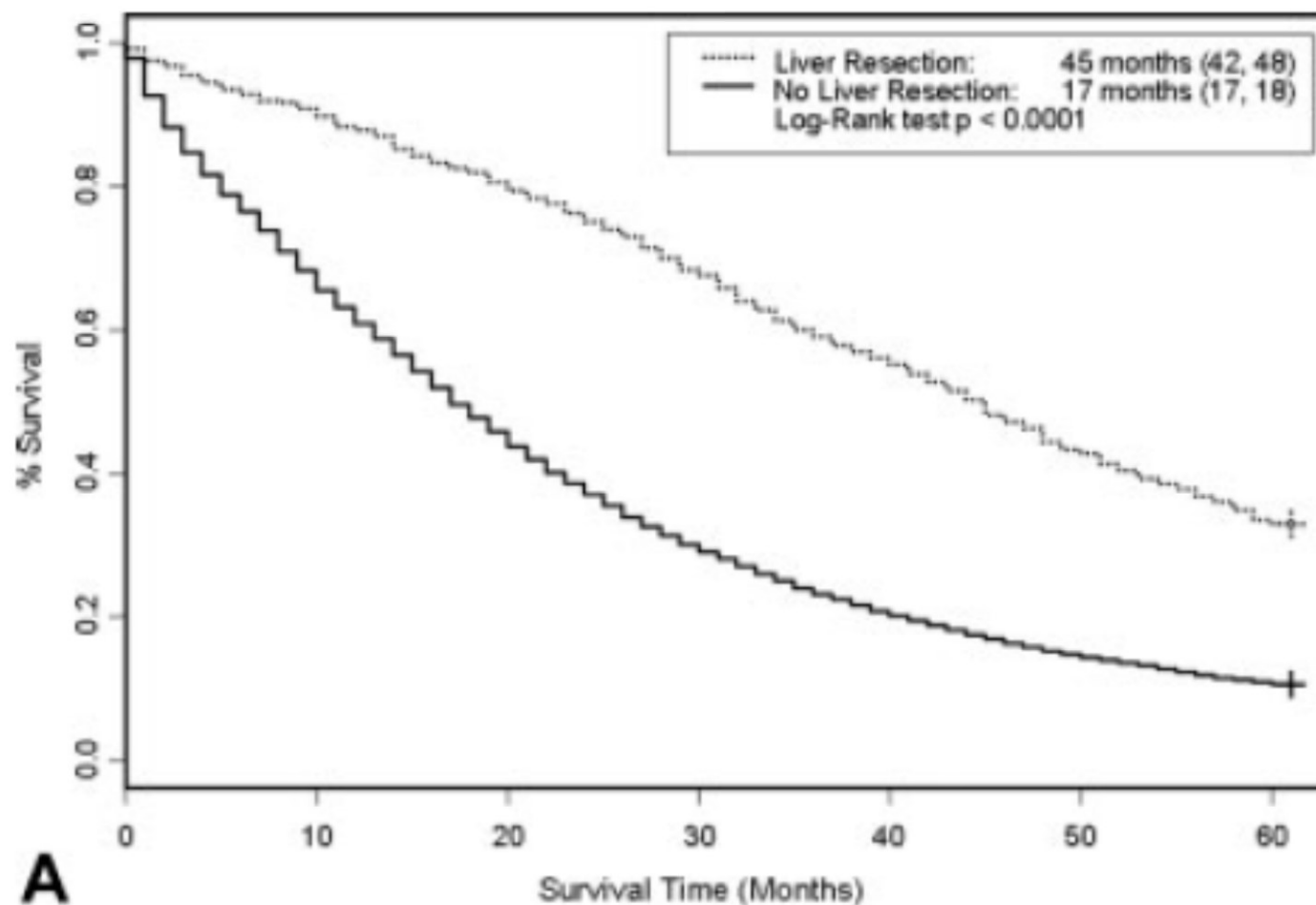
Metástases hepáticas: avaliação pré-tratamento

Orlando Jorge M. Torres

Professor Titular

Chefe do Serviço de Cirurgia do Aparelho Digestivo
Universidade Federal do Maranhão

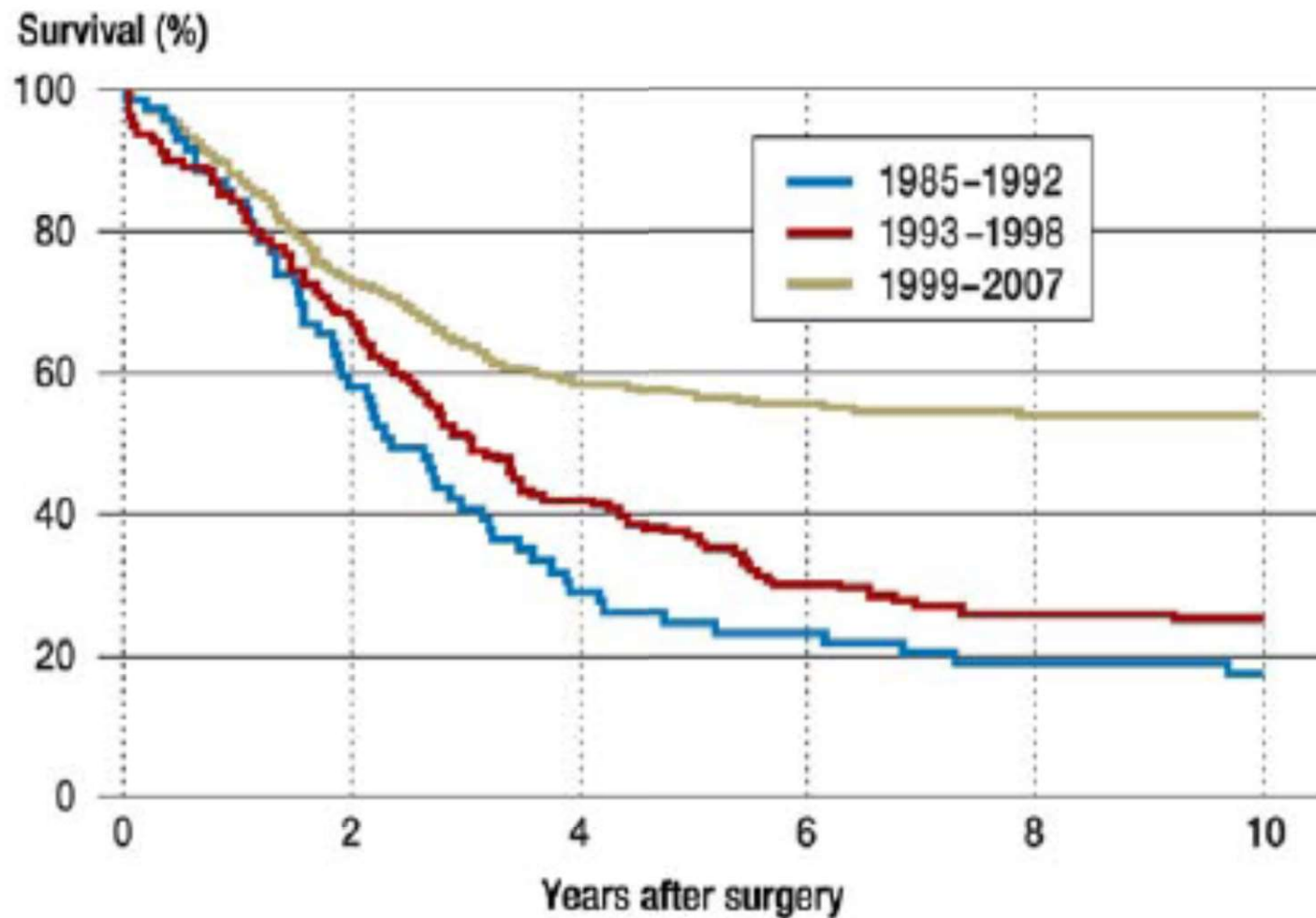
Ressecção hepática



□ A ressecção hepática esteve associada com aumento na sobrevida.

Resultados em meta colo-retal

FIGURE 2



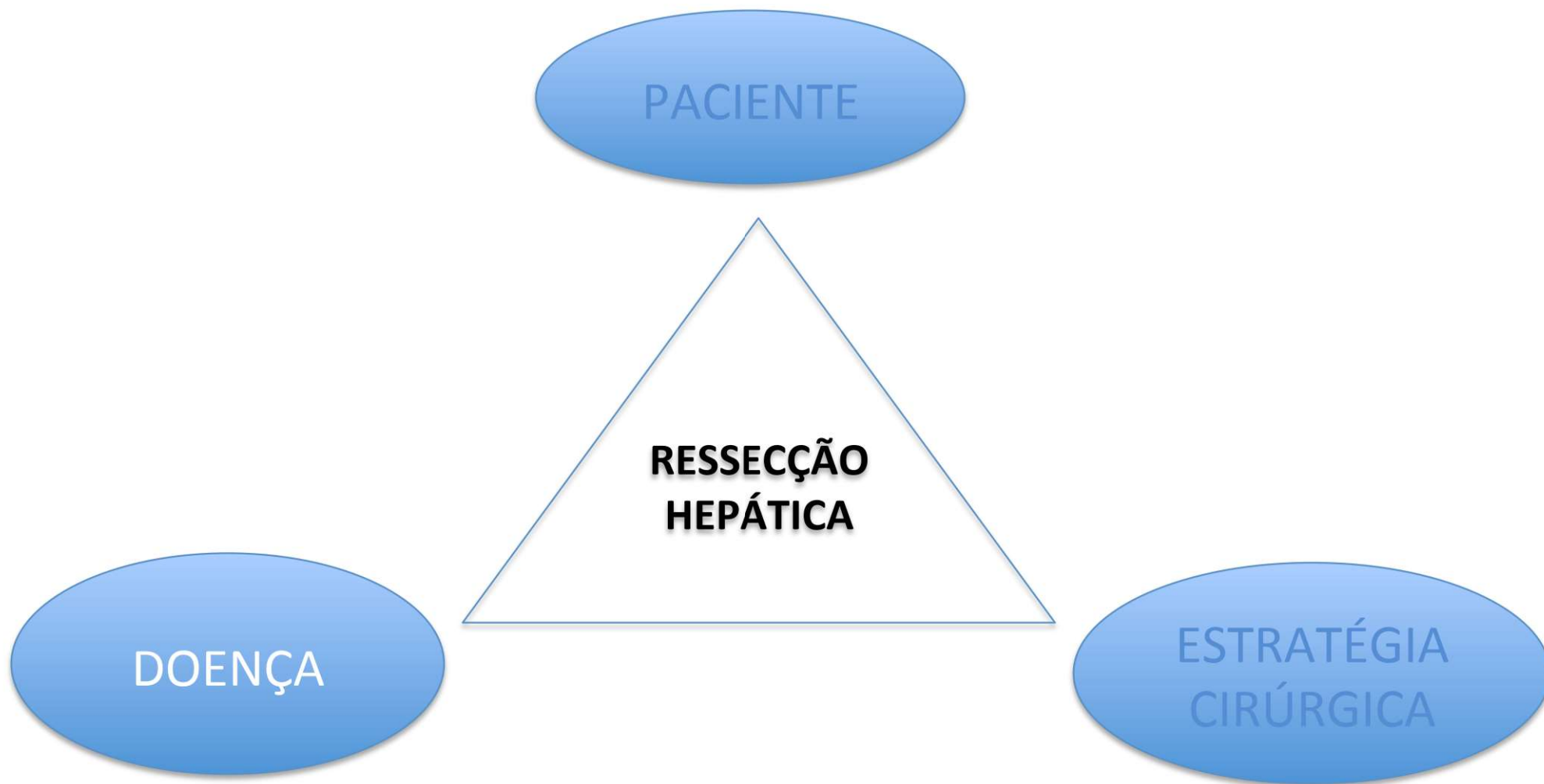
FIRST BRAZILIAN CONSENSUS ON MULTIMODAL TREATMENT OF COLORECTAL LIVER METASTASES. MODULE 1: PRE-TREATMENT EVALUATION

I Consenso Brasileiro de tratamento multidisciplinar de metástase hepática colorretais. Módulo 1: avaliação pré-tratamento

Felipe José Fernandez **COIMBRA**, Heber Salvador de Castro **RIBEIRO**, Márcio Carmona **MARQUES**, Paulo **HERMAN**, Rubens **CHOJNIAK**, Antonio Nocchi **KALIL**, Evanius Garcia **WIERMANN**, Sandro Roberto de Araújo **CAVALLERO**, Fabricio Ferreira **COELHO**, Paulo Henrique de Souza **FERNANDES**, Anderson Arantes **SILVESTRINI**, Maria Fernanda Arruda **ALMEIDA**, Antônio Luis Eiras de **ARAÚJO**, Marcos **PITOMBO**, Heberton Medeiros **TEIXEIRA**, Fábio Luiz **WAECHTER**, Fábio Gonçalves **FERREIRA**, Alessandro Landskron **DINIZ**, Giuseppe **D'IPPOLITO**, Maria Dirlei F. de Sousa **BEGNAMI**, Gabriel **PROLLA**, Silvio Márcio Pegoraro **BALZAN**, Thiago Bueno de **OLIVEIRA**, Luís Arnaldo **SZULTAN**, Javier **LENDOIRE**, Orlando Jorge Martins **TORRES**





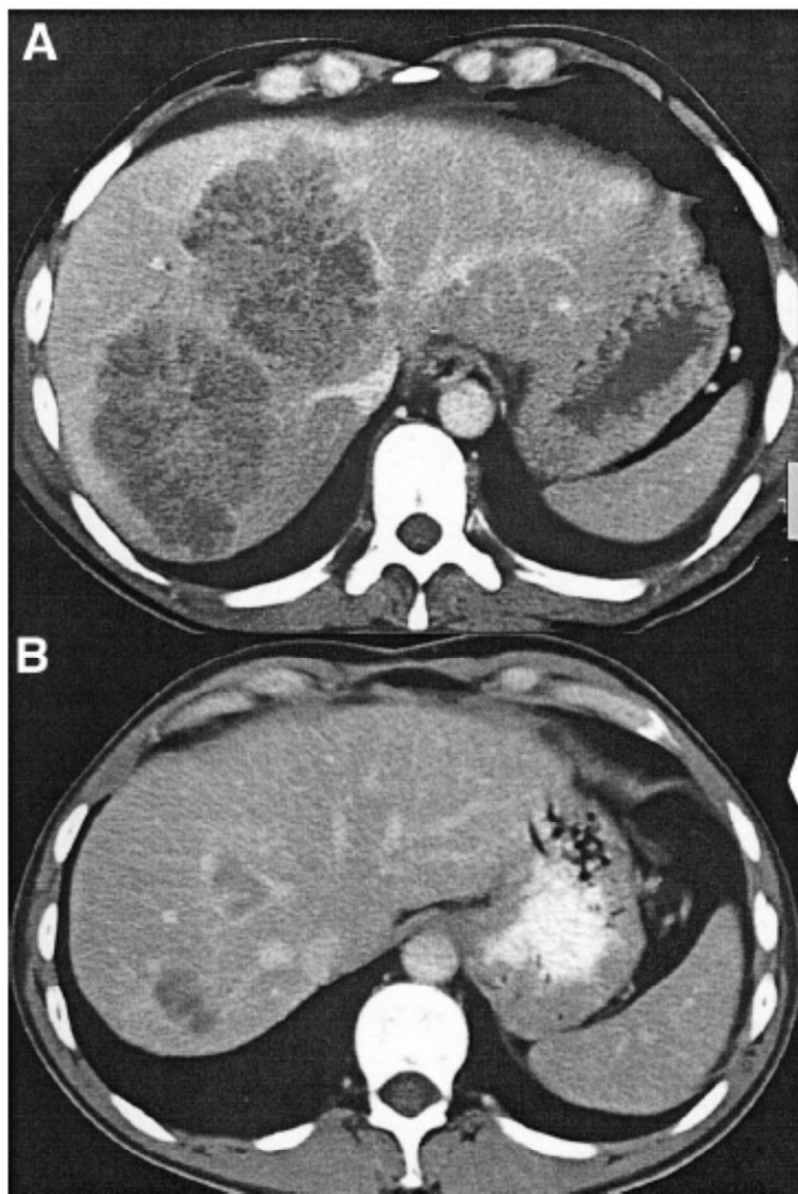


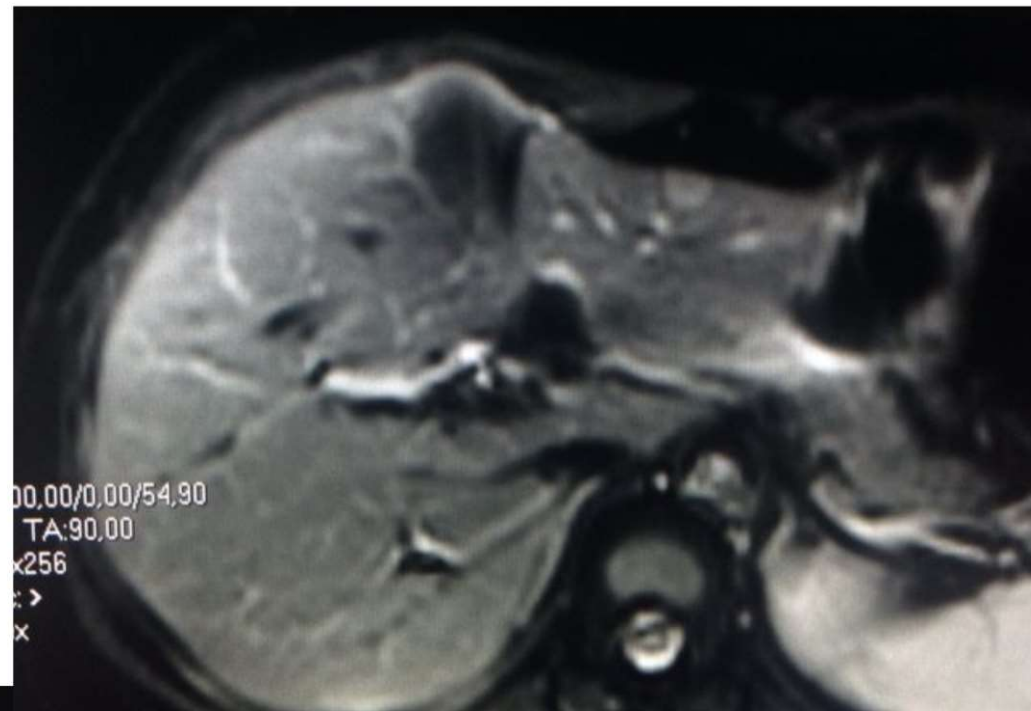
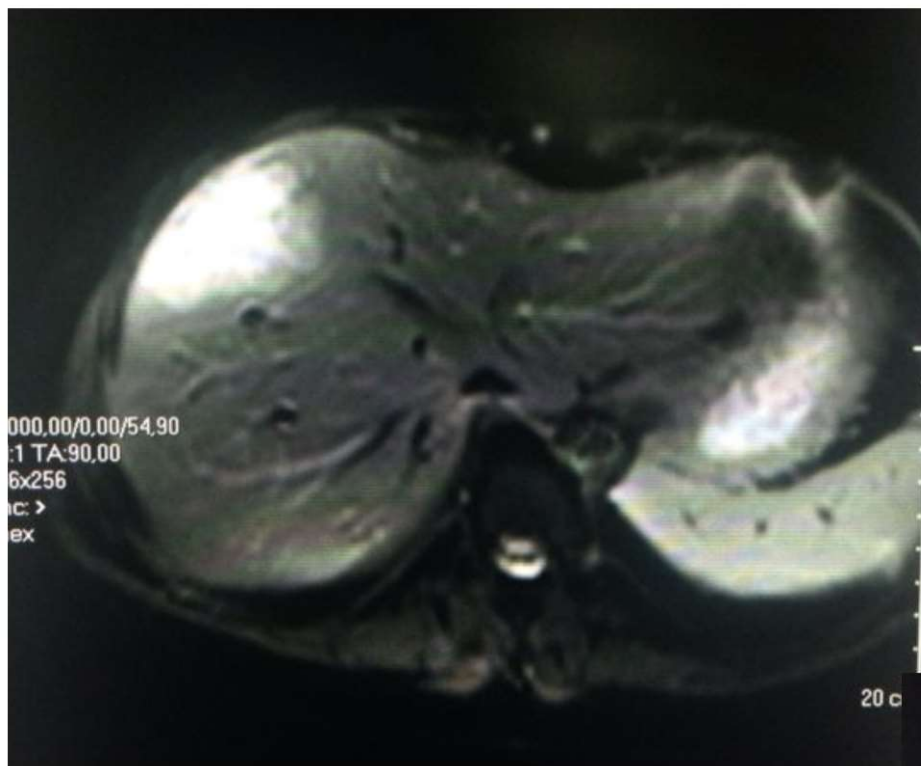
Avaliar da doença hepática

- ☐ **Número de lesões**
- ☐ **Tamanho das lesões**
- ☐ **Localização das lesões**
- ☐ **Relação com estruturas vasculares**

Exame de imagem

- ☐ **TC/RNM**
- ☐ **Contraste**
- ☐ **Difusão**
- ☐ **Recente**

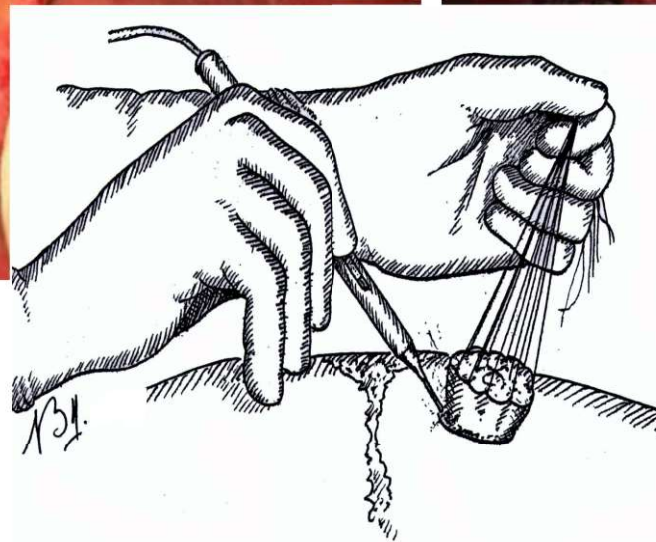
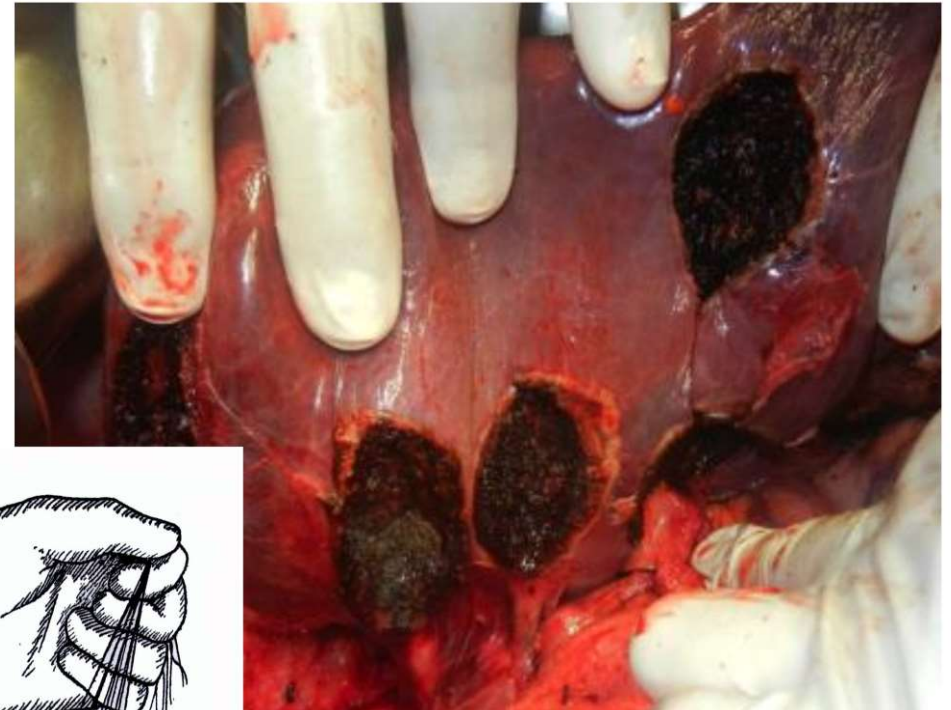
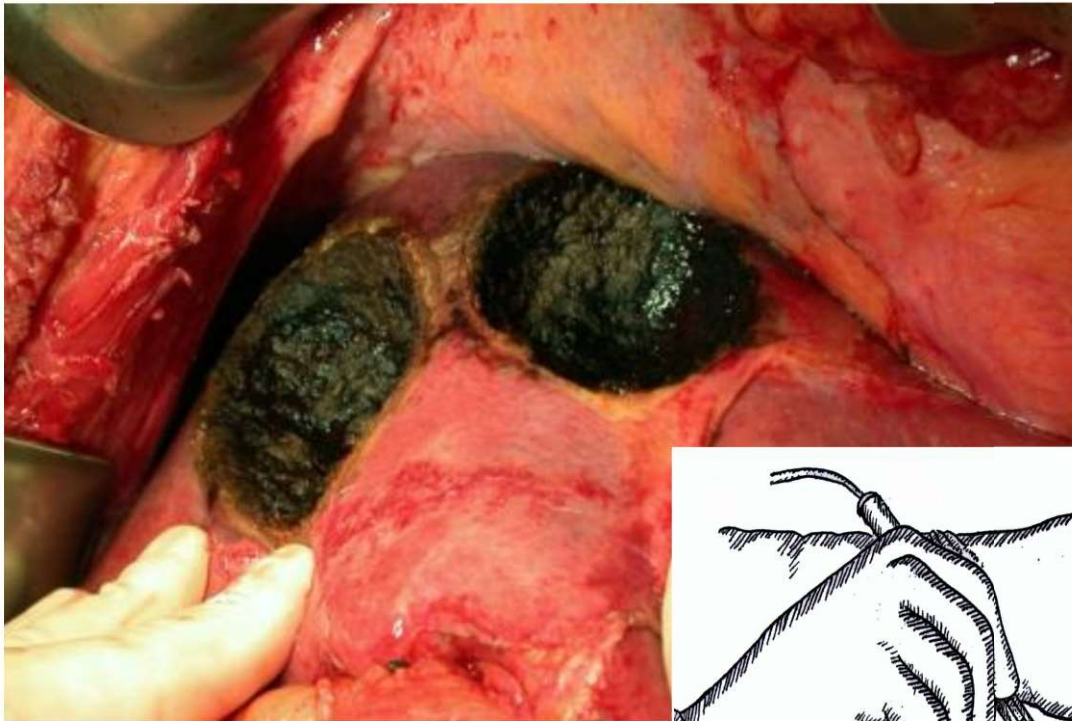


