



Tratamento da litíase intra-hepática

Orlando Jorge M. Torres

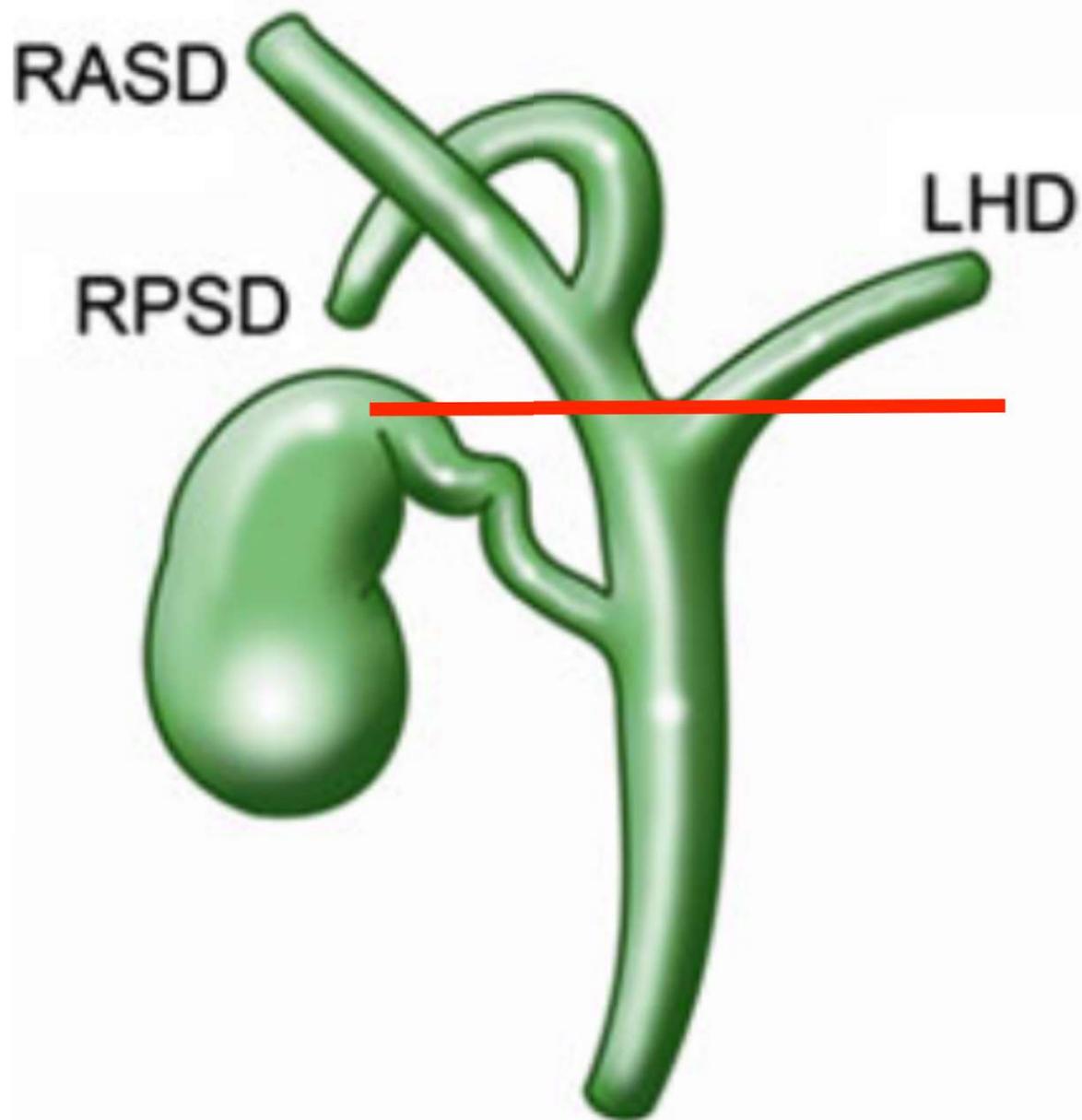
Professor Titular e Chefe do Serviço de
Cirurgia do Aparelho Digestivo
Unidade Hepatopancreatobiliar
Universidade Federal Maranhão - Brasil

HEPATOLITÍASE