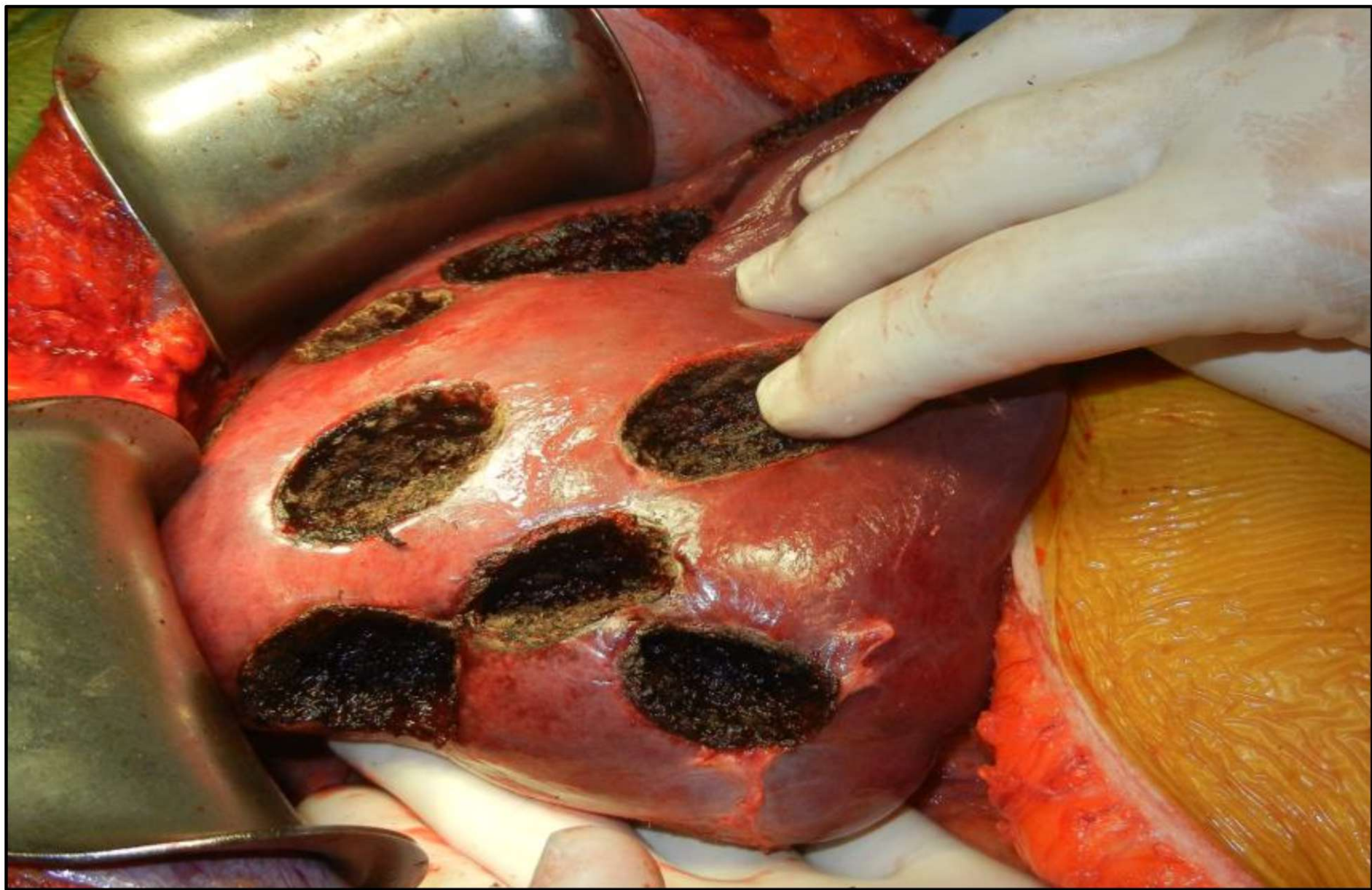


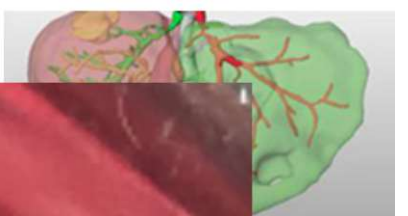
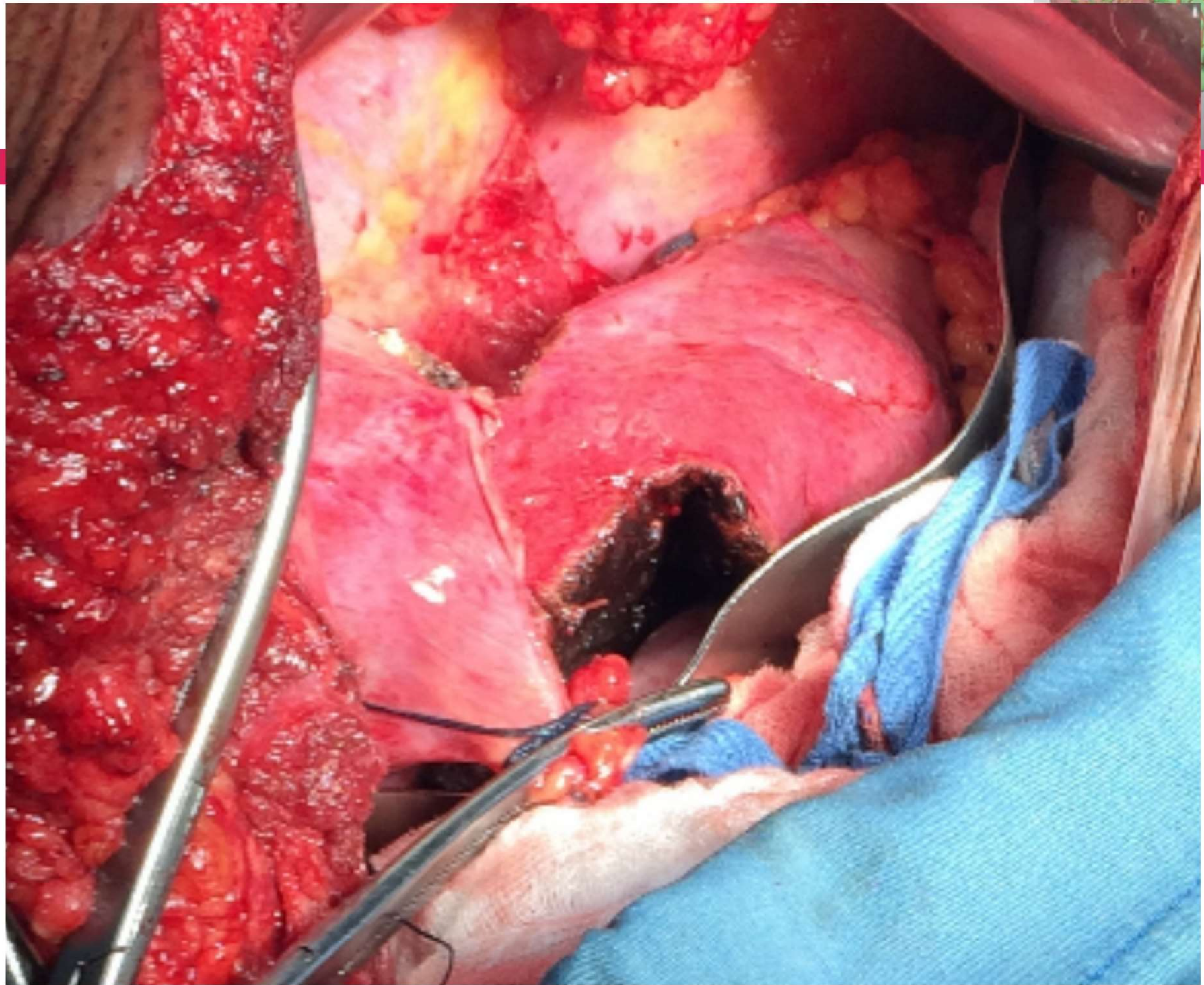
Liver Metastasis Resection: A Simple Technique That Makes It Easier

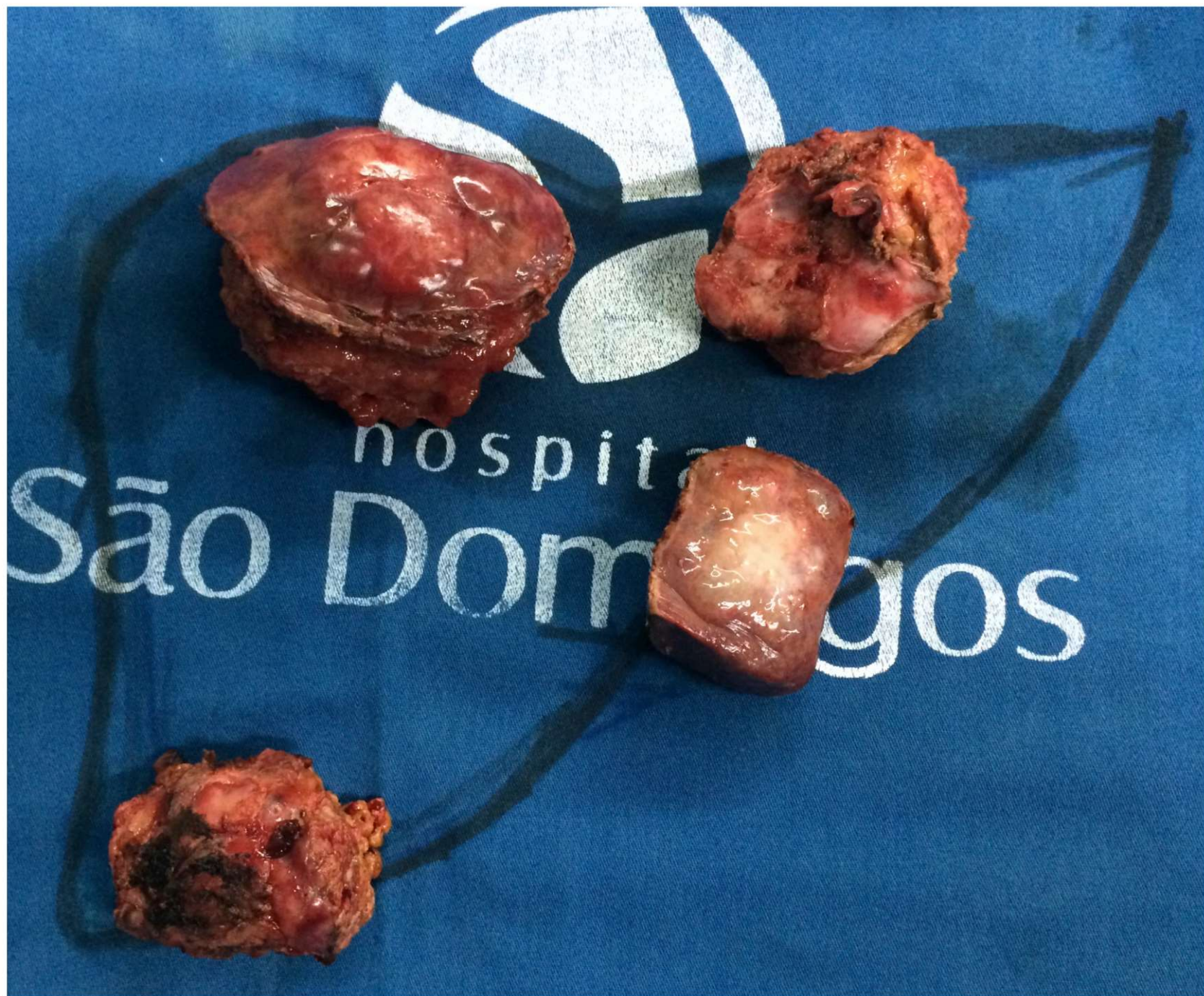
Eduardo de Santibañes • Rodrigo Sánchez Clariá •
Martín Palavecino • Axel Beskow • Juan Pekolj

□ **Número de lesões**

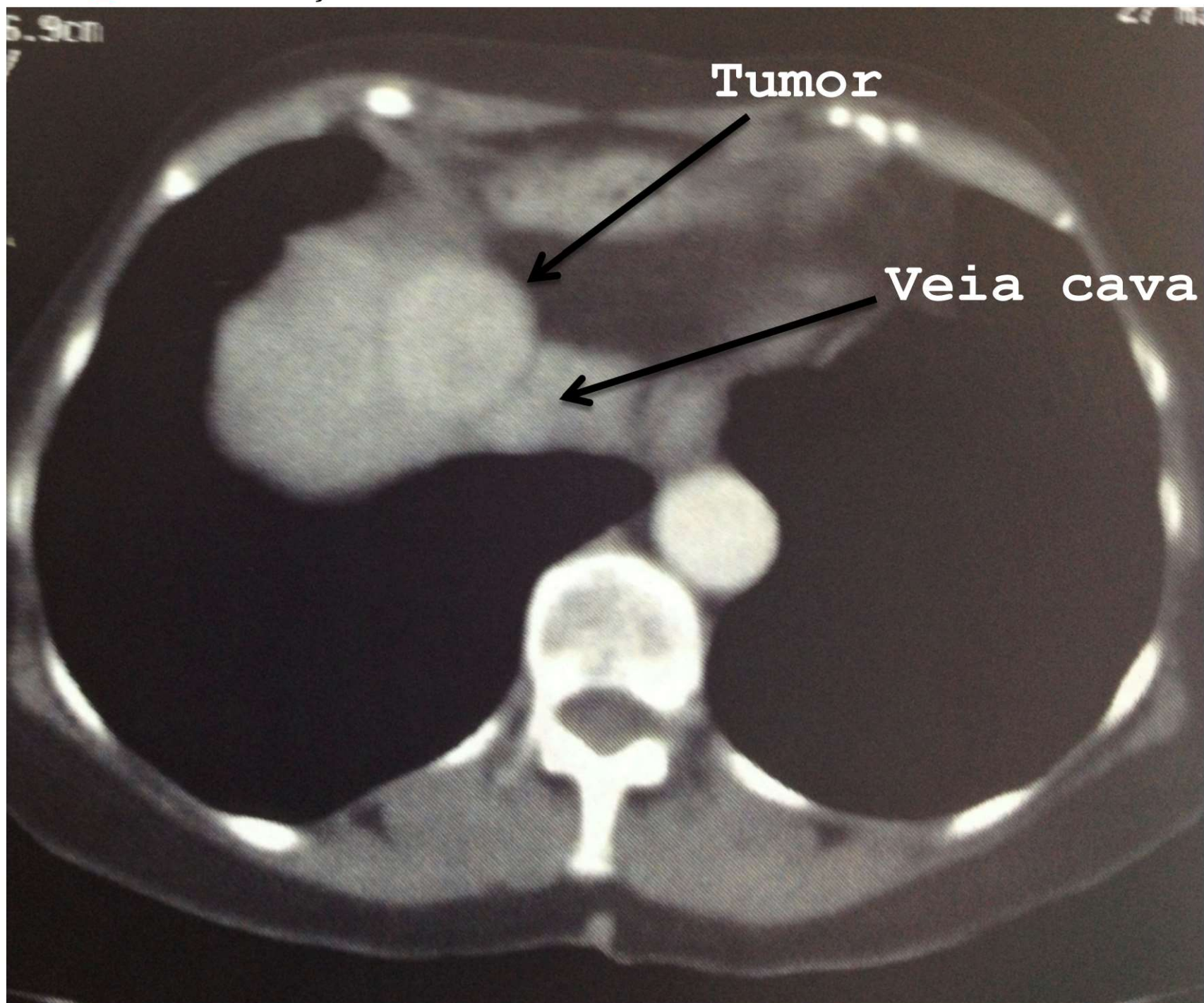


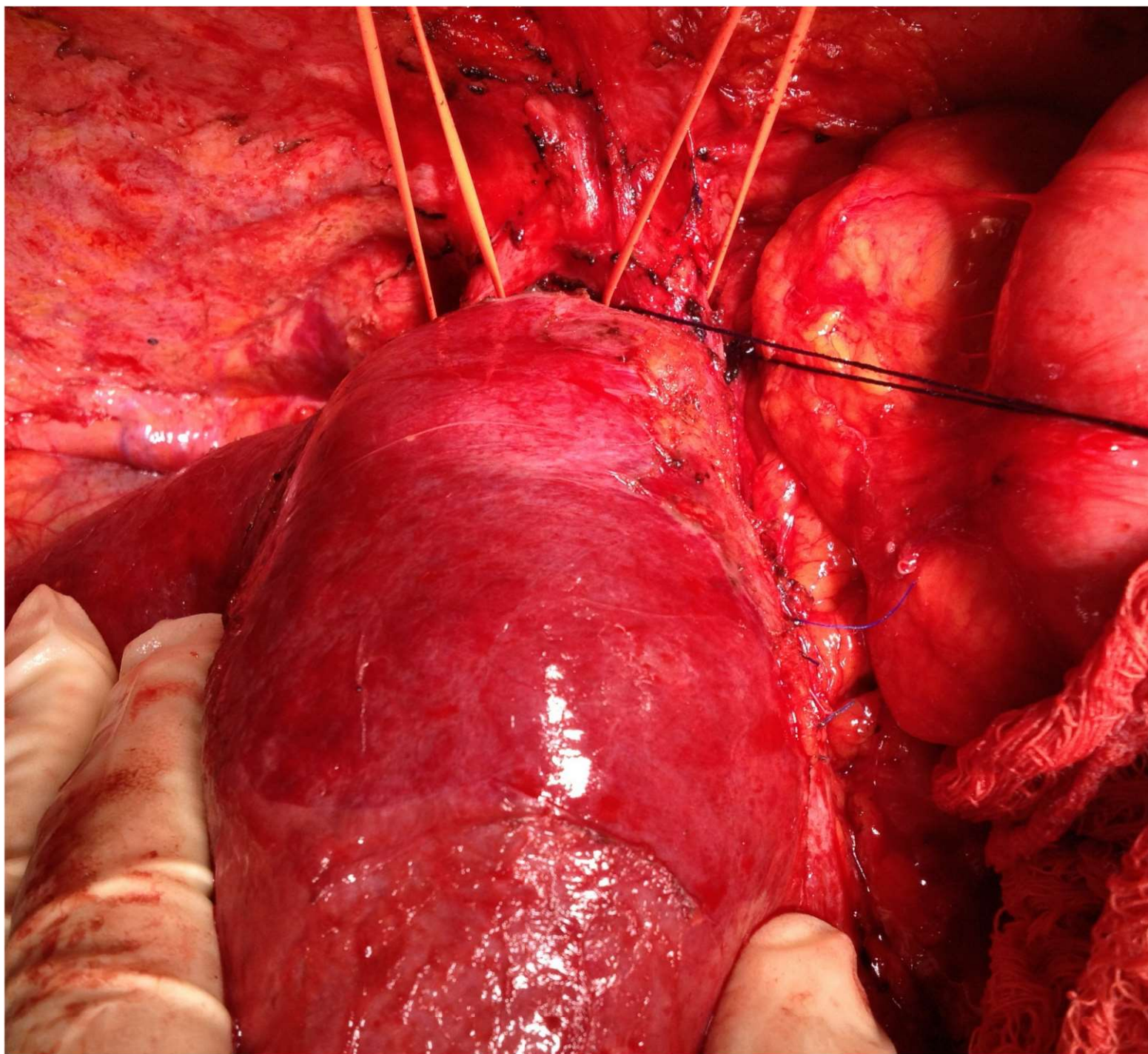


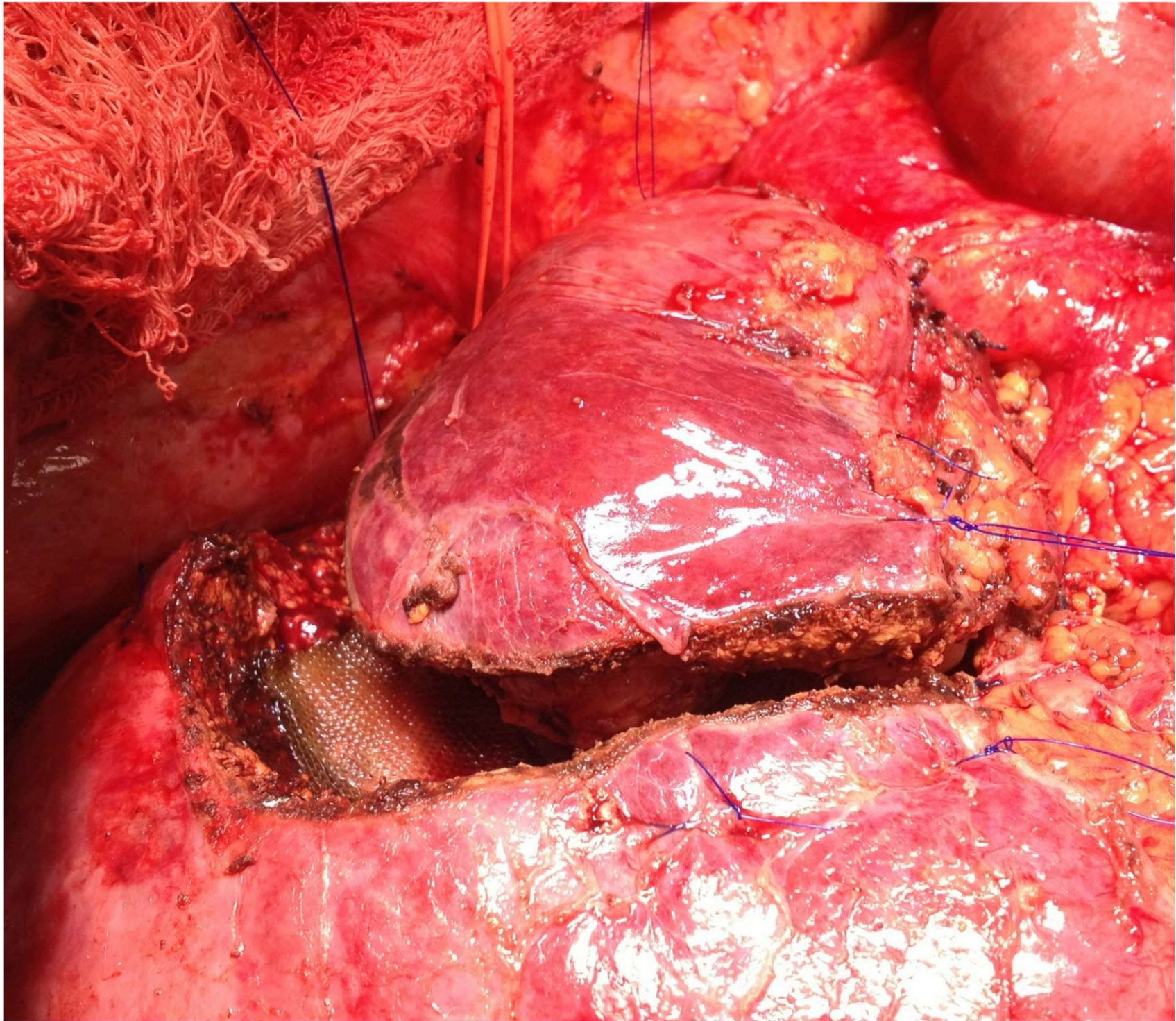


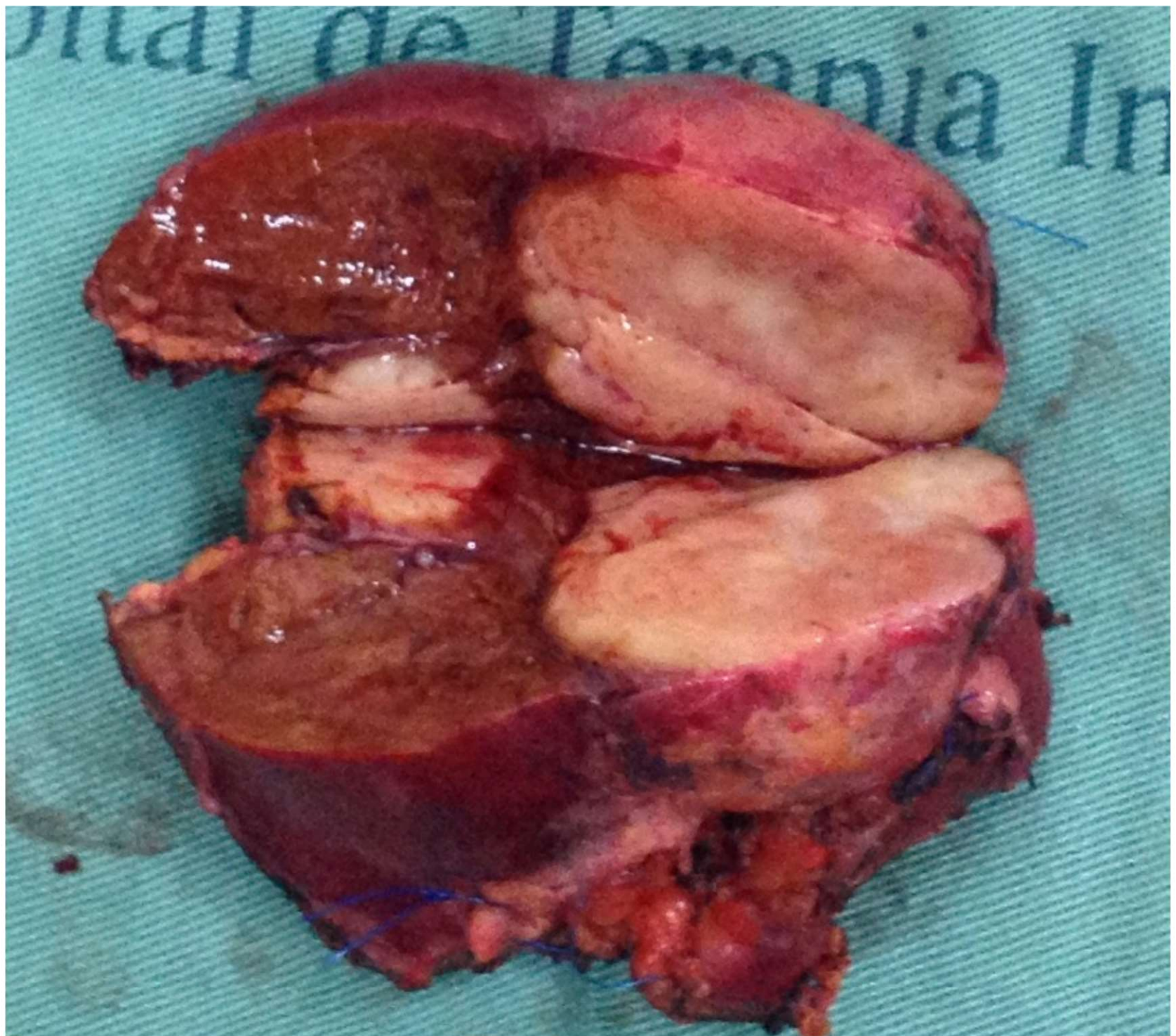


❑ **Localização de lesões**





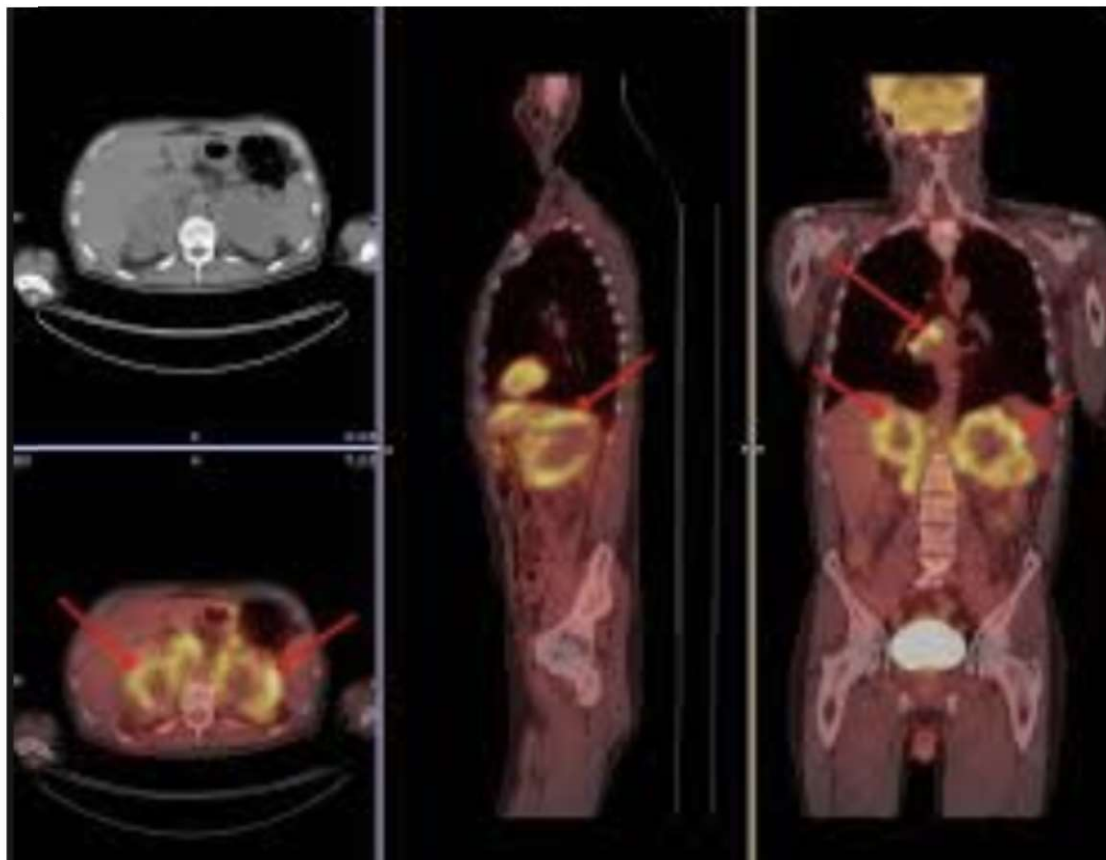
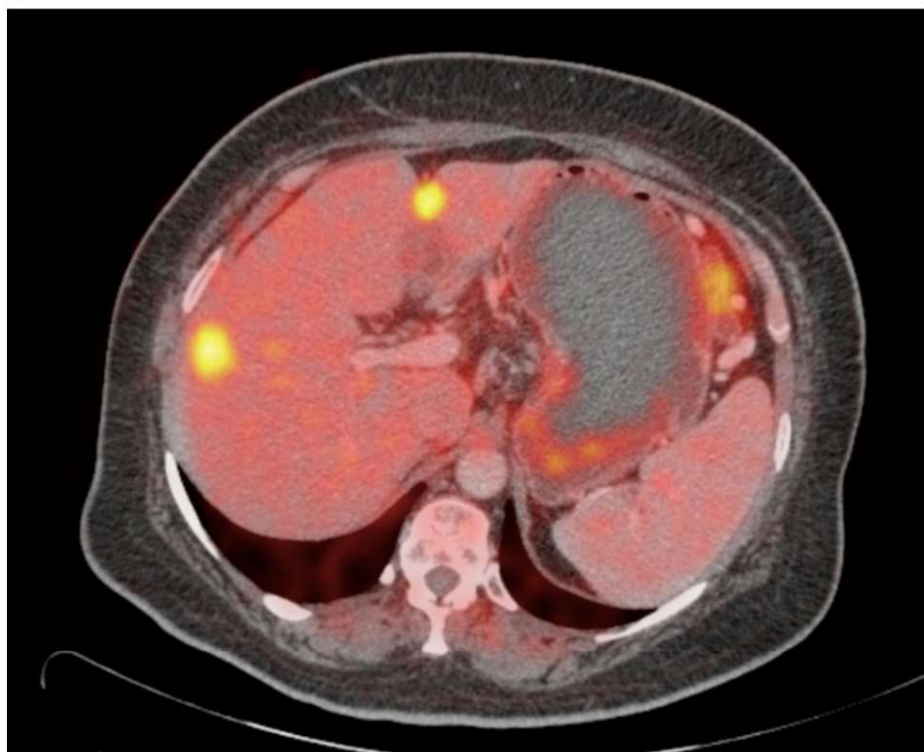
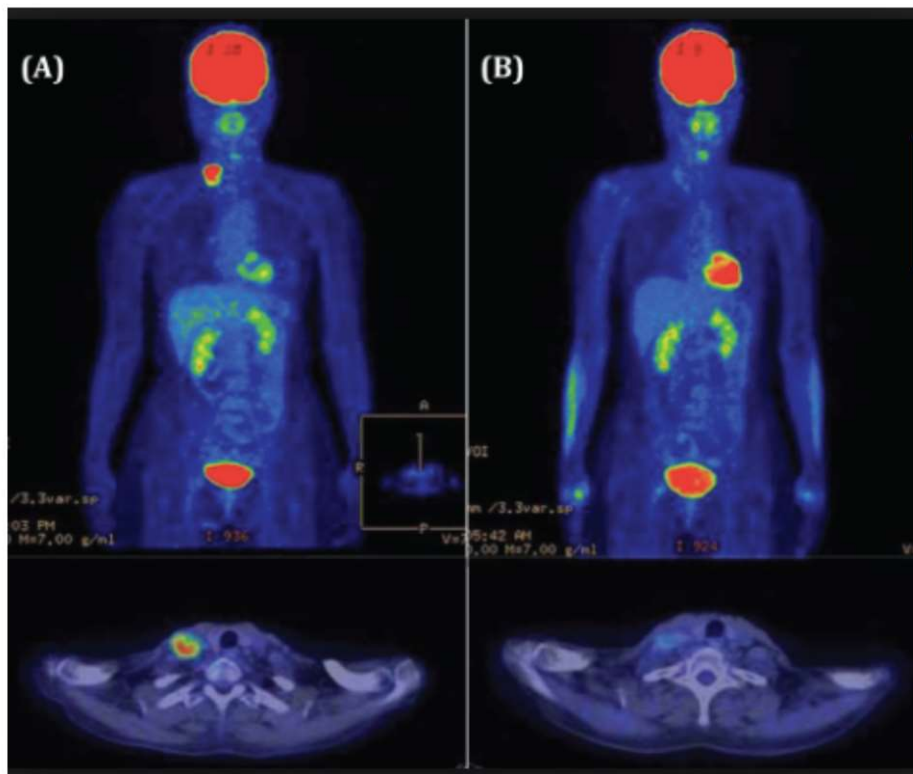




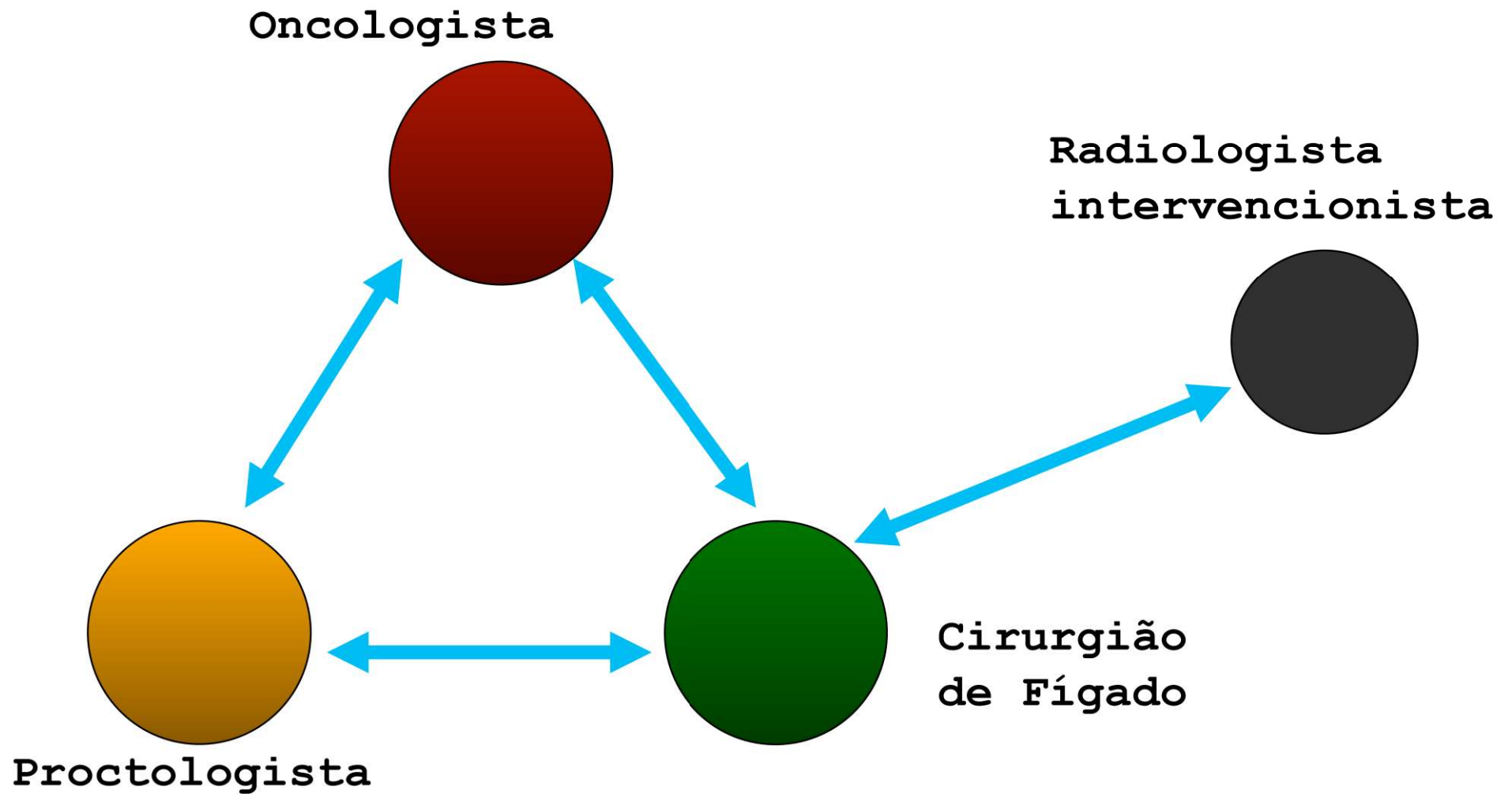
DOENÇA EXTRA-HEPÁTICA

- ☐ Pulmão
- ☐ Ovário
- ☐ Osso
- ☐ Linfonodo do pedículo
- ☐ Peritôneo

DOENÇA RESSECÁVEL



Equipe multidisciplinar



Metástase hepática

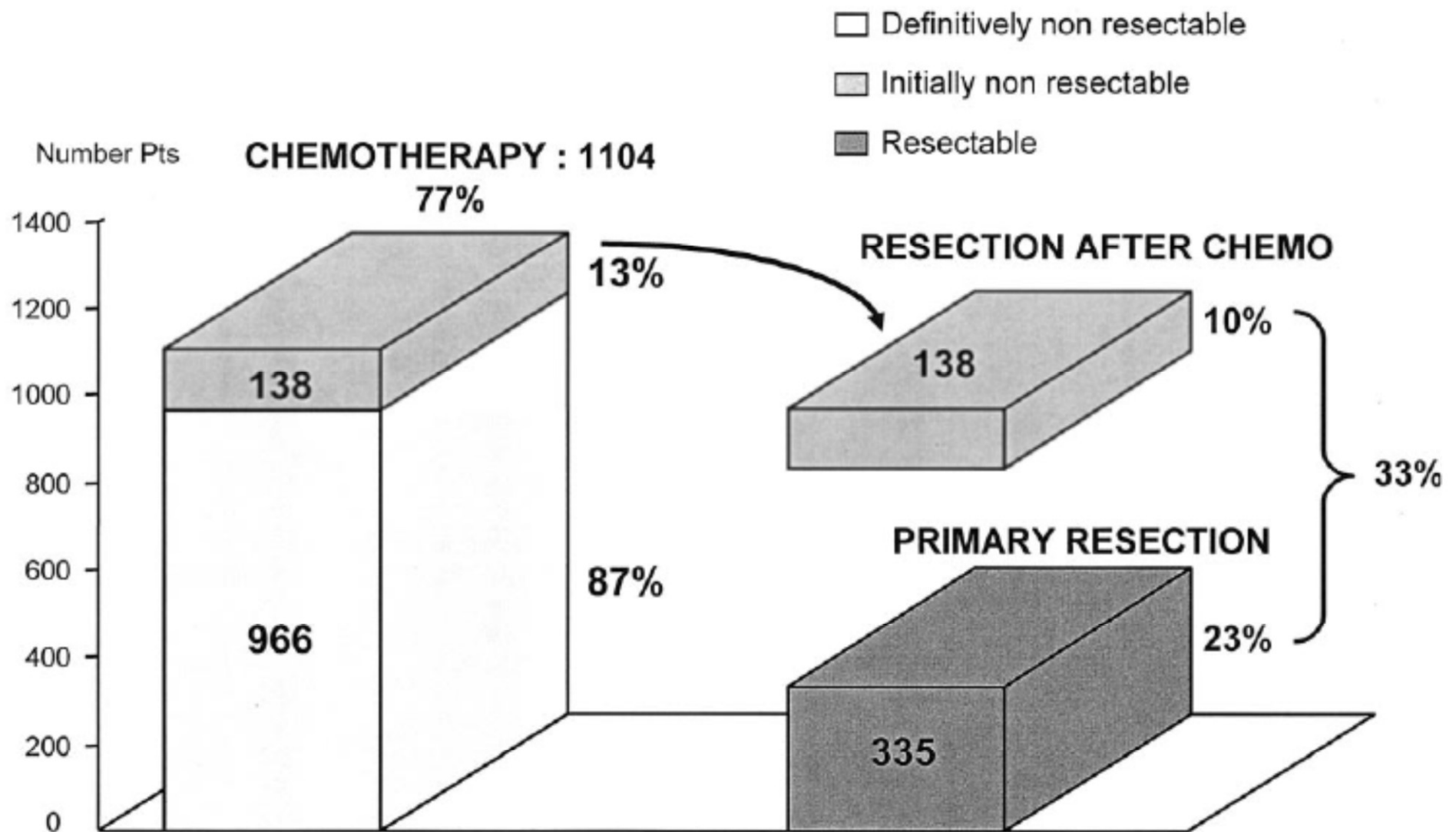
- ❑ **Sincrônica**
- ❑ **Metacrônica**

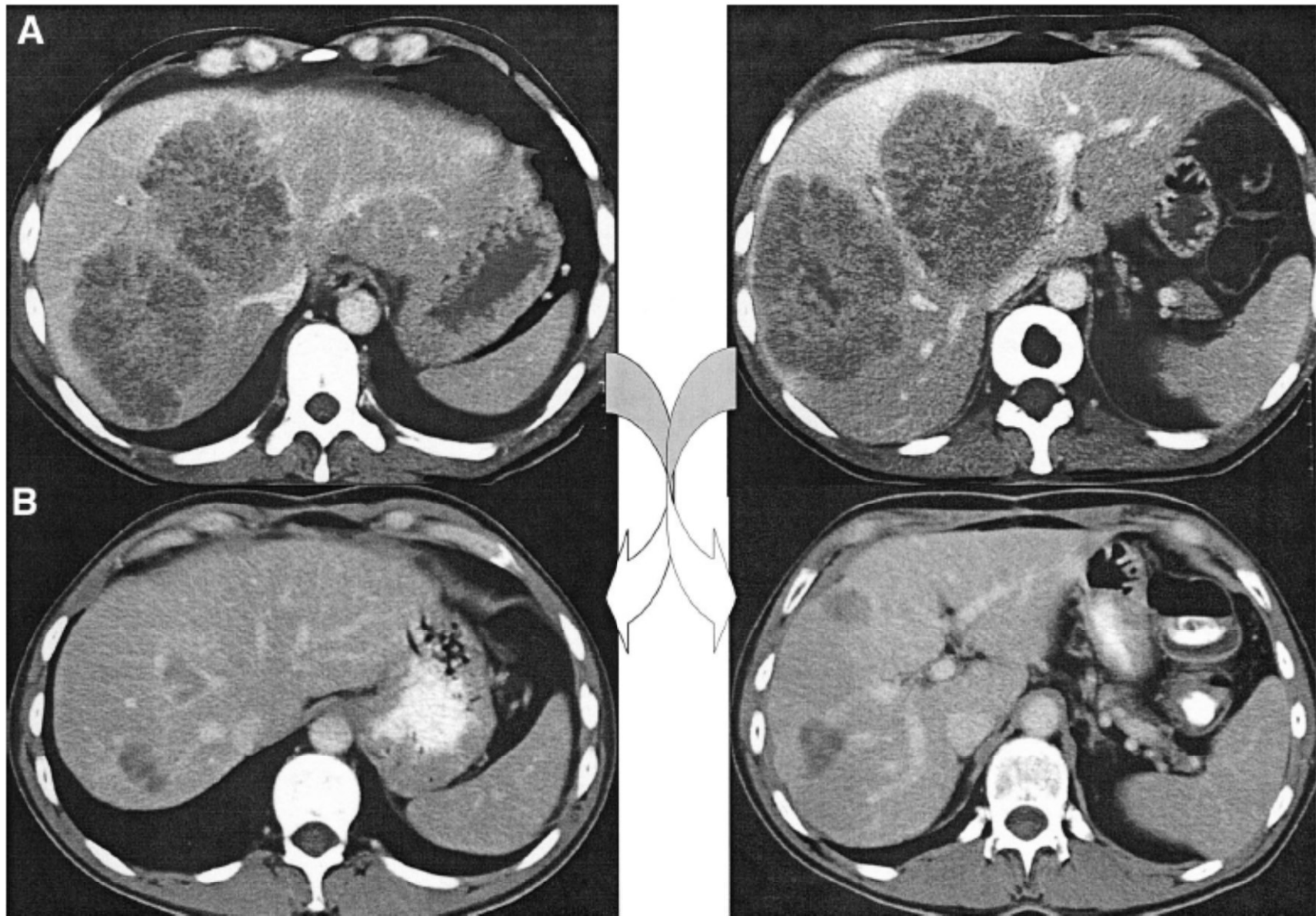
Opções de tratamento na metástase sincrônica

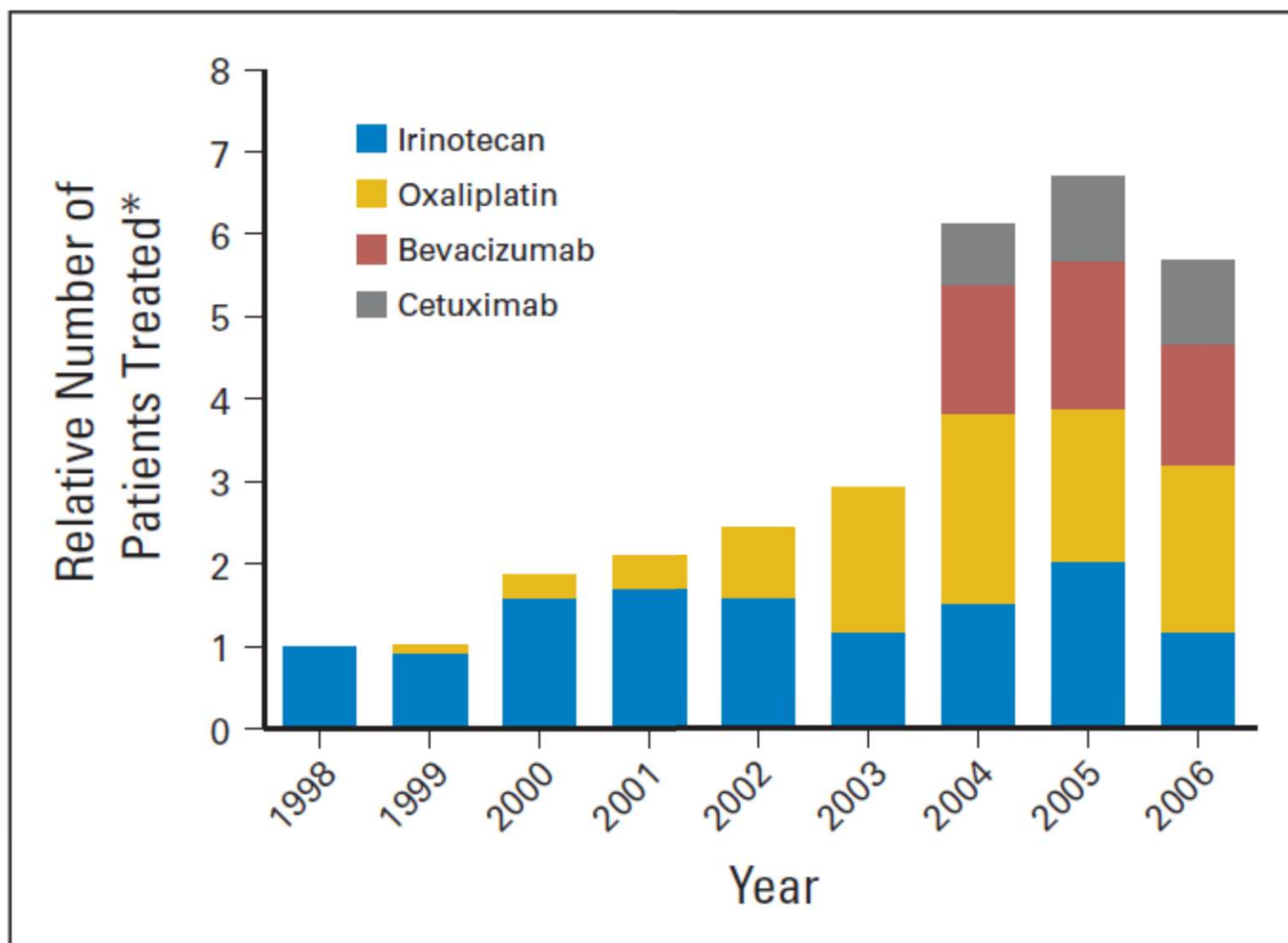
1. COLECTOMIA...QT...HEPATECTOMIA...QT
2. (COLECTOMIA + HEPATECTOMIA)...QT
3. COLECTOMIA...QT...EMBOLIZACAO PORTA...HEPATECTOMIA...QT
4. COLECTOMIA...QT...HEPATECTOMIA...HEPATECTOMIA...QT
5. COLEC...QT...HEPATEC...EMBOL PORTA...HEPATEC...QT
6. QT... (COLECTOMIA + HEPATECTOMIA)...QT
7. QT...COLECTOMIA...QT...HEPATECTOMIA...QT
8. QT...COLECTOMIA...EMBOL PORTA...HEPATECTOMIA
9. QT (+ RAD)...HEPATECTOMIA...QT...COLECTOMIA
10. QT...EMBOL PORTA...HEPATECTOMIA...COLECTOMIA
11. QT...HEPATECTOMIA...HEPATECTOMIA...COLECTOMIA
12. (COLECT + HEPAT 1° EST) + EVP...QT...HEPATEC (2° EST)

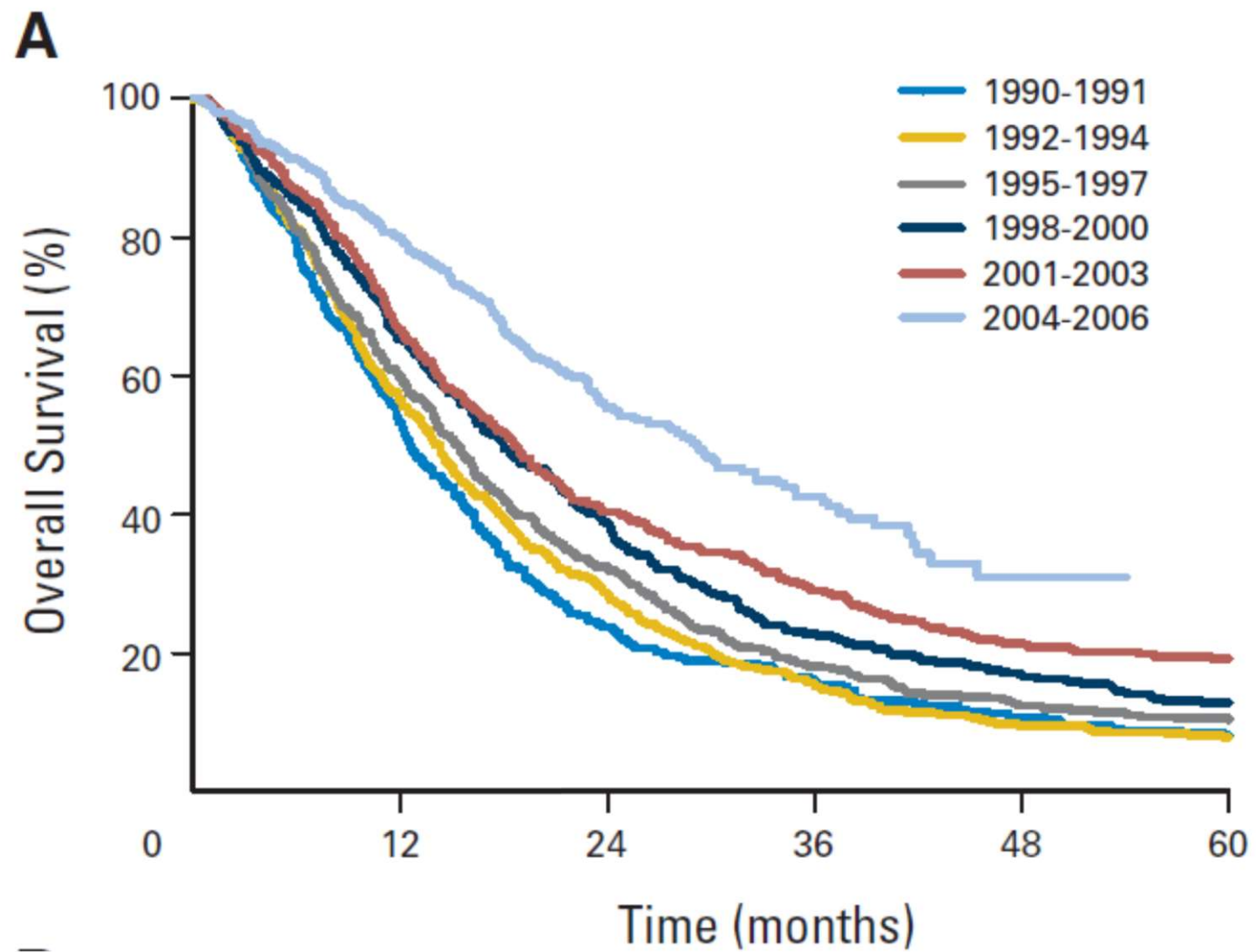
QUIMIOTERAPIA

- ❑ Promover downsize e elevar a taxa de ressecção curativa.
- ❑ Converter doença irressecável para ressecável.
- ❑ Identificar os respondedores em pacientes de risco elevado de recorrência, para pós-operatória.
- ❑ Pacientes com múltiplas lesões, selecionar quem progride apesar da QT, que podem não se beneficiar da ressecção.









Metástase hepática e QT

66 metástases com resposta completa em exame de imagem

Doença residual
Macroscópica: 20

Exploração intra-operatória
Exame do fígado + US

Ressecção do local da
metástase inicial: 15

Sem doença residual
macroscópica: 46

Célula tumoral
viável: 12

Sem doença: 3

Local da metástase inicial
acompanhado por 1 ano: 31

55/66 (83,3%)

Sem recorrência: 8

Recorrência: 23

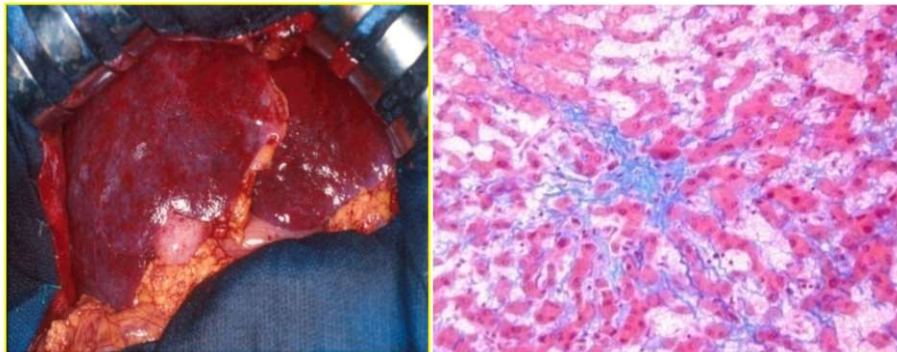
Qualidade do parênquima hepático

Quimioterapia preoperatória

Oxaliplatina

Obstrução Sinusoidal
(Fígado azul)

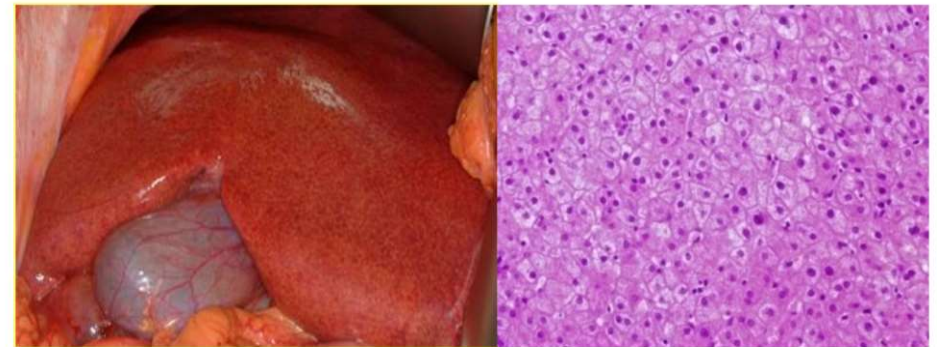
Maior sangramento



Irinotecan

Esteatose, esteatohepatite
(Fígado amarelo)

Maior mortalidade



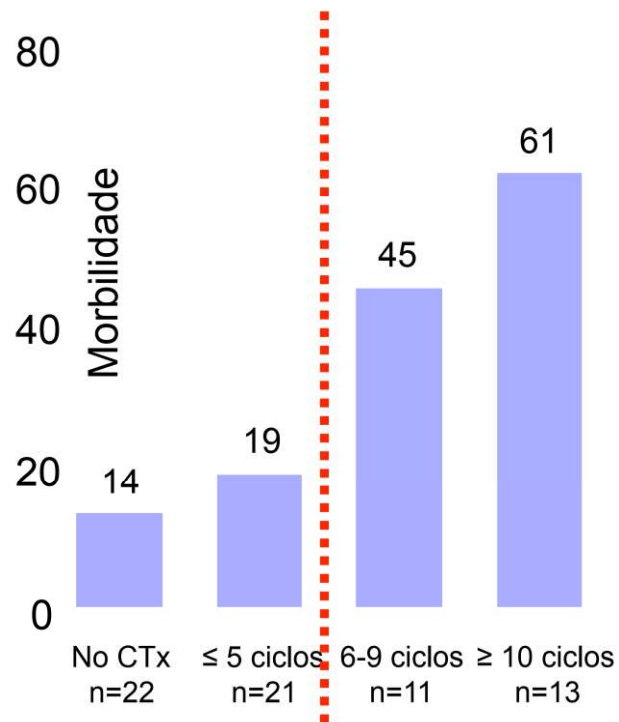
Metástase que desaparece

Nordlinger et al. *Dig Diseases* 2012

Qualidade do parênquima hepático

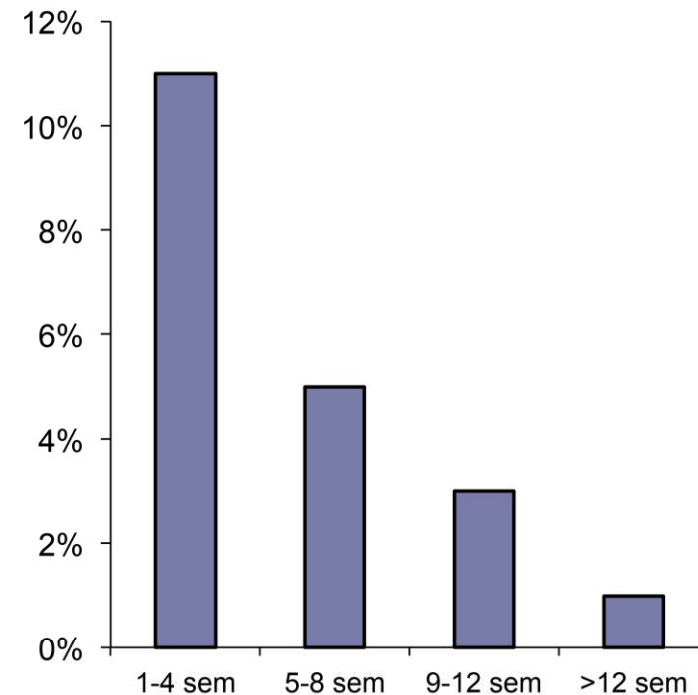
Quimioterapia preoperatória

↑ Ciclos ↑ Morbidade



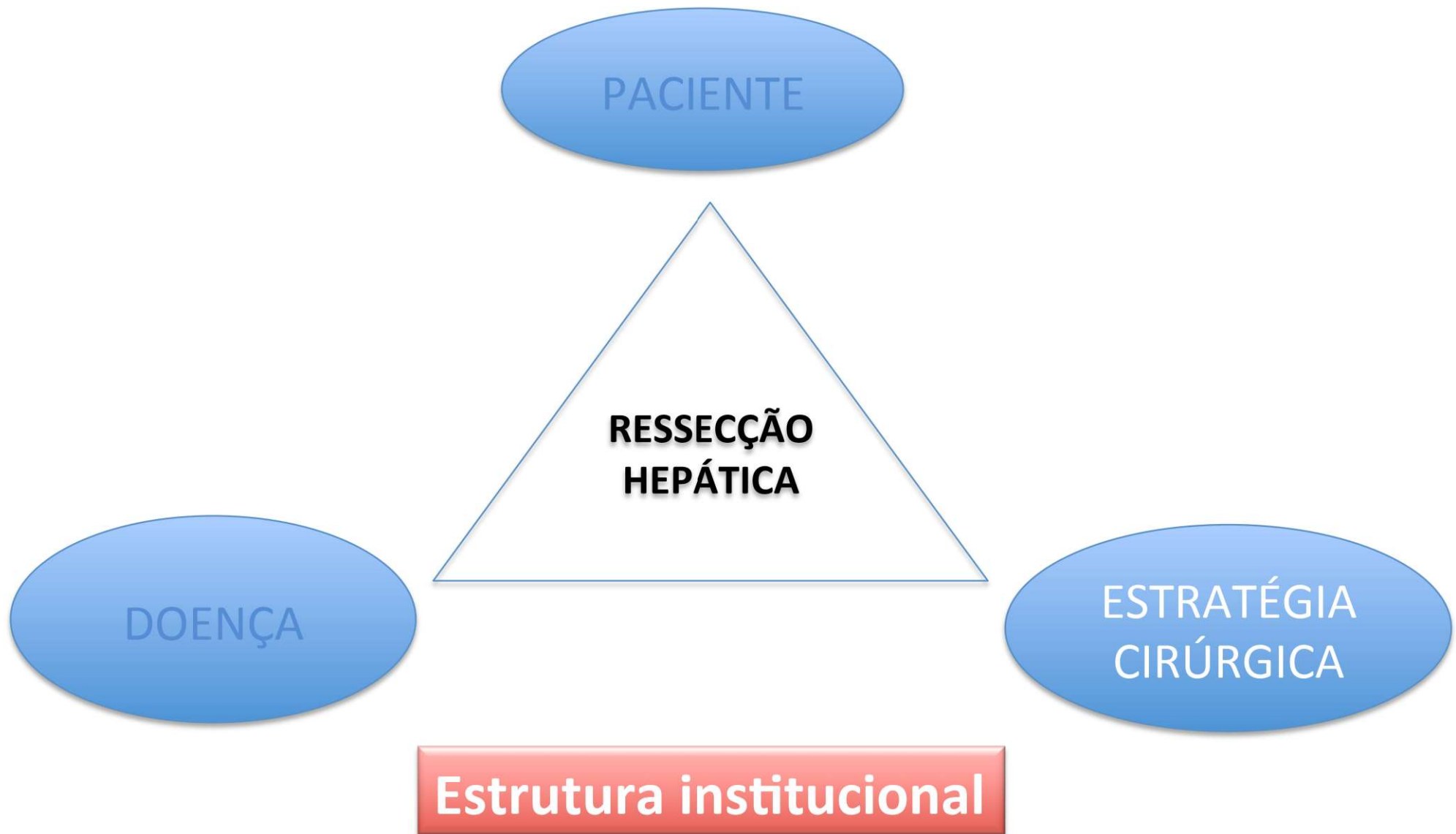
Karoui, *Ann Surg* 2006

↑ Intervalo ↓ Morbidade



Welsh, *Br J Cancer* 2007

EXTENSÃO DA RESSECÇÃO



Volumetria

40Y 7M,M,0016671302

SI:3

Acc#: 0367714803

Pos. do paciente: FFS

Desc. do estudo: ANGIO ABDOME

Desc. da série: web 3D vms

< 1002 - 3 web 3D vms >

Hepatic Vessels

Portal Vessels

RP



Lossy

CDPI LEBLON

CLAUDIA CRISTINA TAVARES DE

Current

12/10/14 ,08:15:23

PHILIPS

PAULO SERGIO

200 px

10 cm

Liver Volume: 1404.0 cc

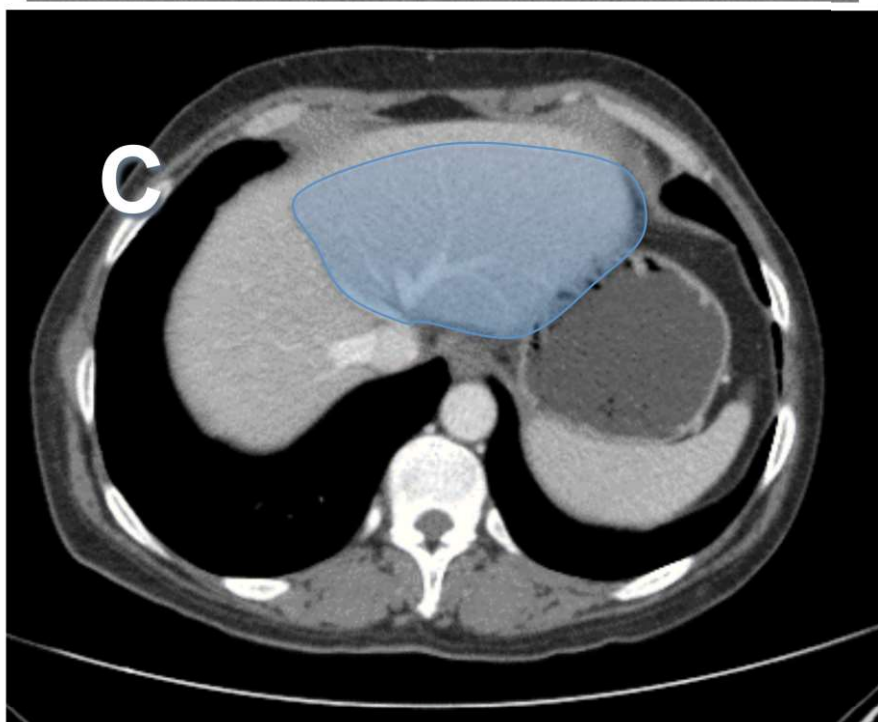
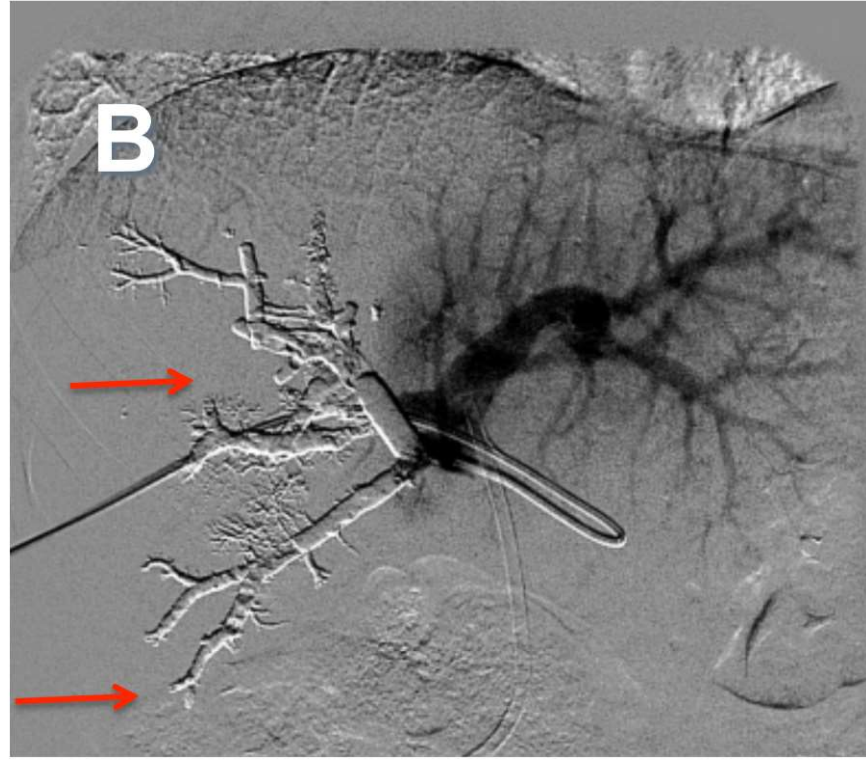
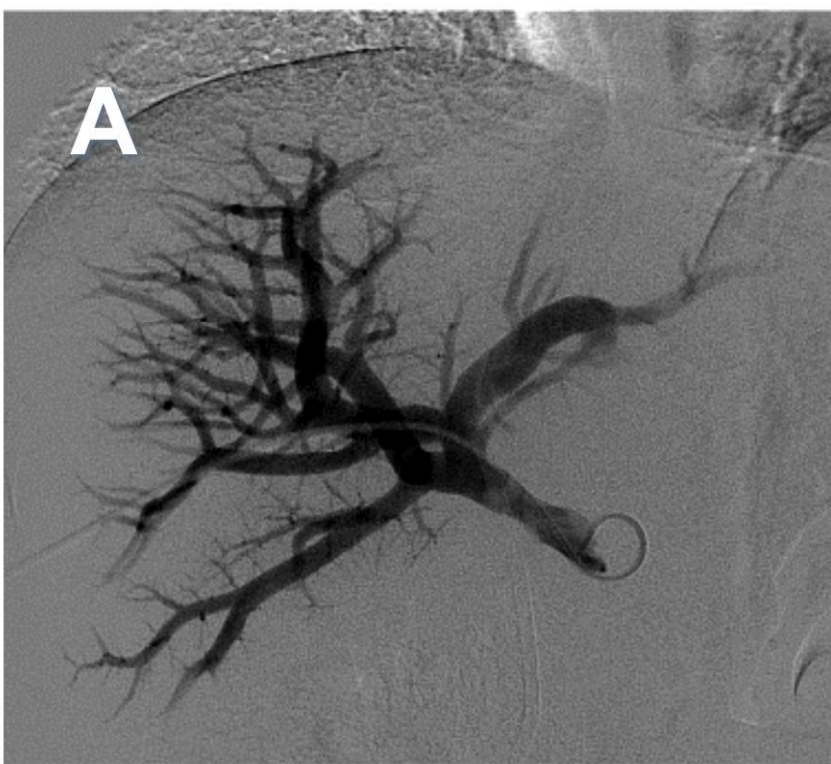
Average CT#: 133.1 H.U.

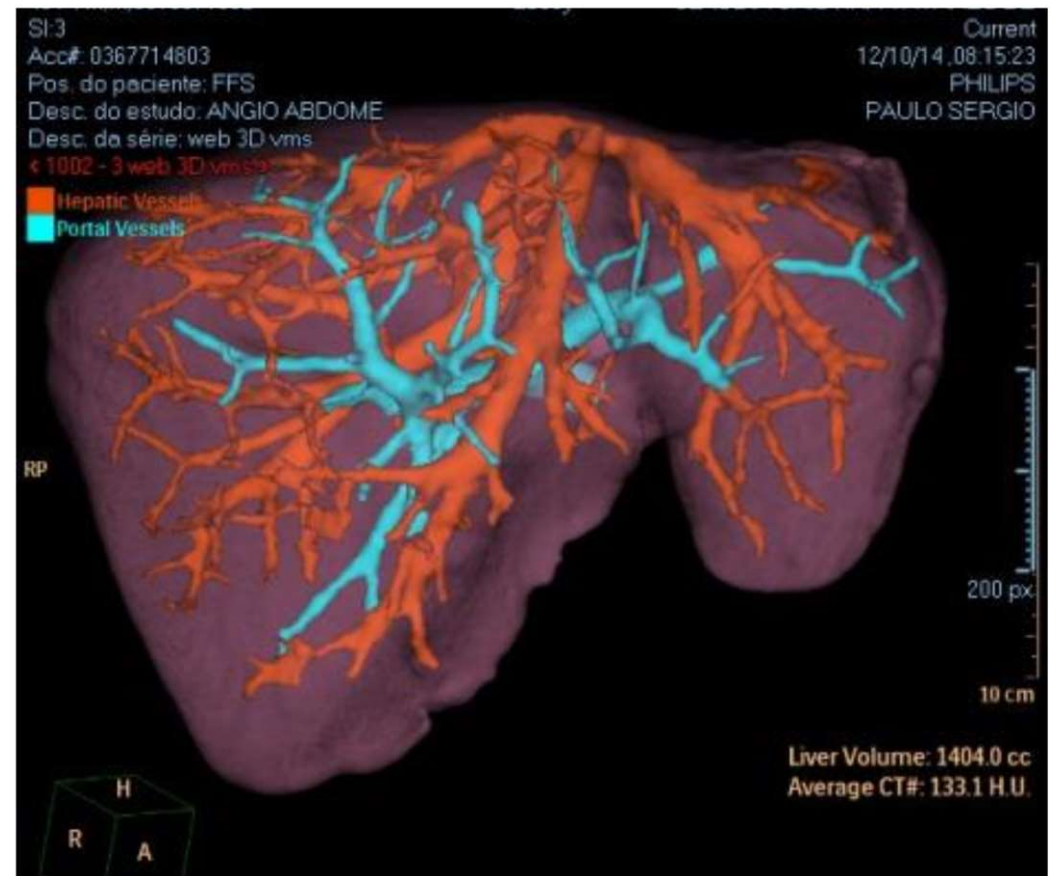
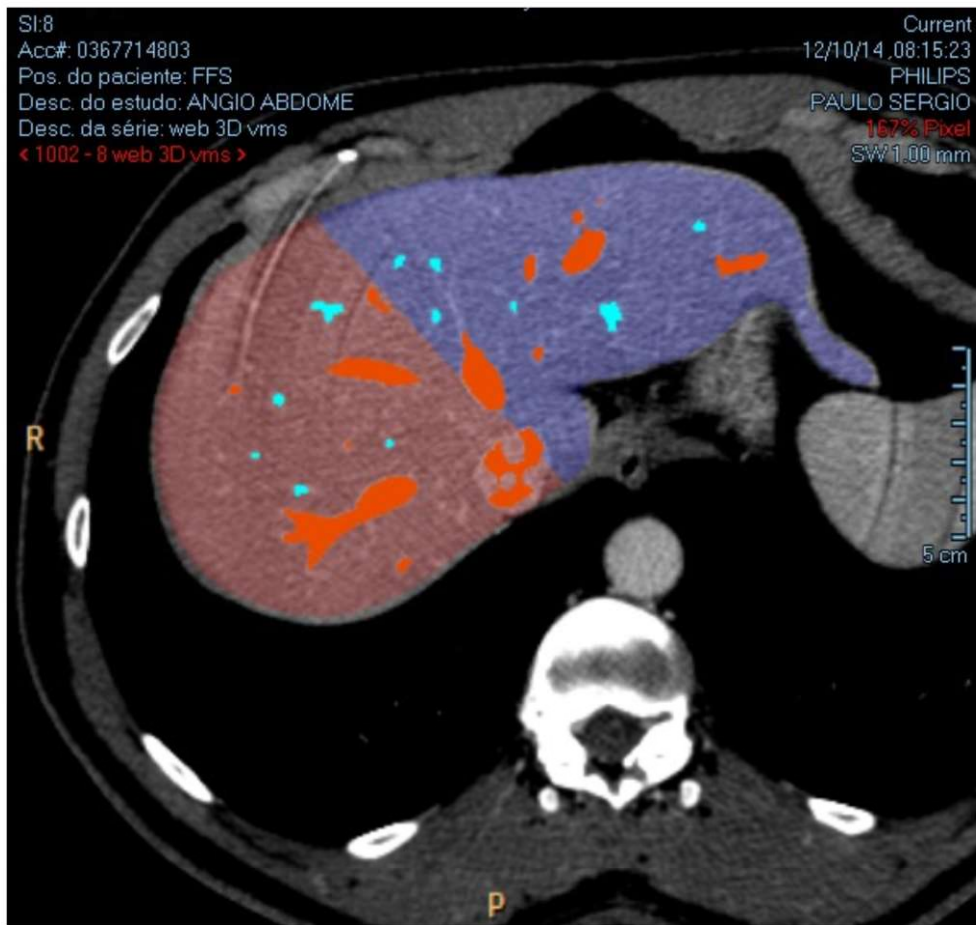
F

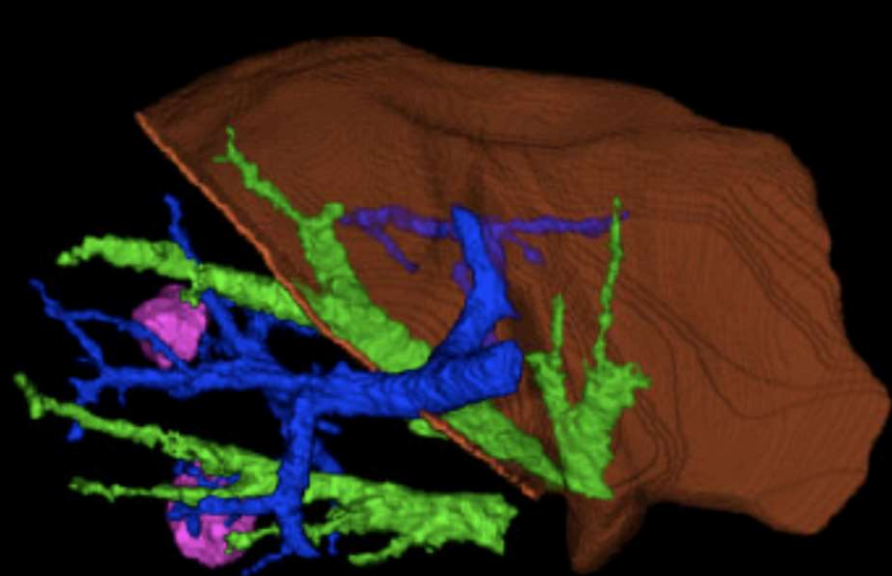
Volumetria hepática



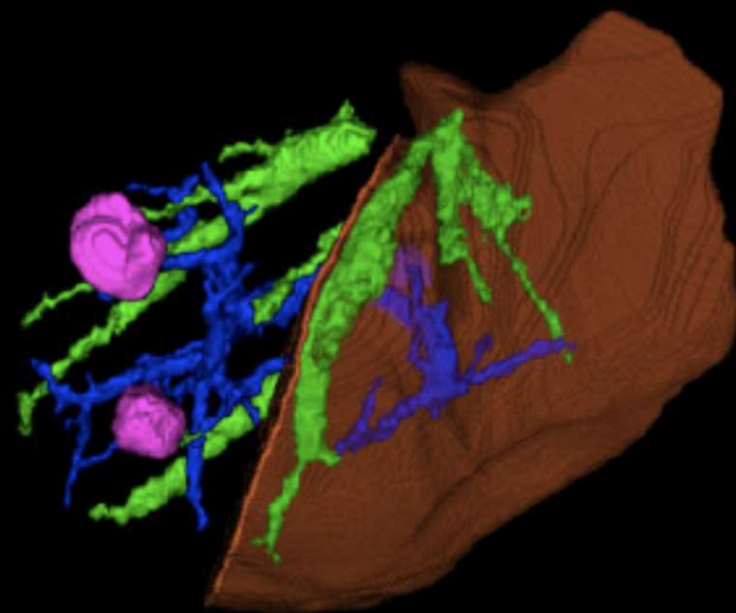
$$\text{sFLR} = \frac{\text{Measured FLR volume}}{\text{TLV} = -794 + 1267 \times \text{BSA}} = \% \text{ of TLV}$$







(a)



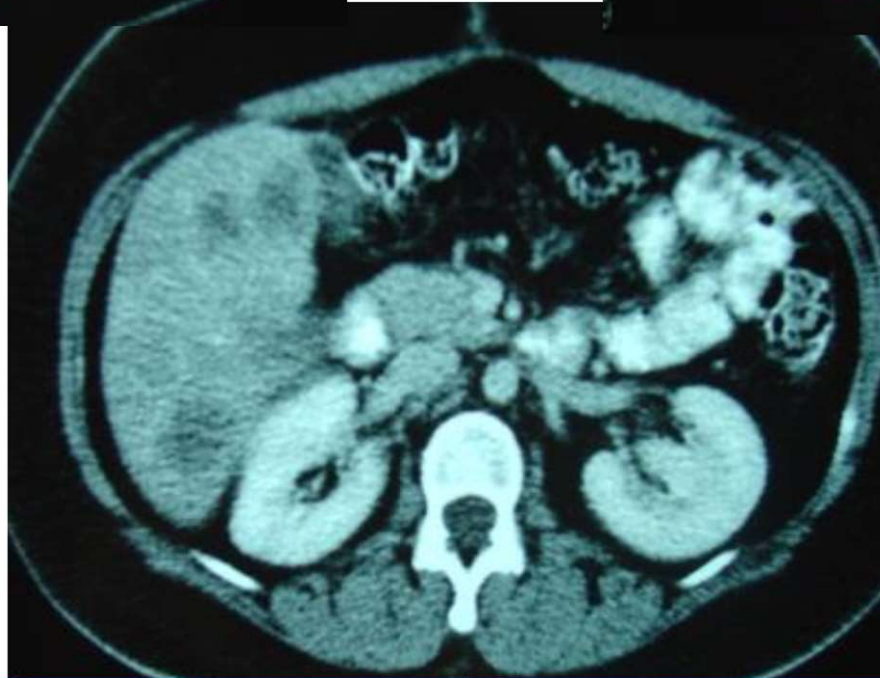
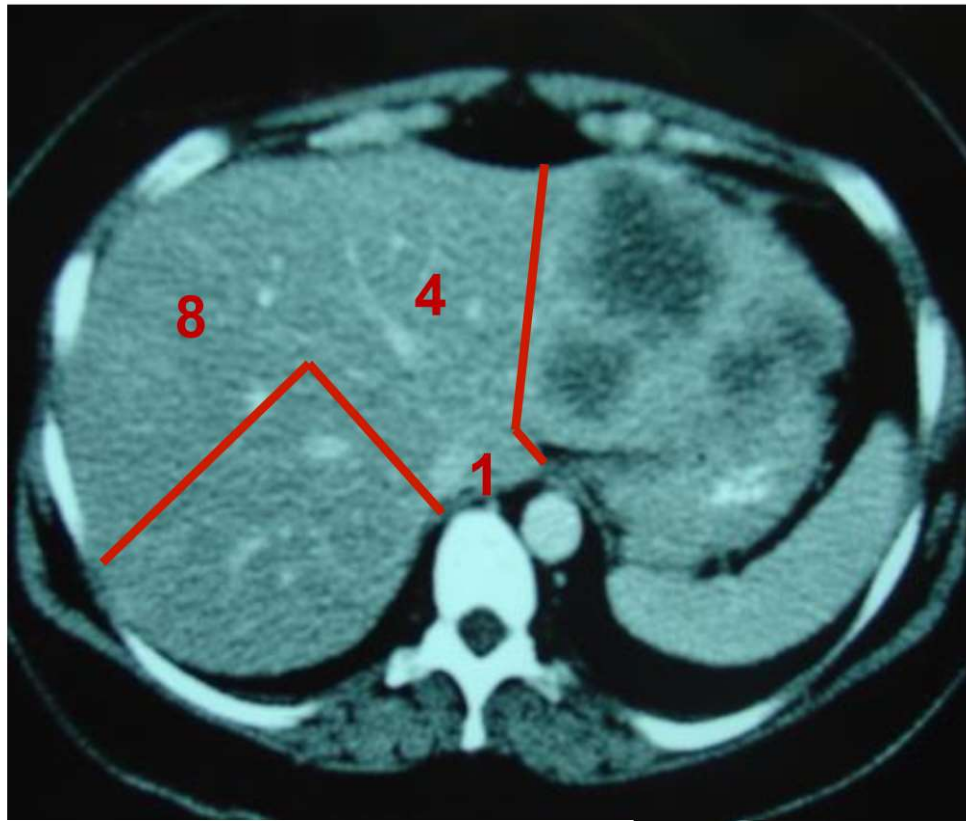
(b)



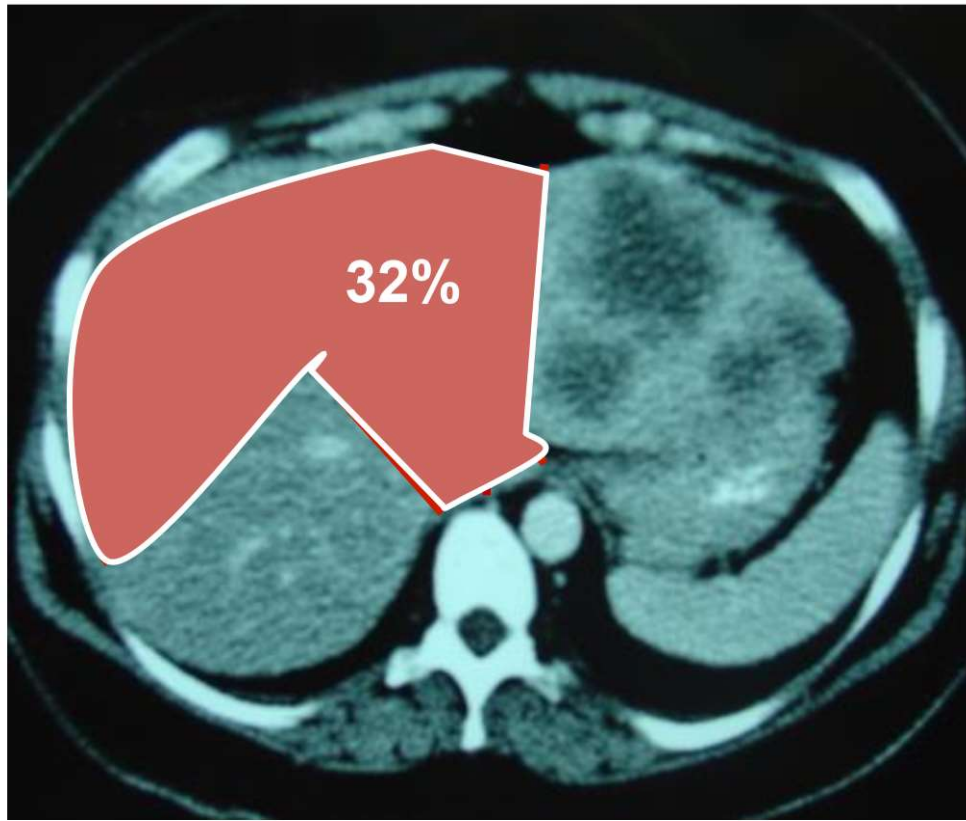
(c)



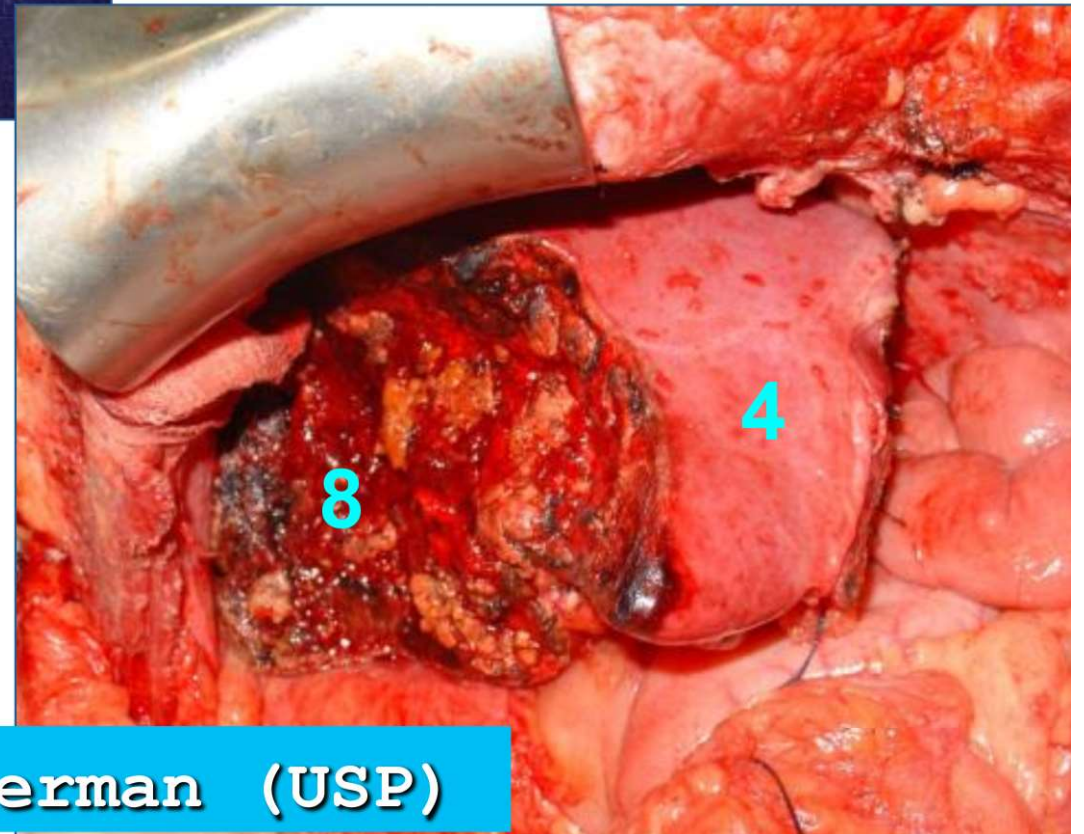
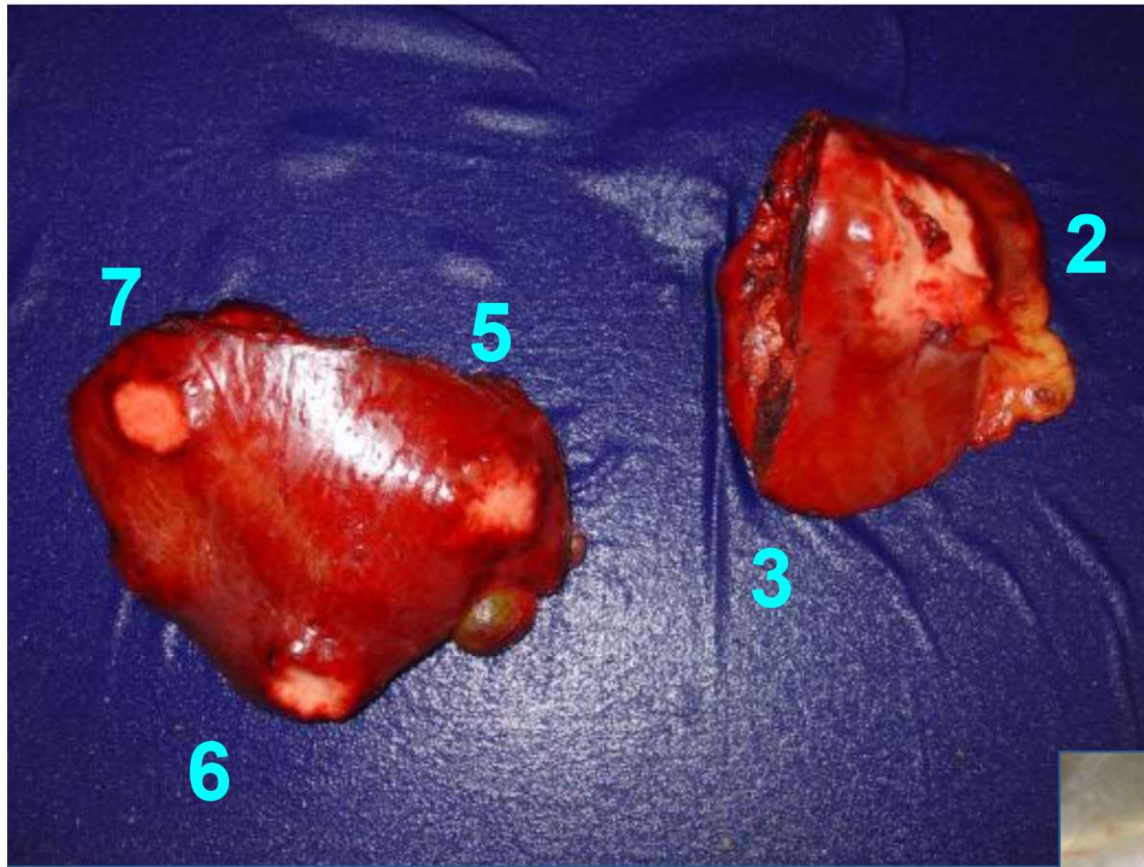
(d)



Cortesia: Prof. Paulo Herman (USP)

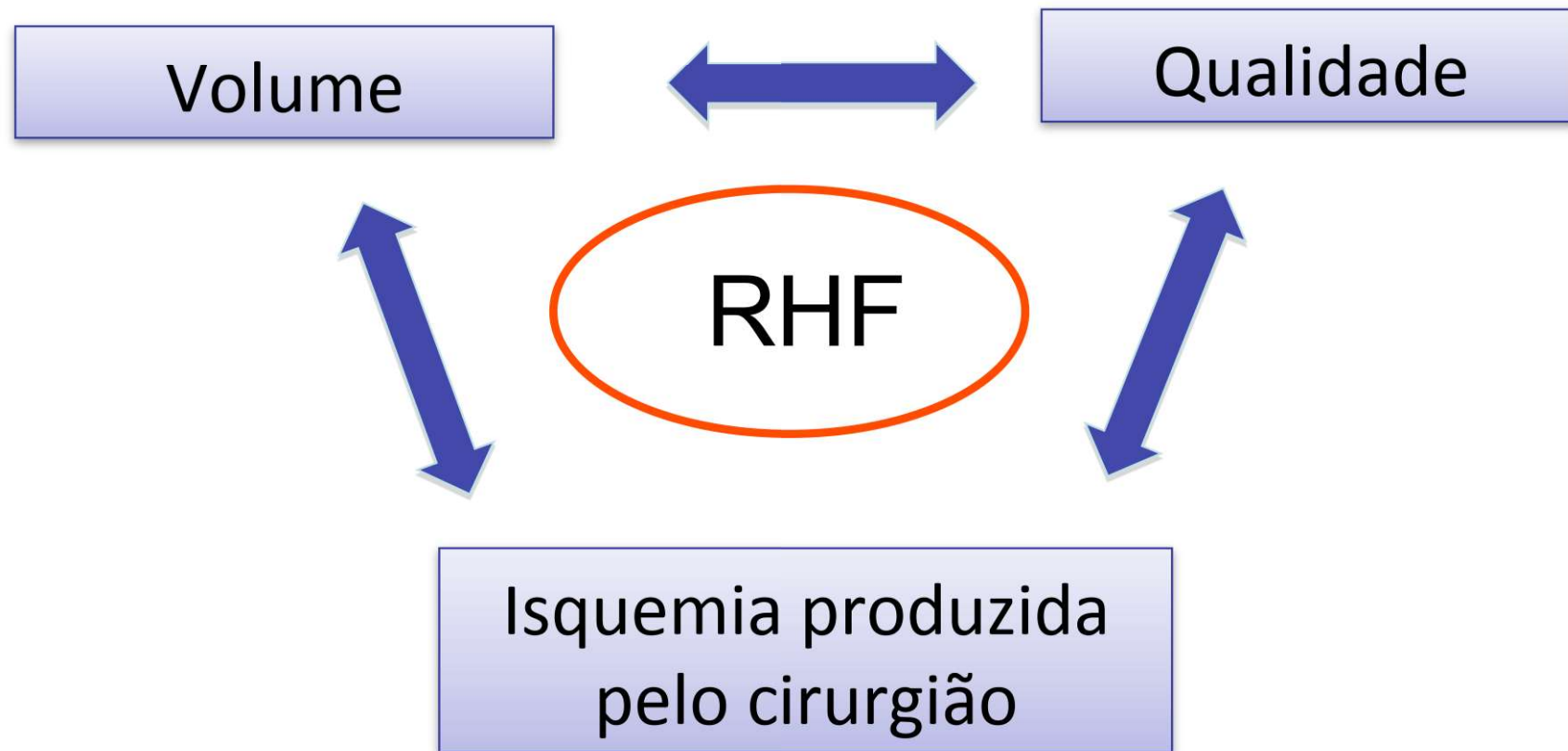


Cortesia: Prof. Paulo Herman (USP)



Cortesia: Prof. Paulo Herman (USP)

Avaliação do remanescente hepático futuro



INSUFICIÊNCIA HEPÁTICA PÓS-OPERATÓRIA

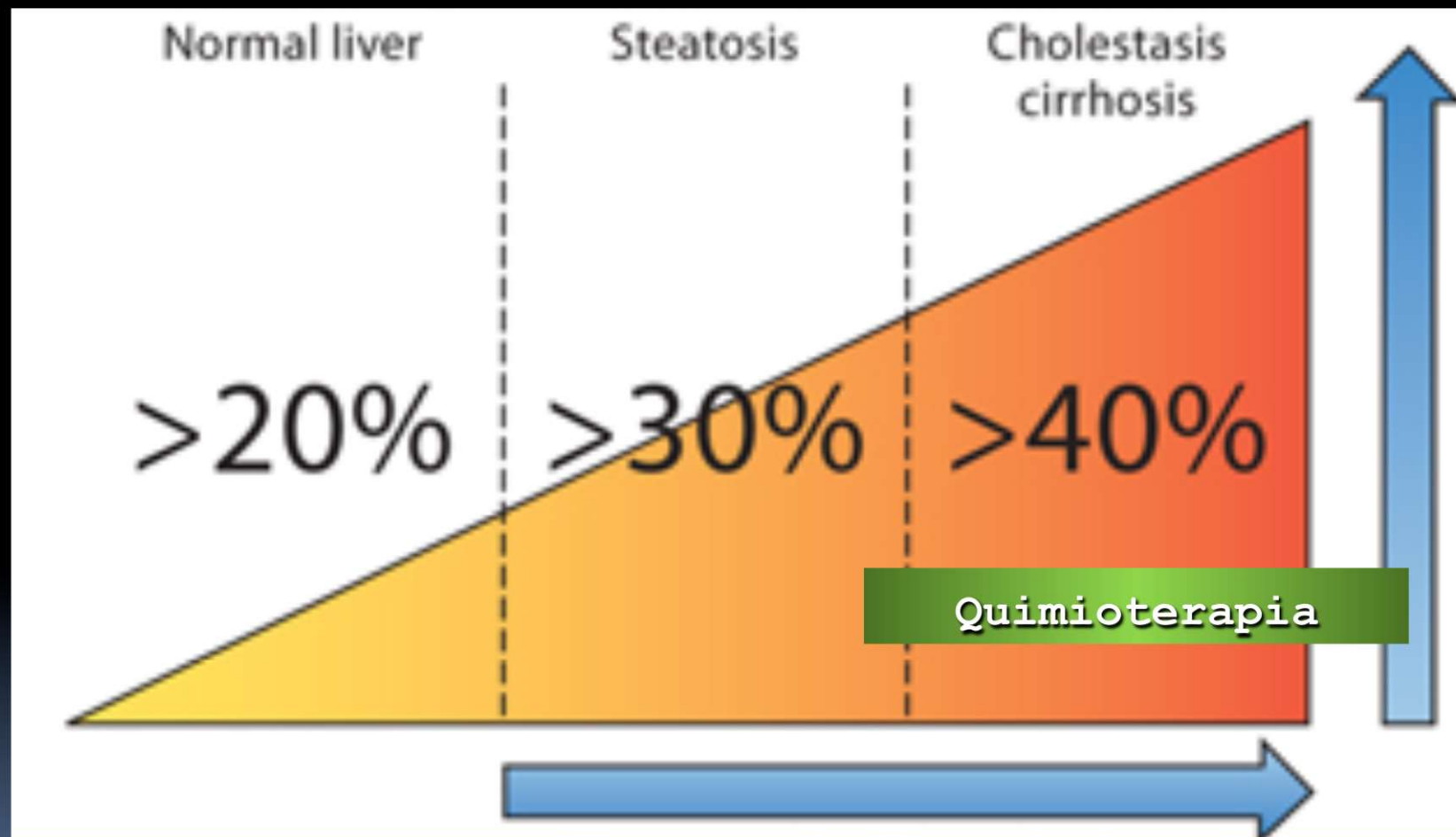
- Complicação mas temida.
- Fatores predisponentes
 - Hepatopatia prévia*
 - Toxicidade hepática por quimioterapia*
- Mortalidade associada: **32%**

Makuuchi M et al. Surgery, 1990

Rubbia-Brandt L et al. Ann Oncol, 2004

Clavien PA, et al. N Engl J Med, 2007

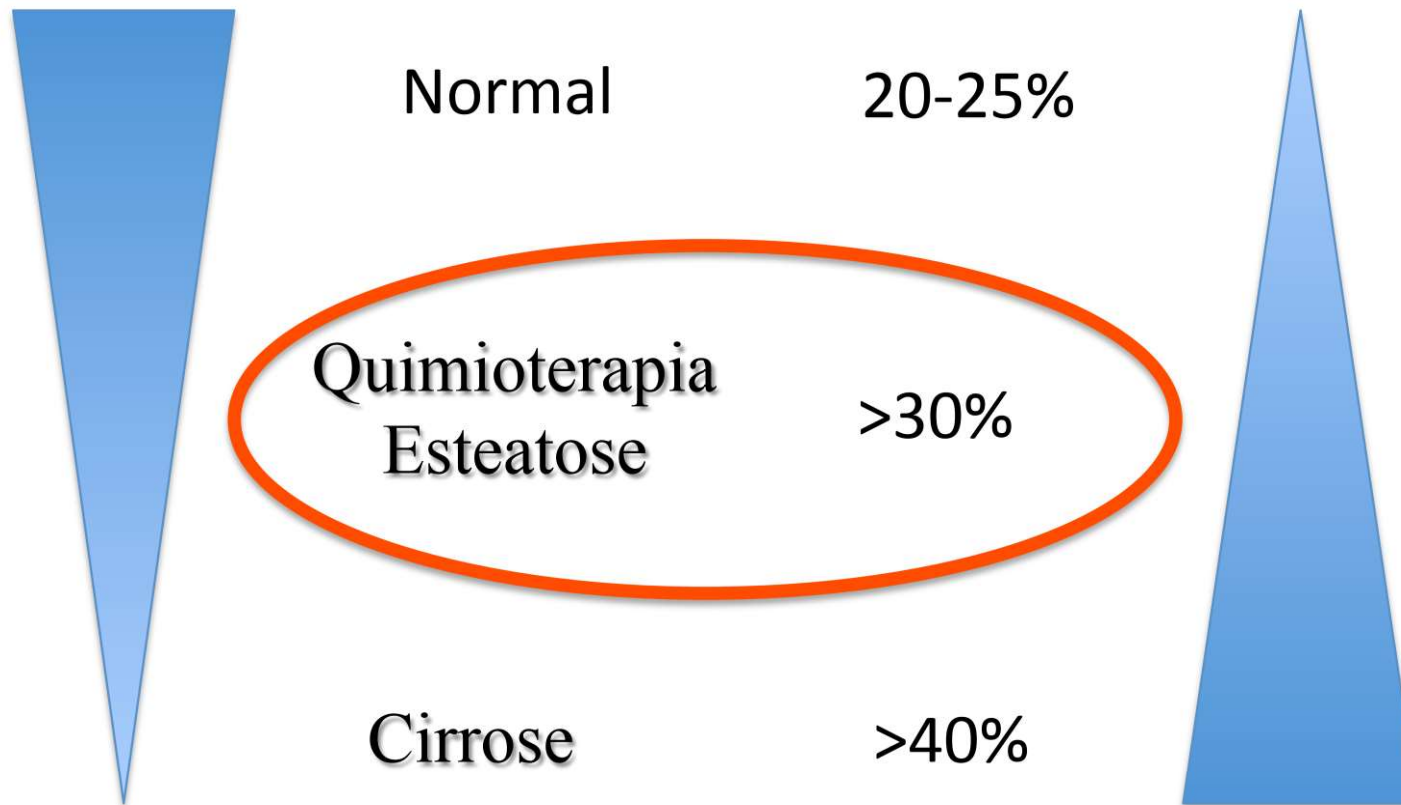
Remanescente hepático



Remanescente hepático futuro

Qualidade

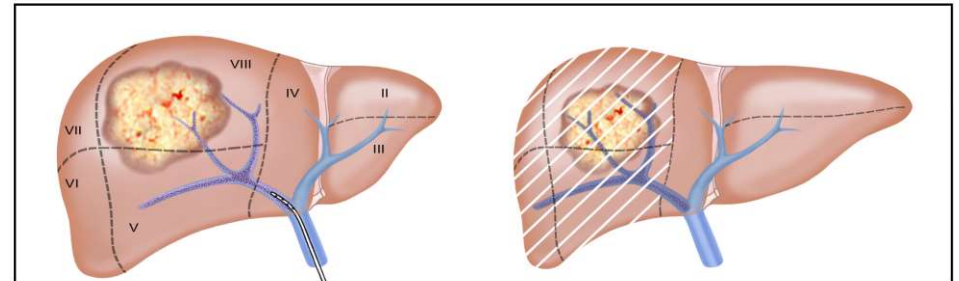
Volume



ESTABELECEER ESTRATÉGIA PRÉ-OPERATÓRIA

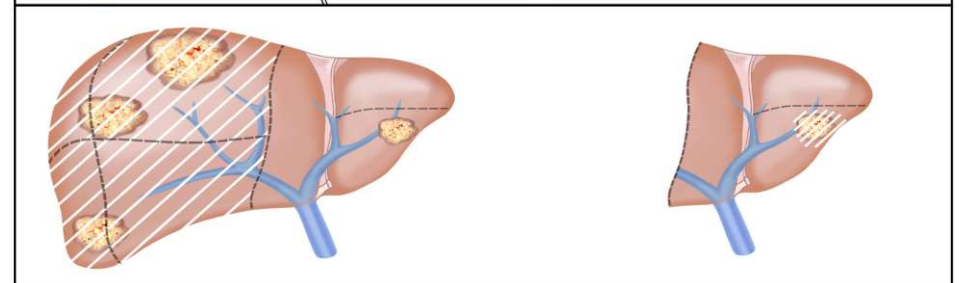
EMBOLIZAÇÃO DA VEIA PORTA

Makuuchi M, et al. Surgery 1990



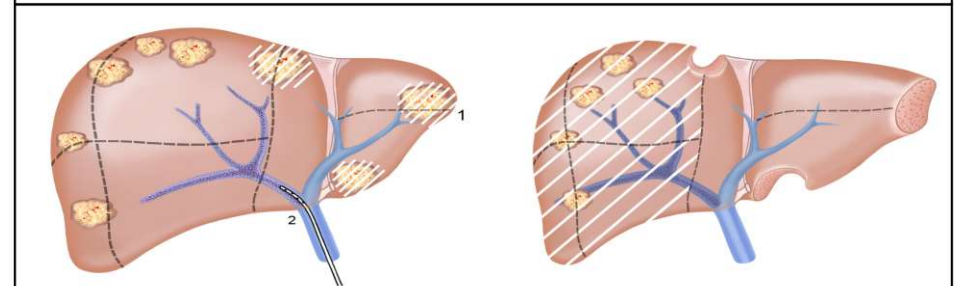
HEPATECTOMIA EM DOIS TEMPOS

Adam R, et al. Ann Surg 2000



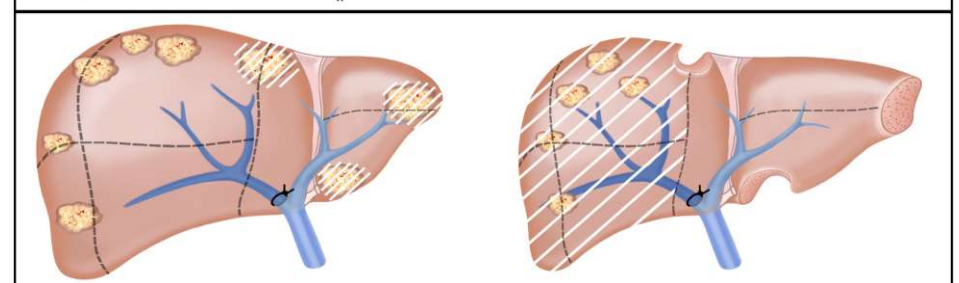
HEPATECTOMIA EM DOIS TEMPOS + EVP

Jaeck D, et al. Ann Surg 2004



HEPATECTOMIA EM DOIS TEMPOS + LVP

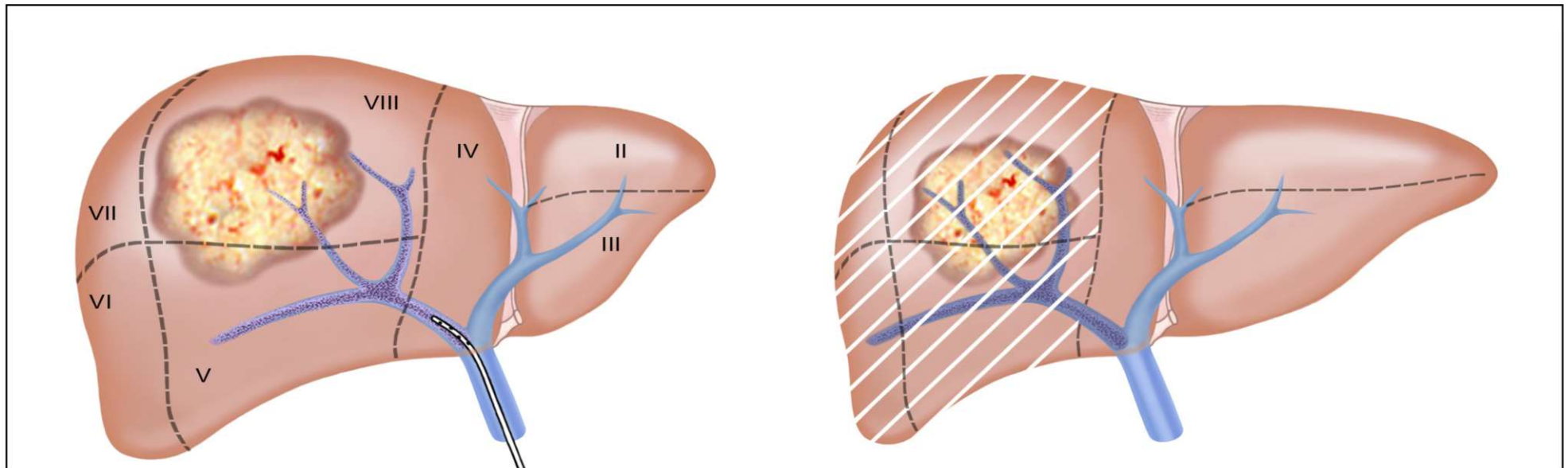
Belghiti J, et al. Hepatology 2008



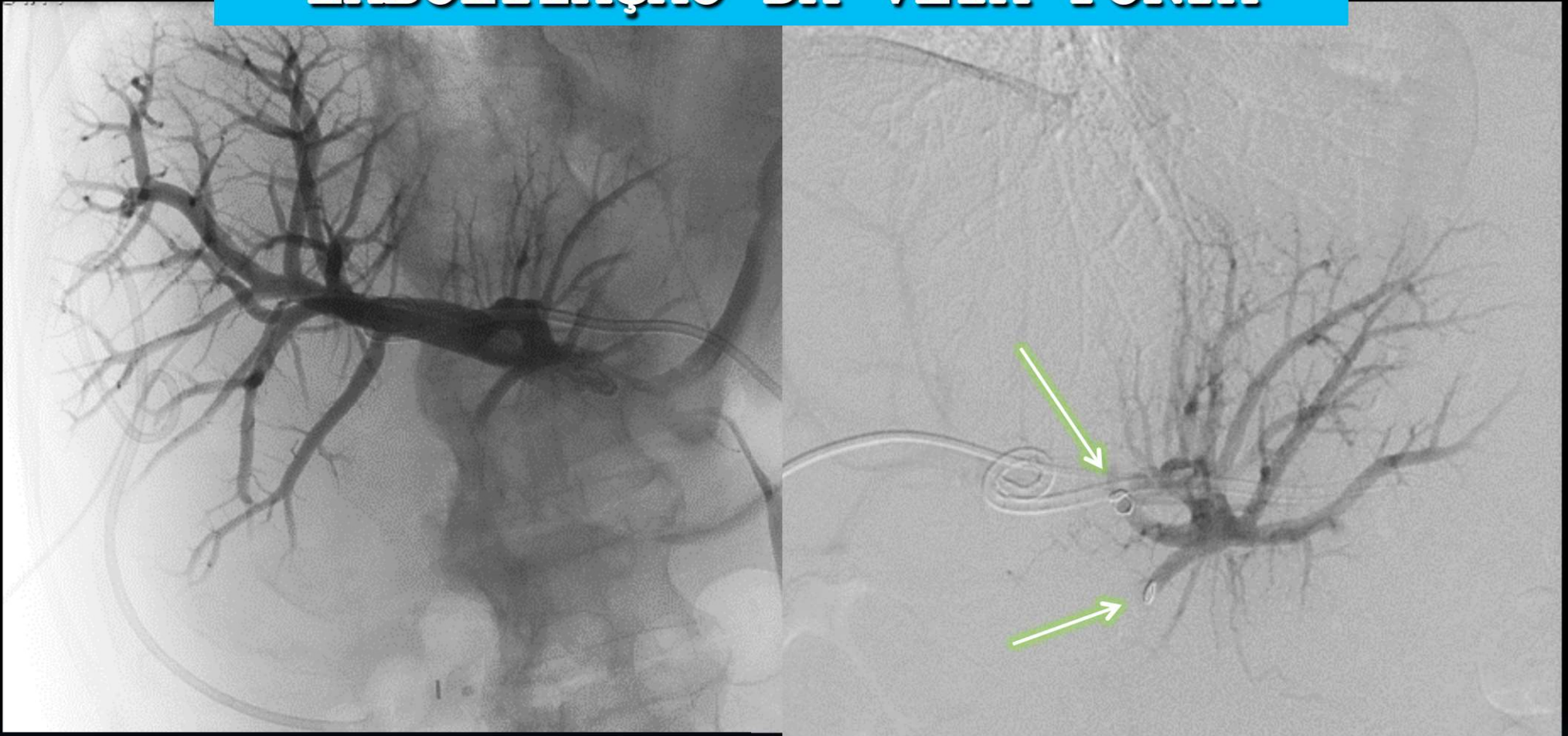
EMBOLIZAÇÃO DA VEIA PORTA

EMBOLIZAÇÃO DA VEIA PORTA

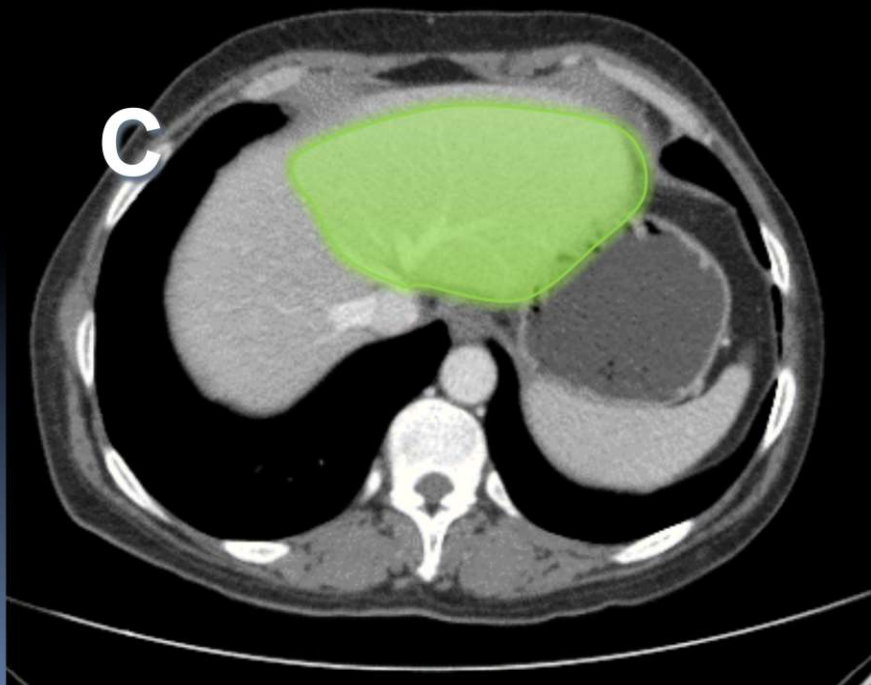
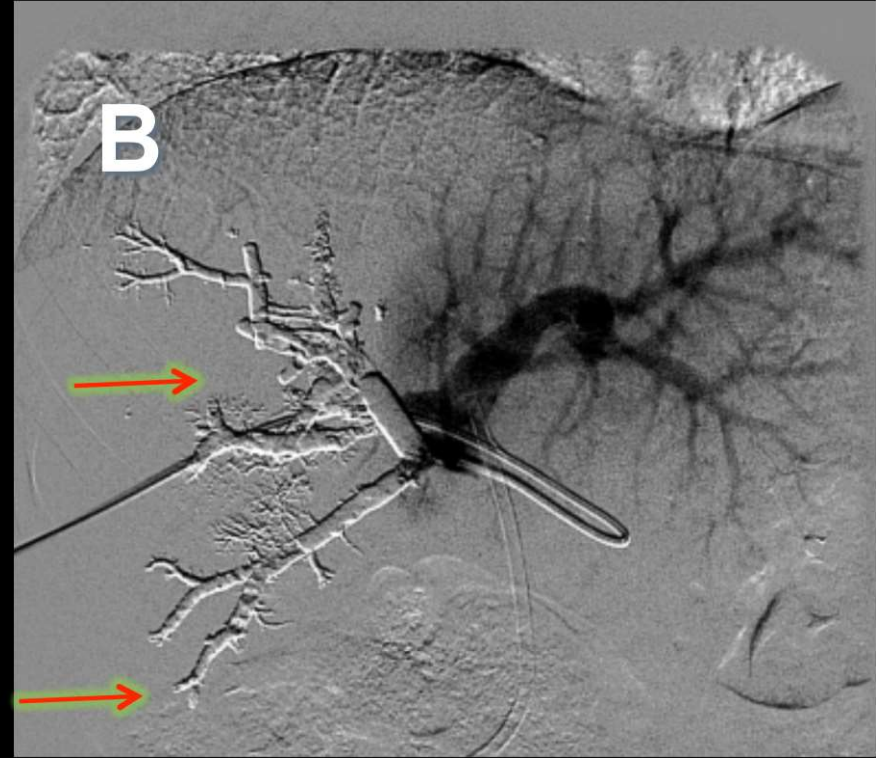
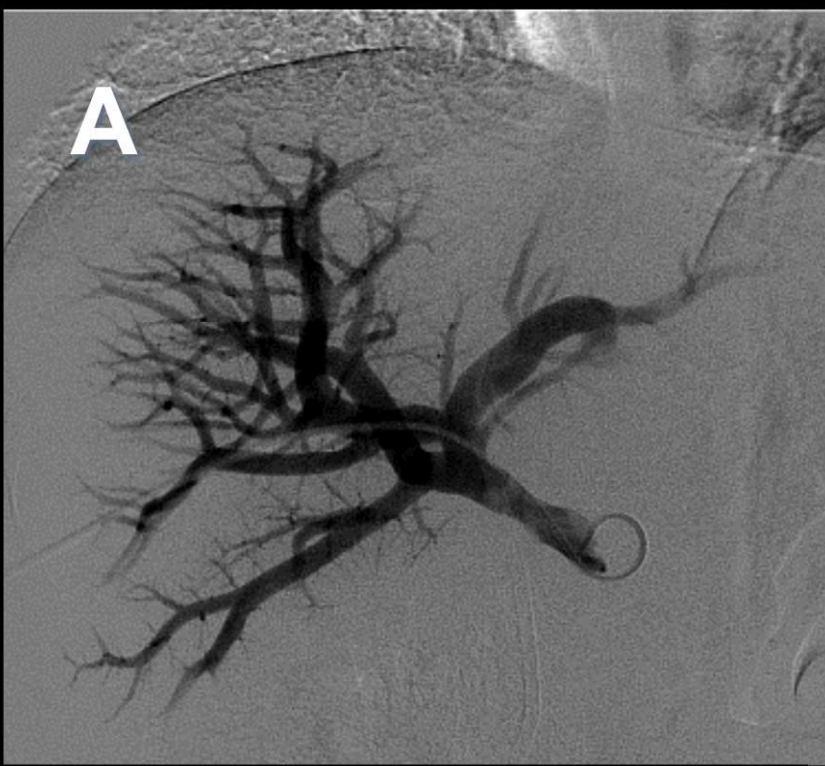
Makuuchi M, et al. Surgery 1990



EMBOLIZAÇÃO DA VEIA PORTA

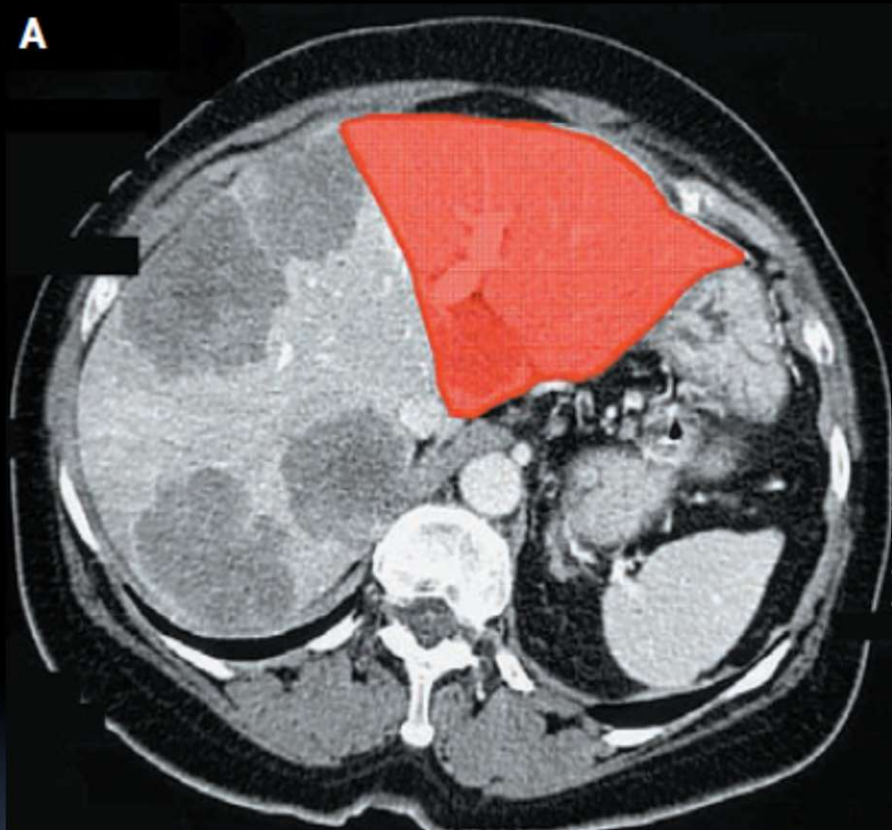


(A) Portografia direita com catéter pigtail através de acesso ipsilateral. (B) Após microcateterização seletiva dos principais ramos do segmento 4 (setas), realizada embolização com micropartículas e micromolas. Notar a preservação do fluxo portal normal nos demais ramos do lobo esquerdo. O procedimento prosseguiu com embolização dos ramos portais direitos com NBCA.





A



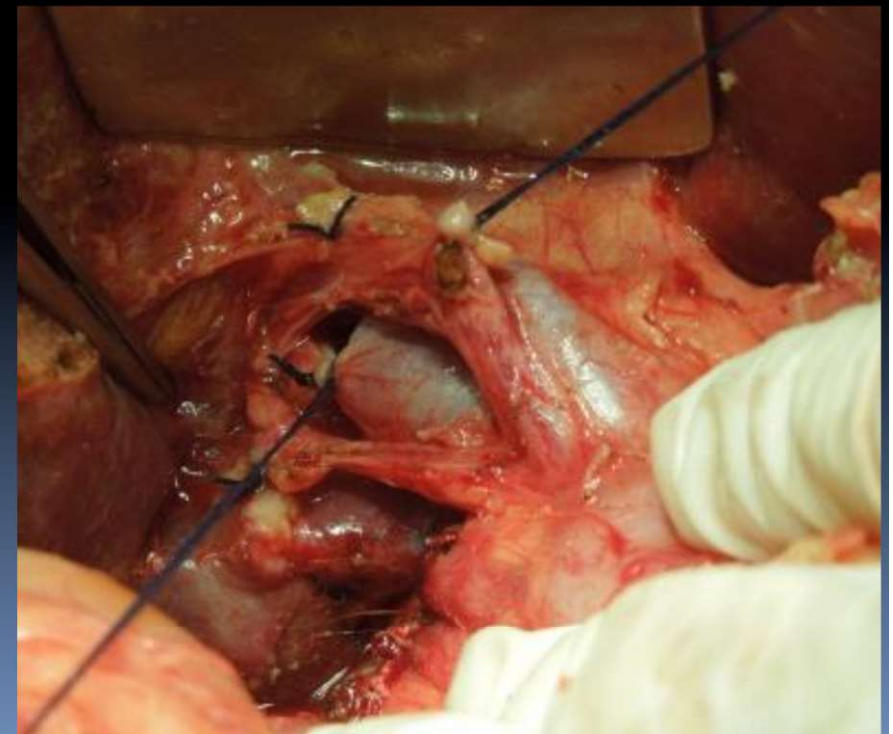
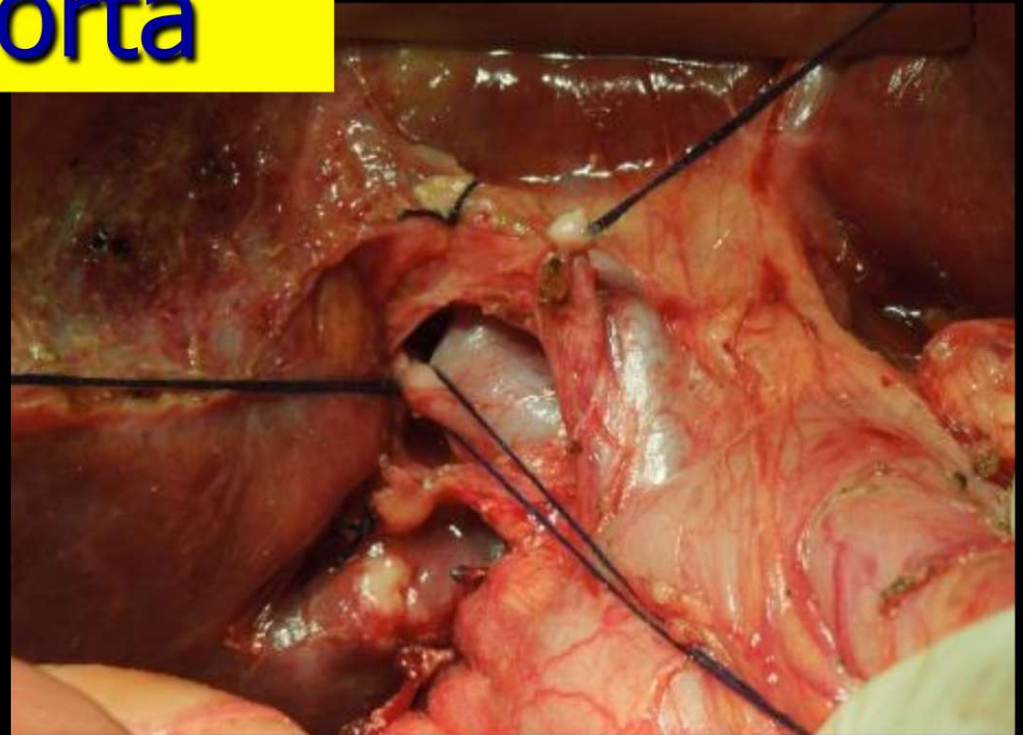
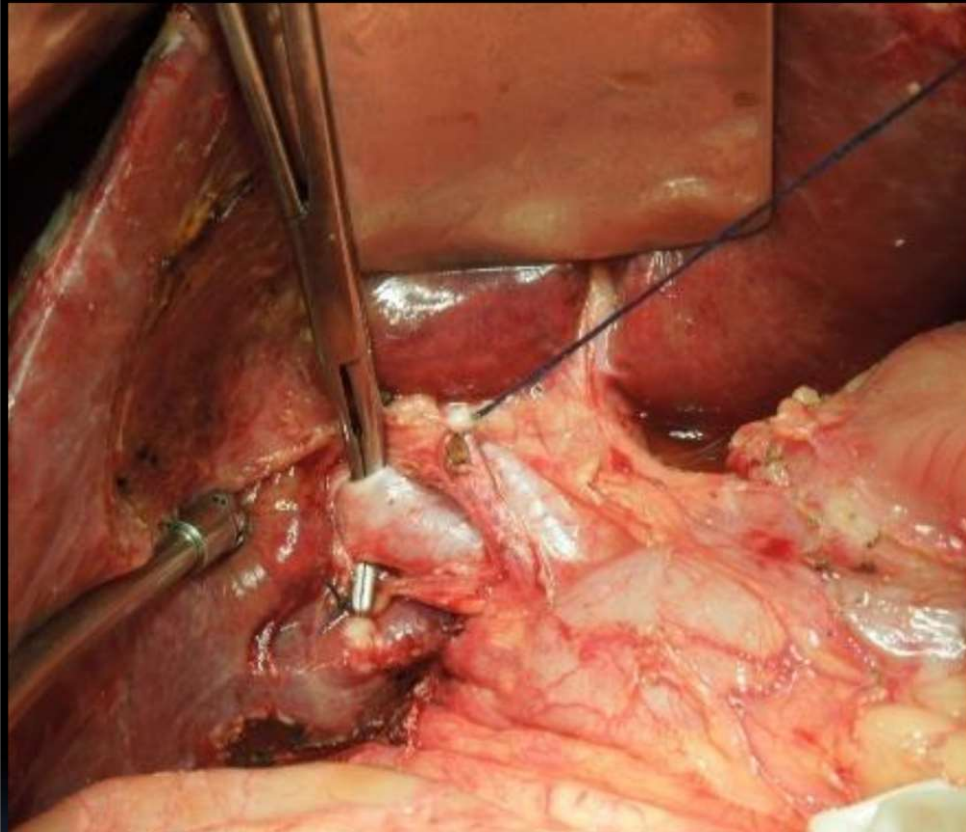
B



Embolização da veia porta



Ligadura da veia porta



Ligadura da veia porta D

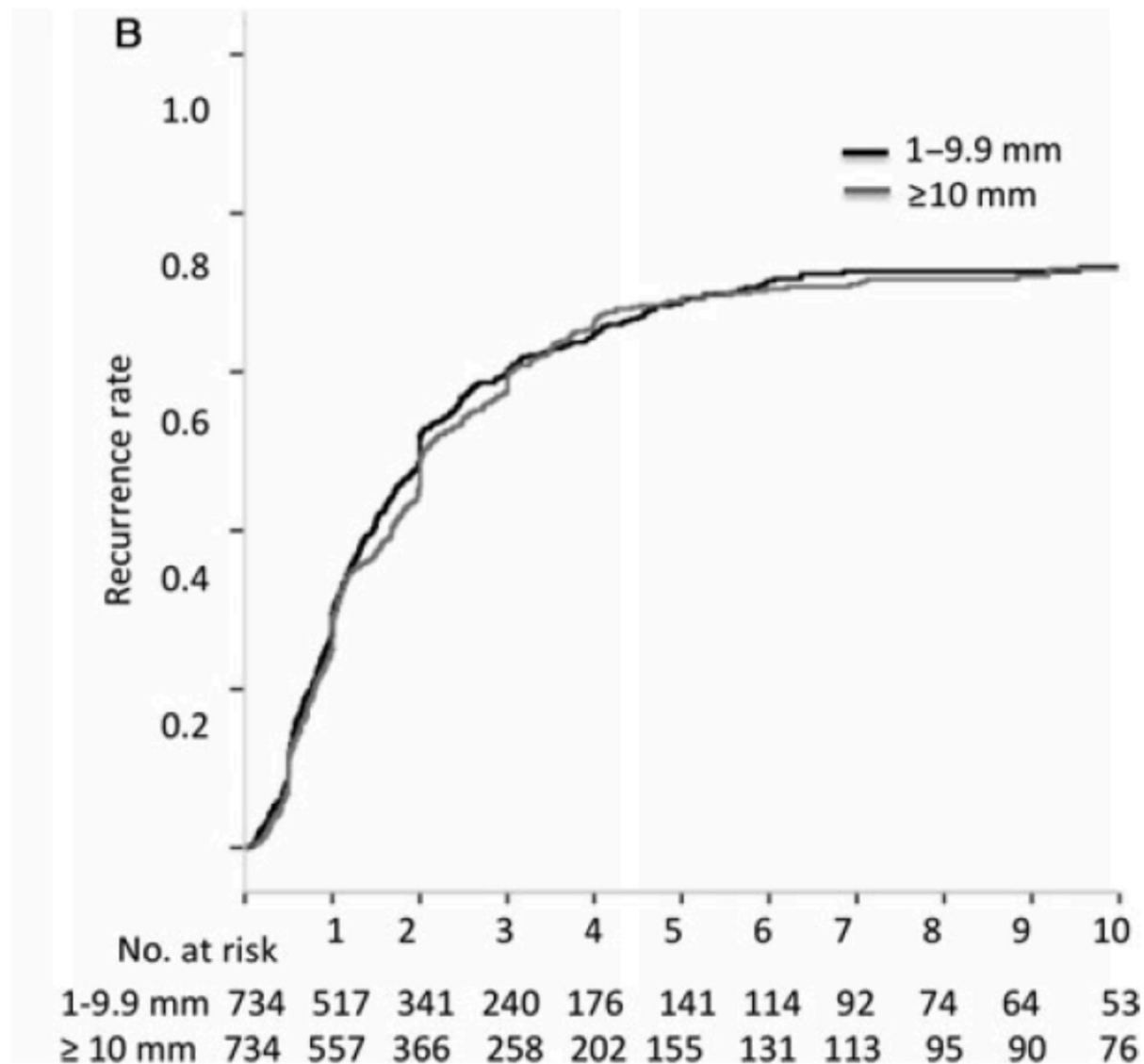
One-Millimeter Cancer-Free Margin Is Curative for Colorectal Liver Metastases

A Propensity Score Case-Match Approach

Zaed Z. R. Hamady, PhD, FRCS,† J. Peter A. Lodge, MD, FRCS,† Fenella K. Welsh, FRCS,*
Giles J. Toogood, DM, FRCS,† Alan White, MRCS,† Timothy John, FRCS,* and Myrddin Rees, FRCS**

Relação com estruturas

Margem de ressecção





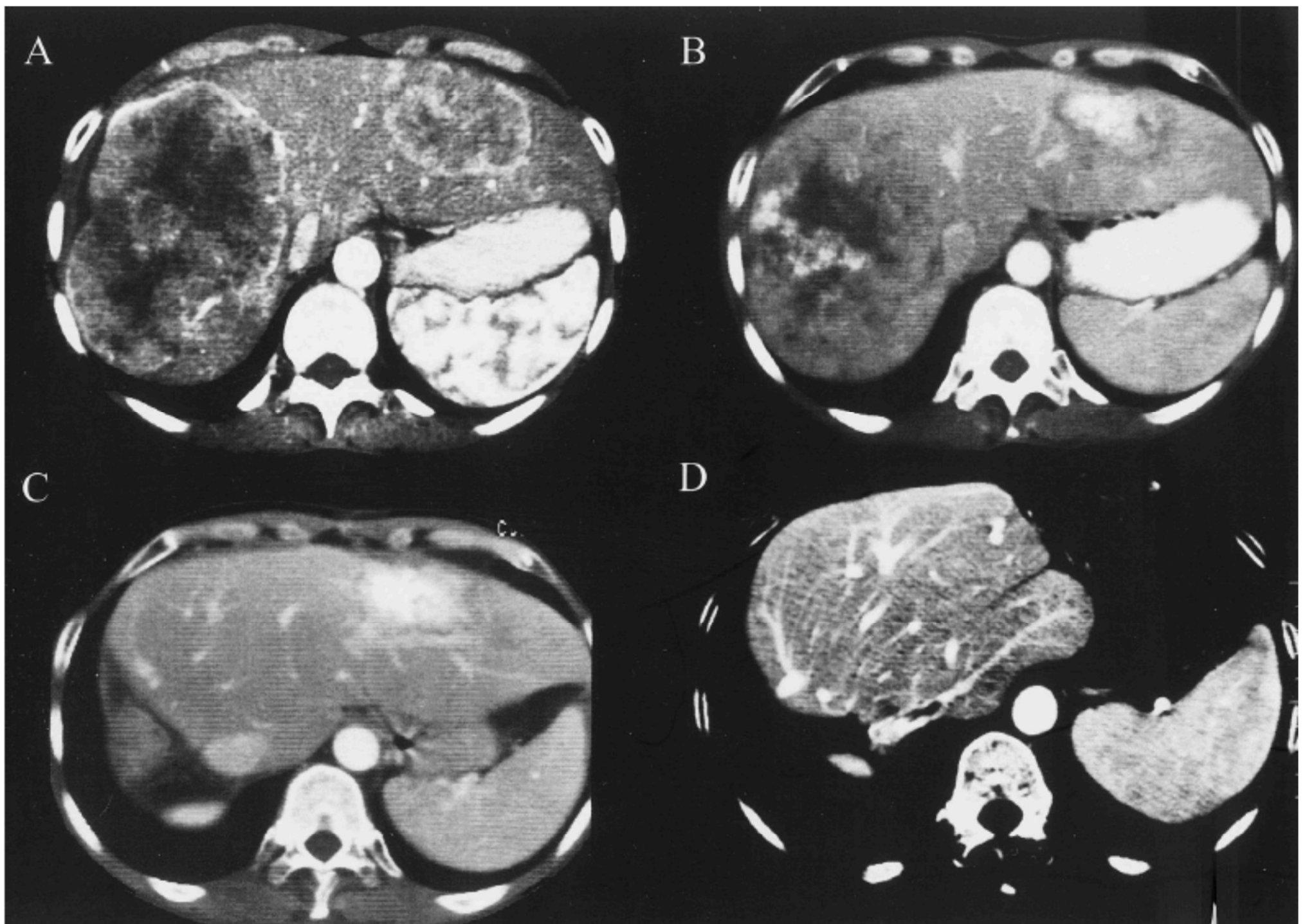
Hepatectomia em dois tempos

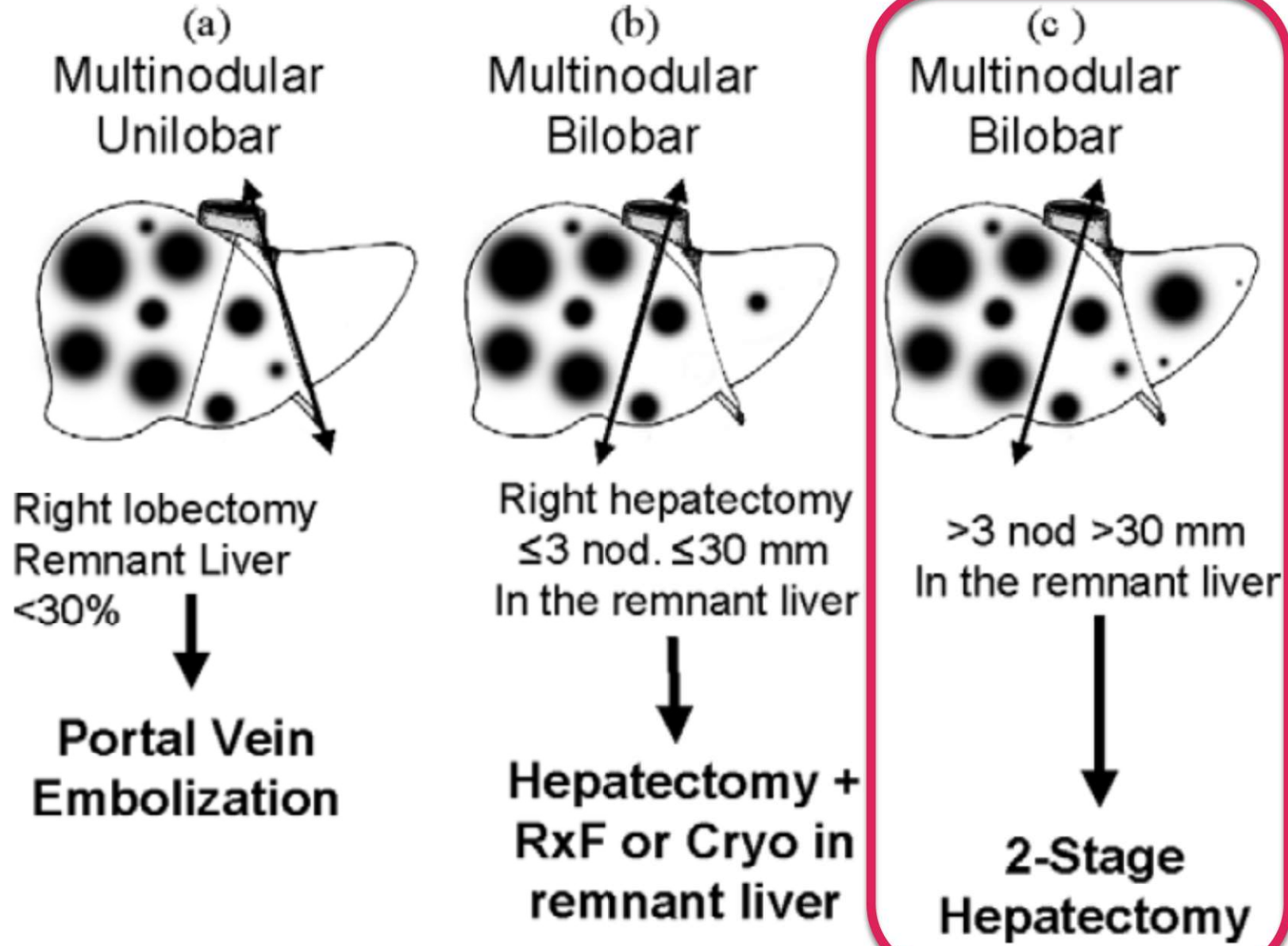
ANNALS OF SURGERY
Vol. 232, No. 6, 777-785
© 2000 Lippincott Williams & Wilkins, Inc.

Two-Stage Hepatectomy: A Planned Strategy to Treat Irresectable Liver Tumors

René Adam, MD, PhD, Alexis Laurent, MD, Daniel Azoulay, MD, PhD, Denis Castaing, MD, and Henri Bismuth, MD, FACS (Hon)

From the Centre Hépatobiliaire, Hôpital Paul Brousse, Villejuif, and Université Paris-Sud, France





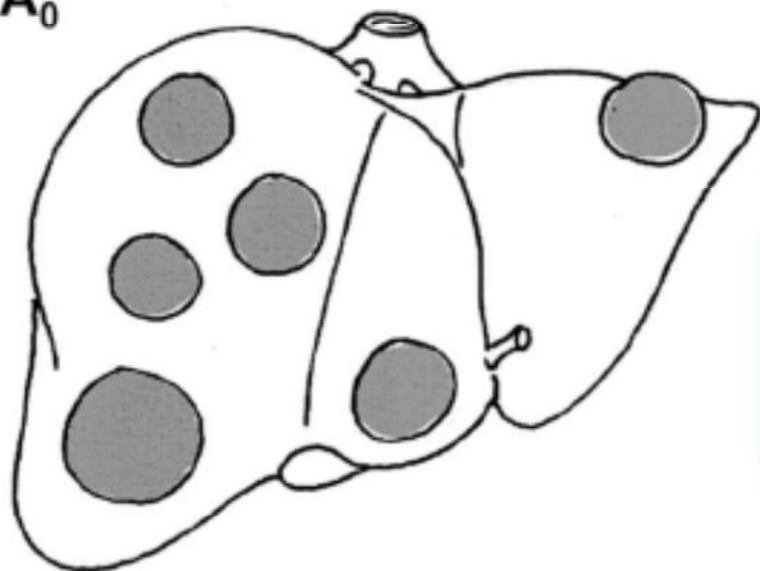
Hepatectomia em dois tempos + embolização da veia porta

ORIGINAL ARTICLES

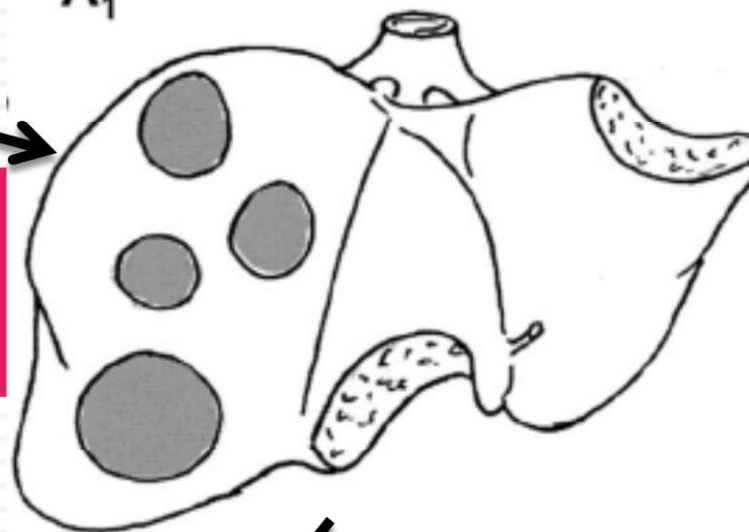
A Two-Stage Hepatectomy Procedure Combined With Portal Vein Embolization to Achieve Curative Resection for Initially Unresectable Multiple and Bilobar Colorectal Liver Metastases

Daniel Jaeck, MD, PhD, FRCS, Elie Oussoultzoglou, MD,* Edoardo Rosso, MD,*
Michel Greget, MD,† Jean-Christophe Weber, MD, PhD,* and Philippe Bachellier, MD**

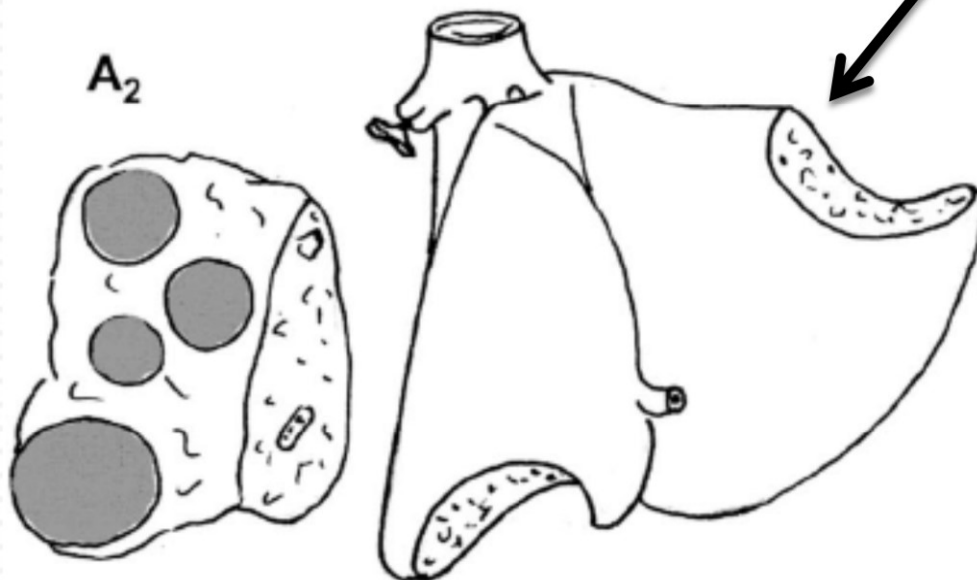
A_0

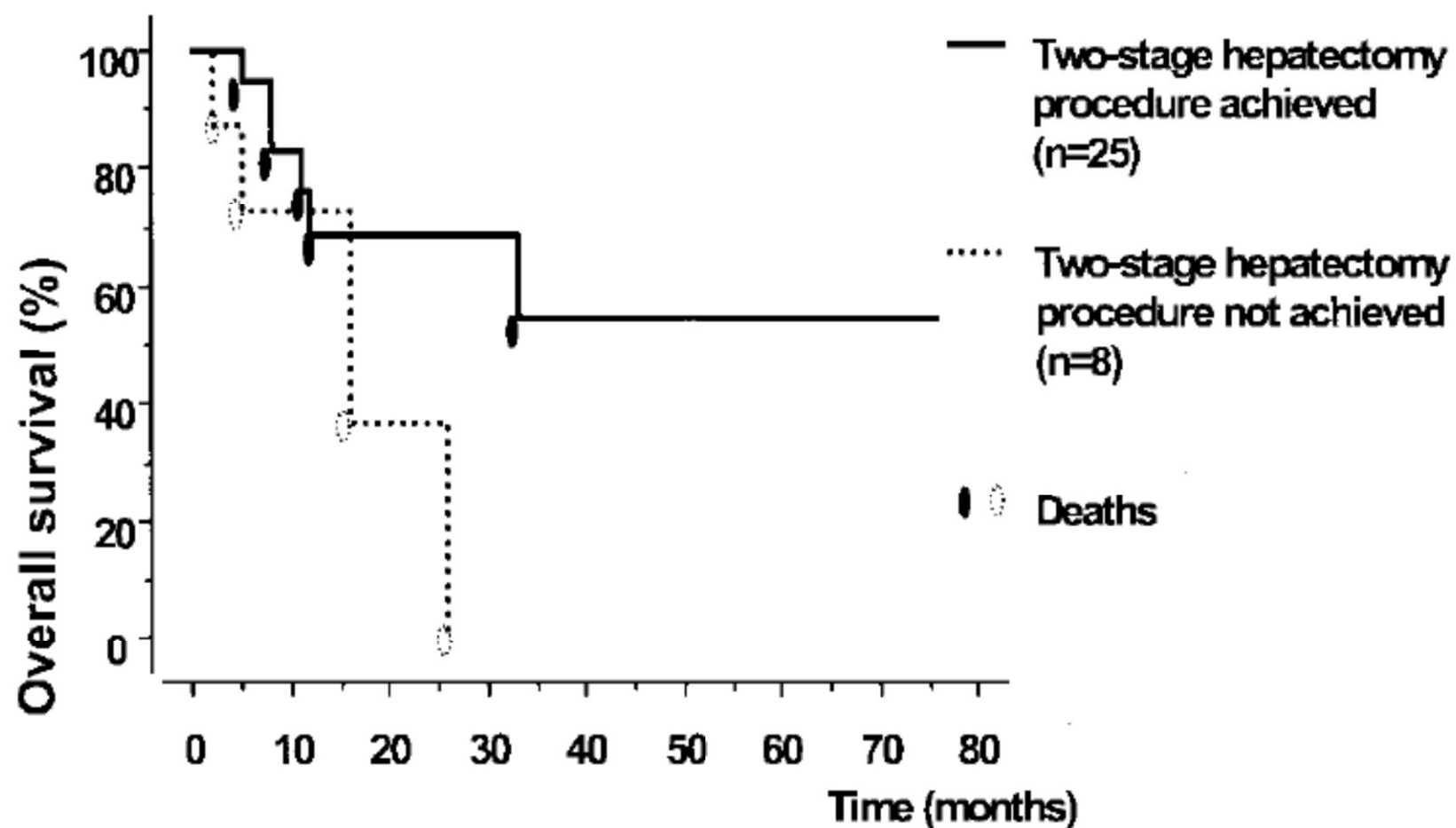


A_1



A_2





No. at risk

—	25	17	9	6	3	3	2	2	1
.....	8	3	1						

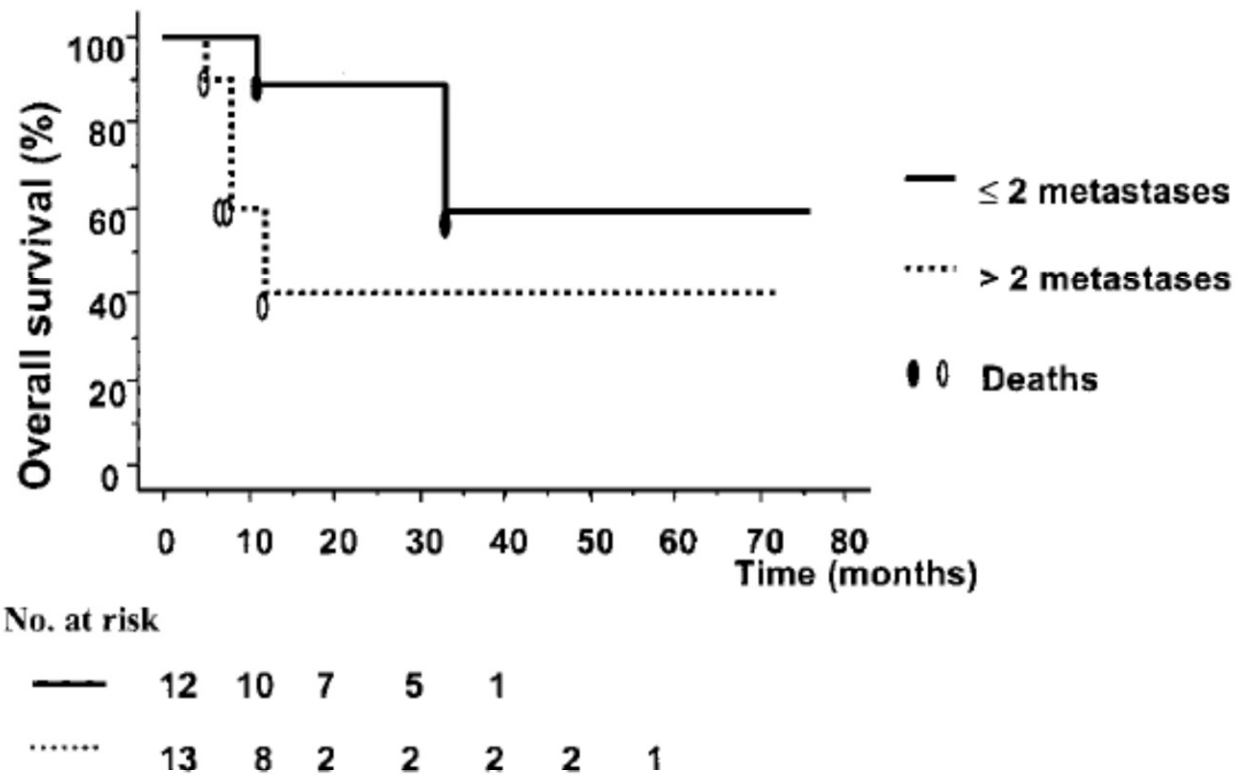
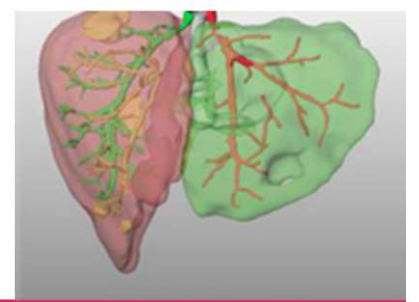
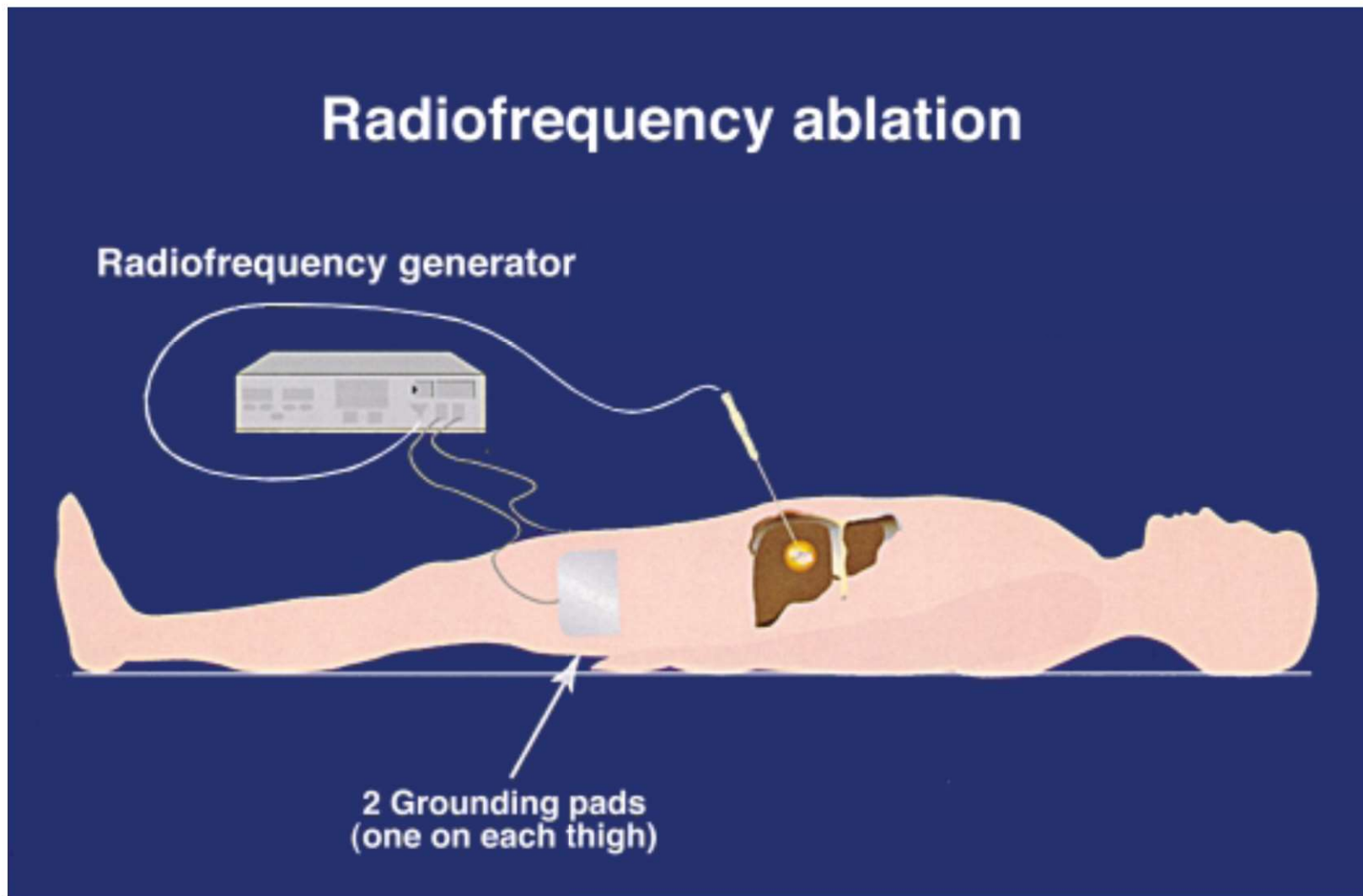
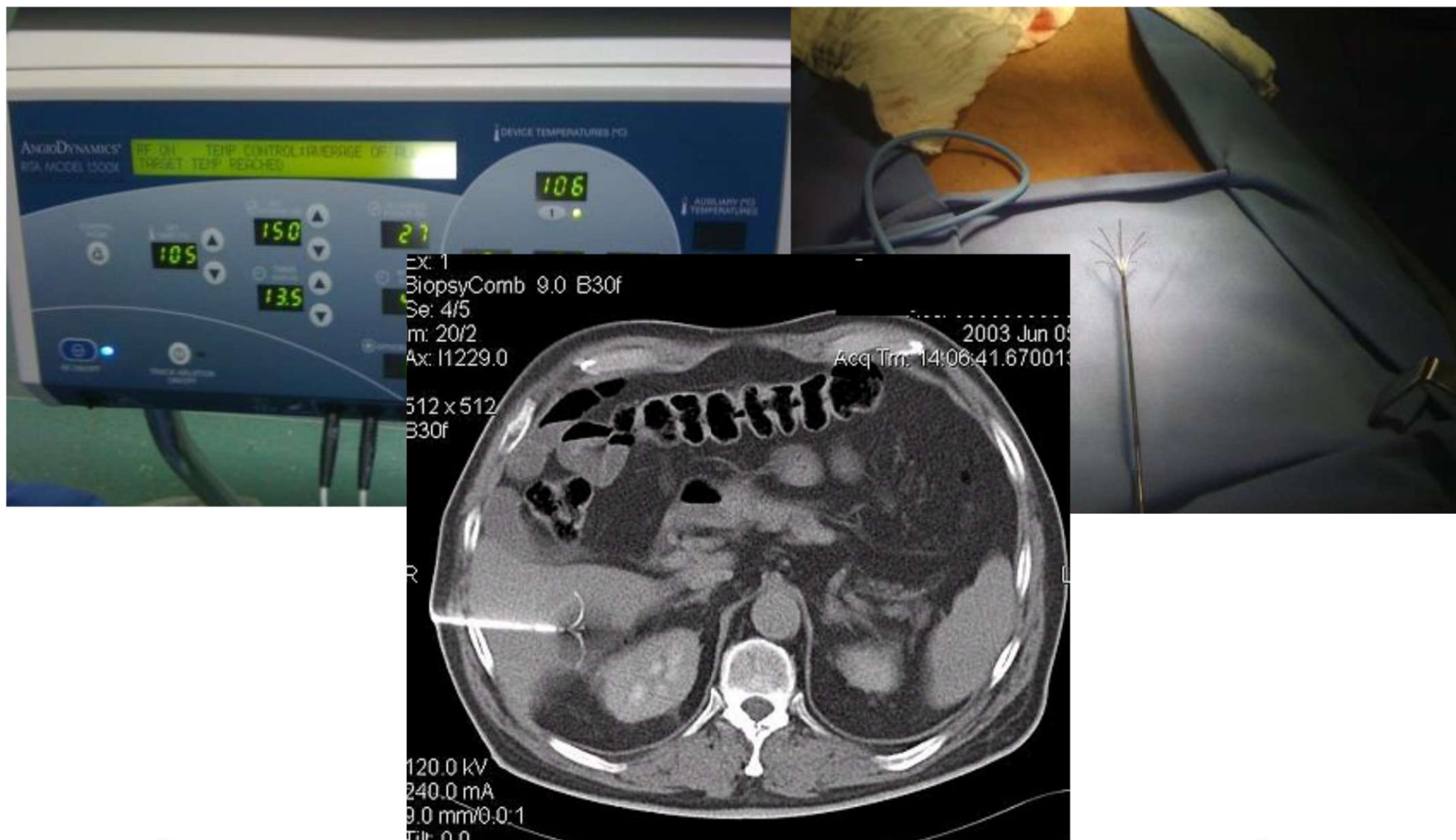


FIGURE 5. Kaplan-Meier survival of 25 patients in whom the strategy has been achieved according to the number of metastases in the future left remnant liver.

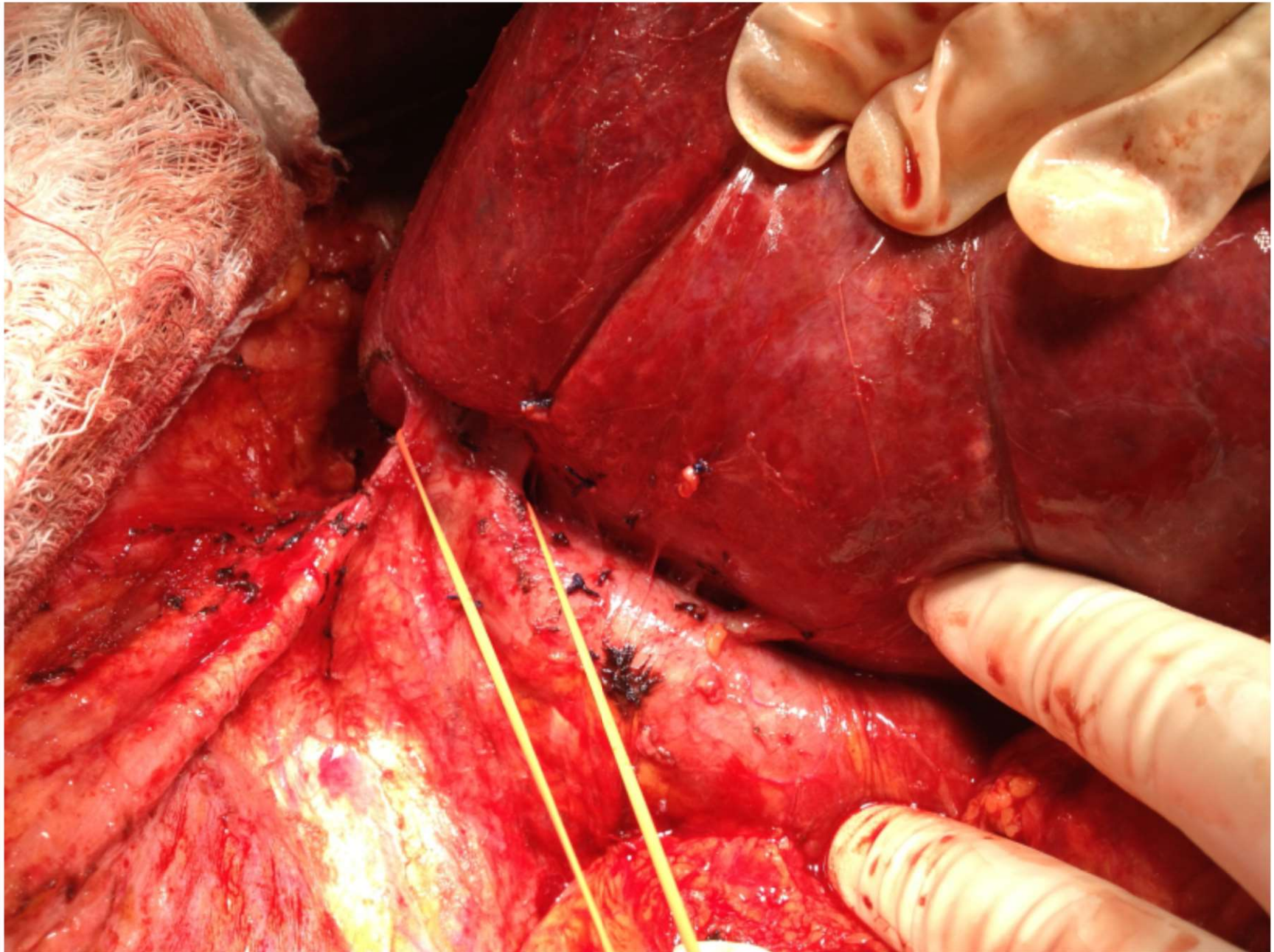
Terapias ablativas

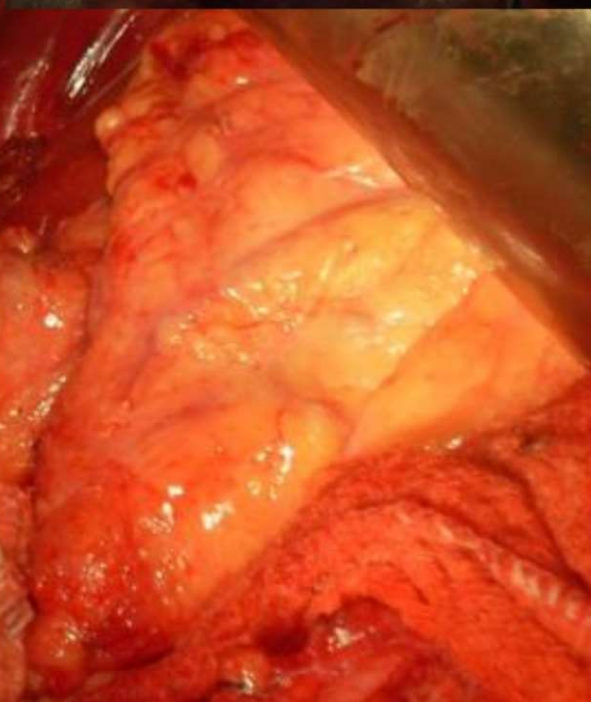
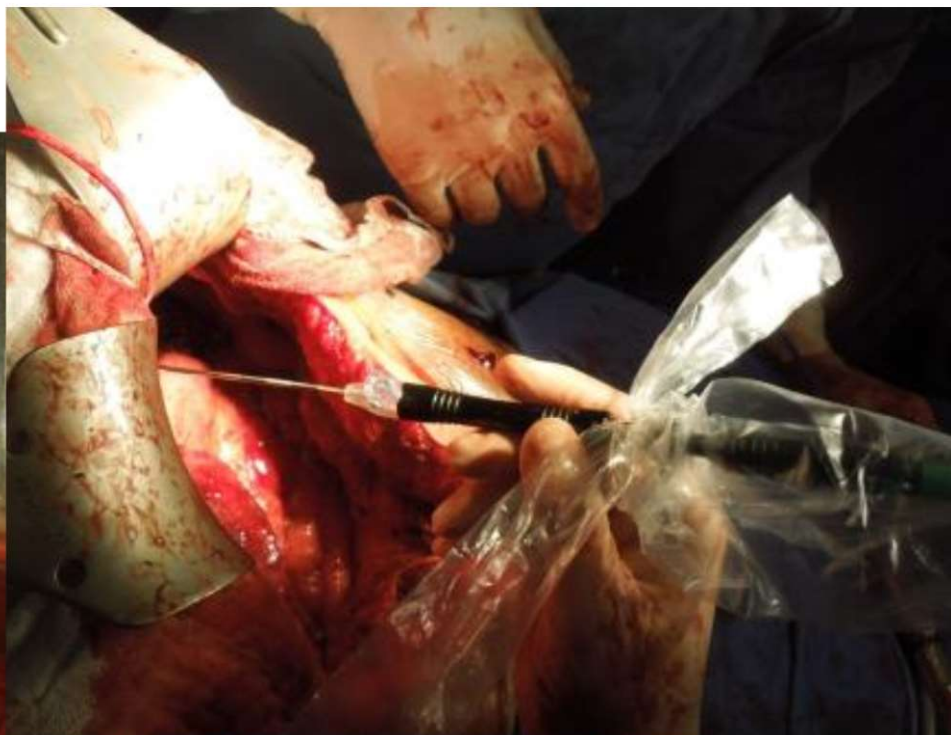
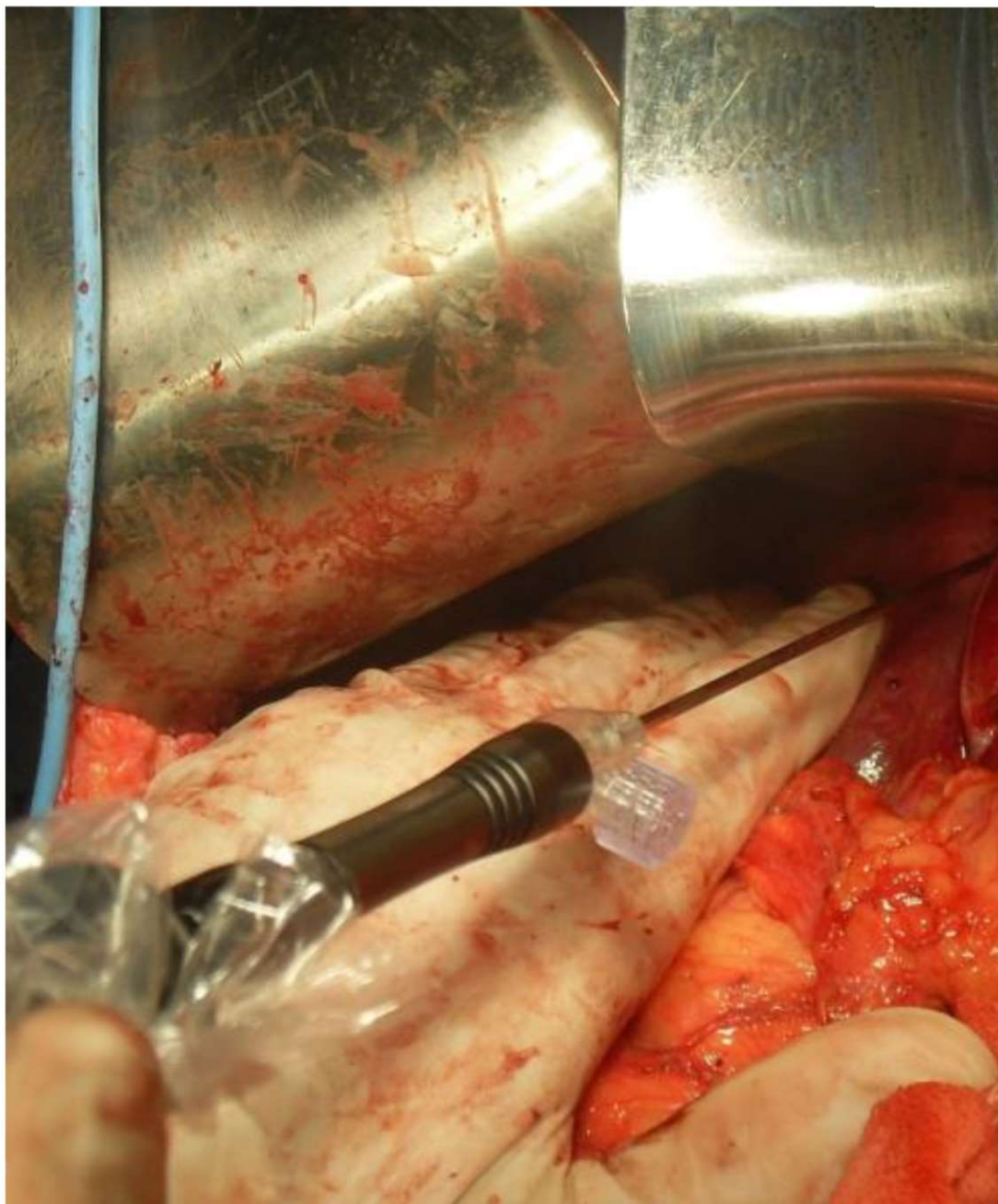


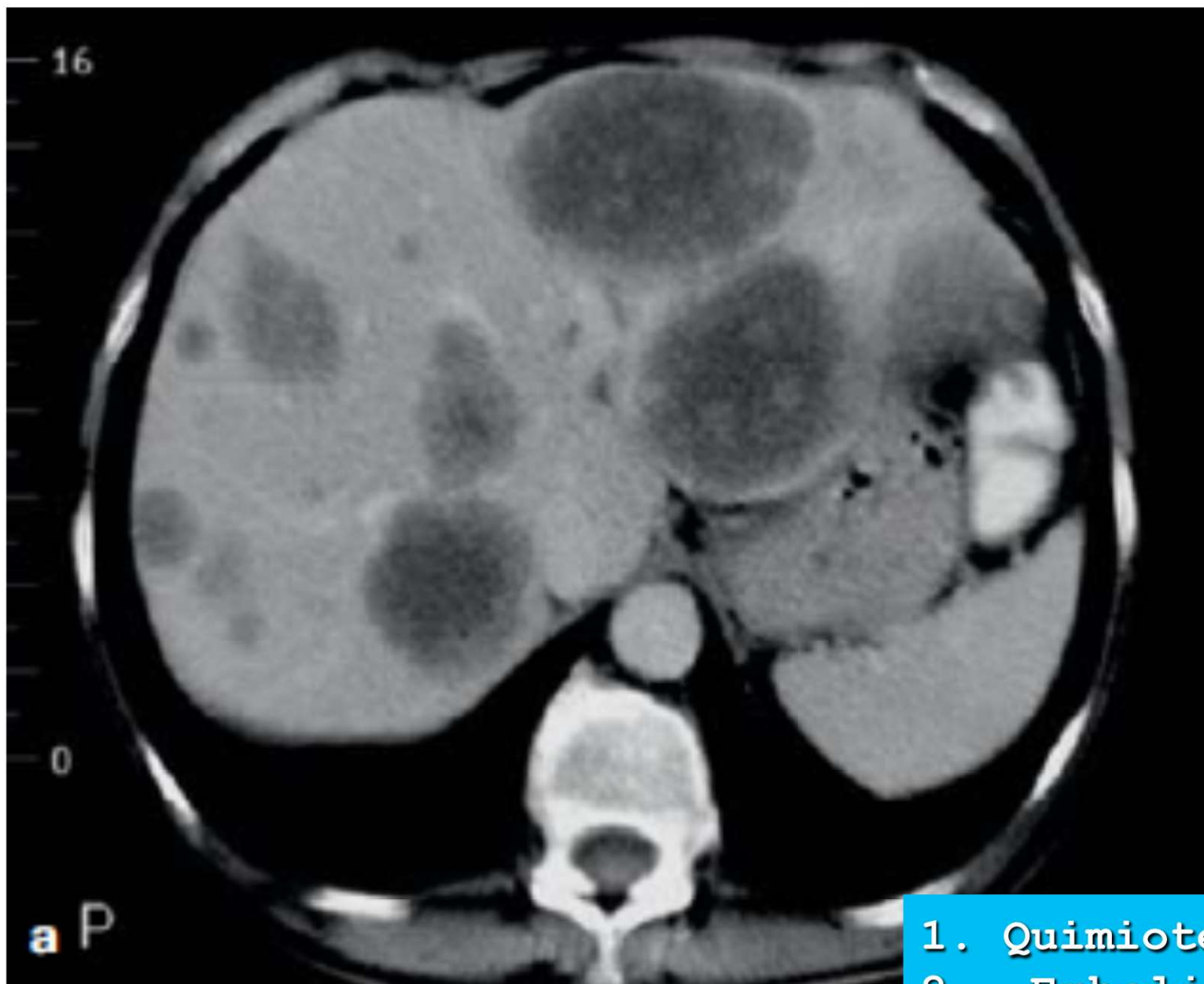
- ❑ Ablação por radiofreqüência (ARF), se faz com a passagem de corrente elétrica alternada (energia de radiofreqüência) pela área alvo, localizada no fígado.



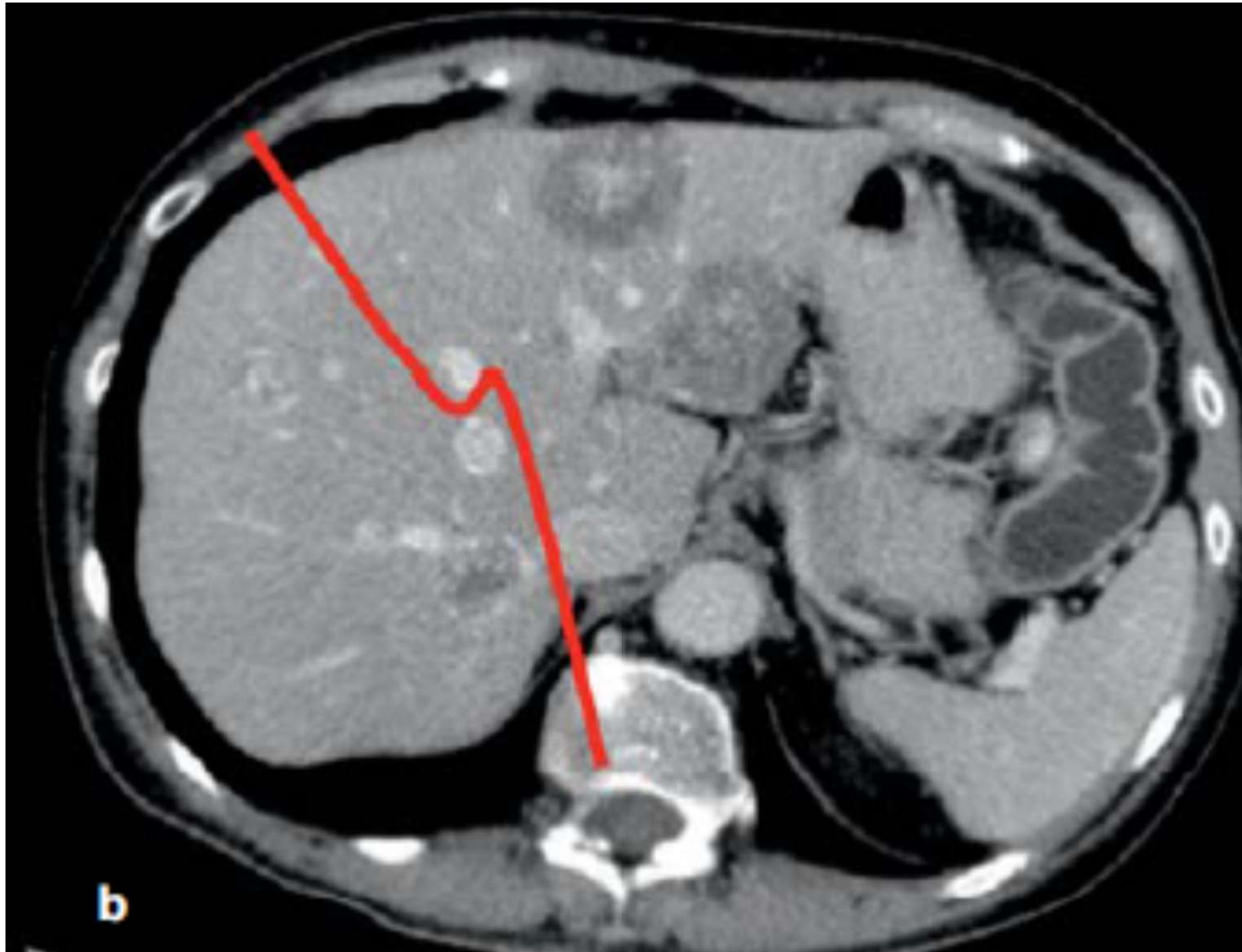
- Lesões profundas
- Perda de parênquima sadio
- Associado com ressecções maiores

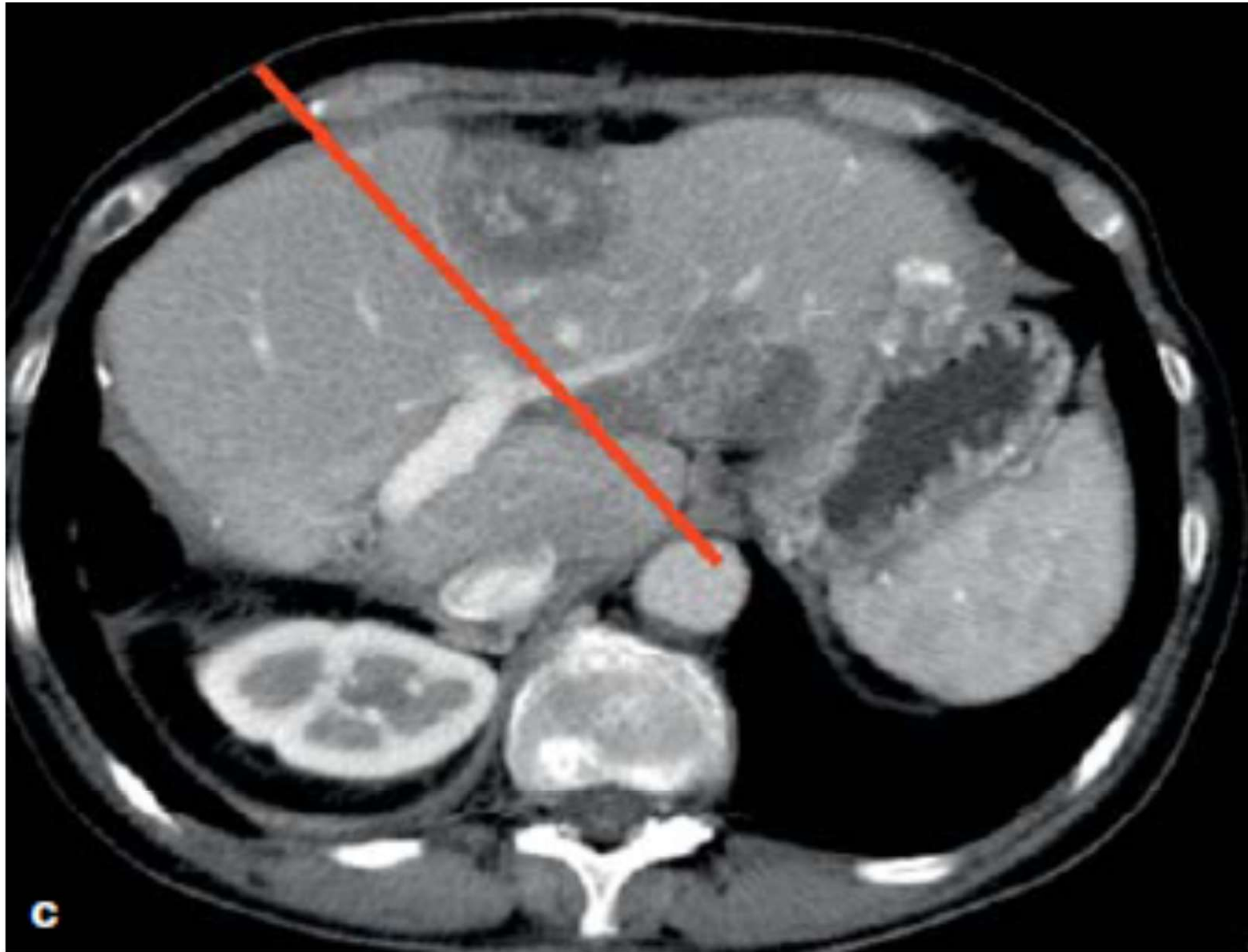






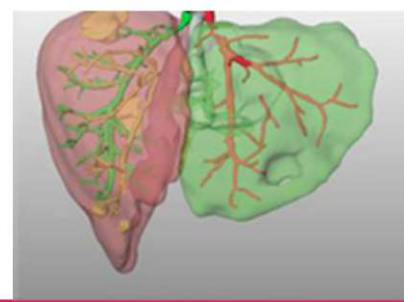
1. Quimioterapia
2. Embolização da veia porta
3. Operações dois tempos



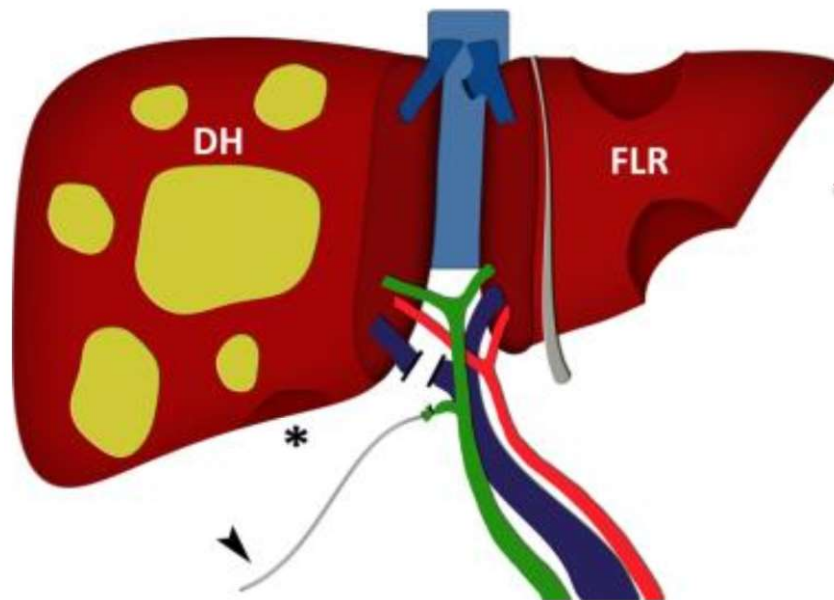




ALPPS

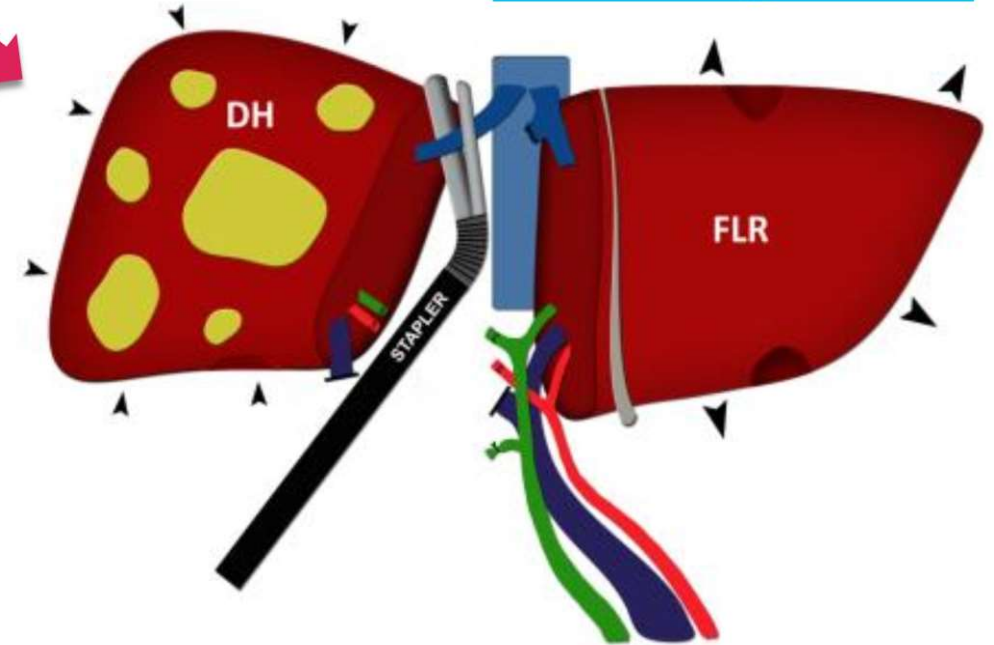


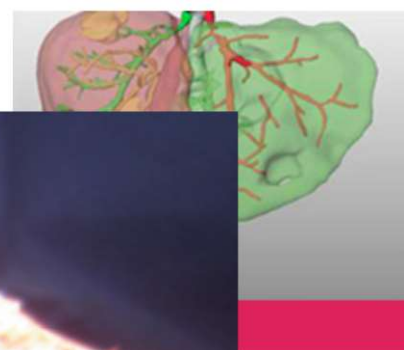
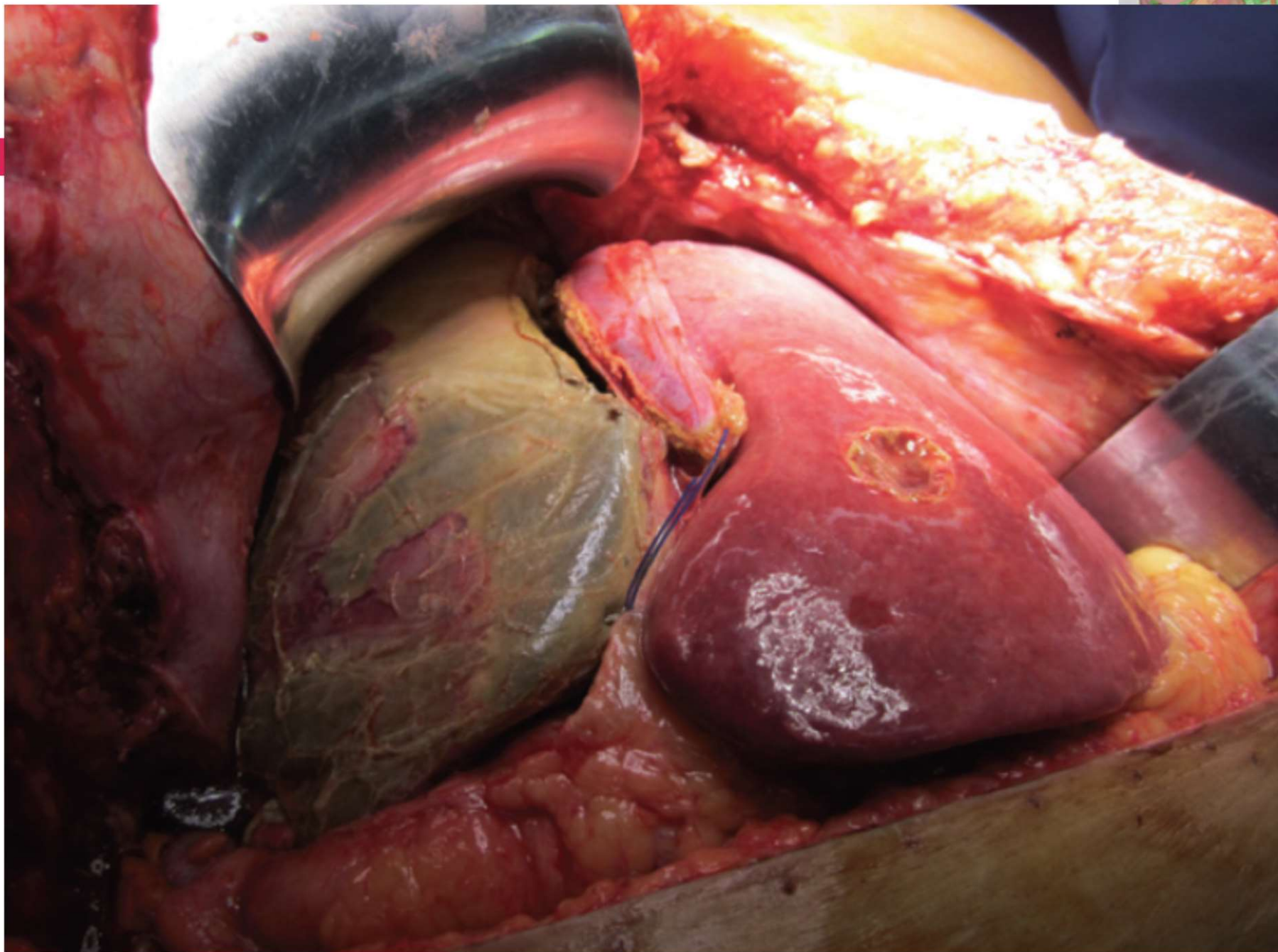
Cirurgia 1



7-10 dias

Cirurgia 2





Cortesia Dr. Sanjay Govil - Bangalore (India)



ABCDV/1112

ABCD Arq Bras Cir Dig

2015;28(3):155-156

DOI: /10.1590/S0102-67202015000300001

Editorial

ALPPS: PAST, PRESENT AND FUTURE

ALPPS: passado, presente e futuro

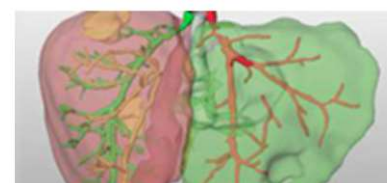
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Complete tumor resection in the liver is the only chance to obtain long-term survival in patients with hepatic tumor or metastasis from other primary cancers. In patients with a large load of tumor within the liver, multiple strategies have been employed to improve resection, especially when a small liver remnant is expected. Staged hepatectomies, in which the surgeon perform partial resection in one side of the liver, and after four to six weeks proceed with the resection of the other side, and strategies to induce hypertrophy of the future liver remnant that include percutaneous portal vein embolization or intraoperative portal vein ligation, have also been largely employed by specialized liver surgery teams.

Hans Schlitt from Regensburg, Germany developed a new procedure, called liver bi-partition, for the first time by chance, in 2007. Planning to perform an extended right hepatectomy in a patient with hilar cholangiocarcinoma - being the future cholestatic liver remnant too small to sustain the patient postoperatively - he decided to perform intraoperatively only a selective hepatico-jejunostomy on the left biliary system, dividing the liver parenchyma along the falciform ligament, thereby completely devascularizing segment 4. Finally, the right portal vein was ligated to induce hypertrophy on segments 2 and 3. On the 8th



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

Obrigado!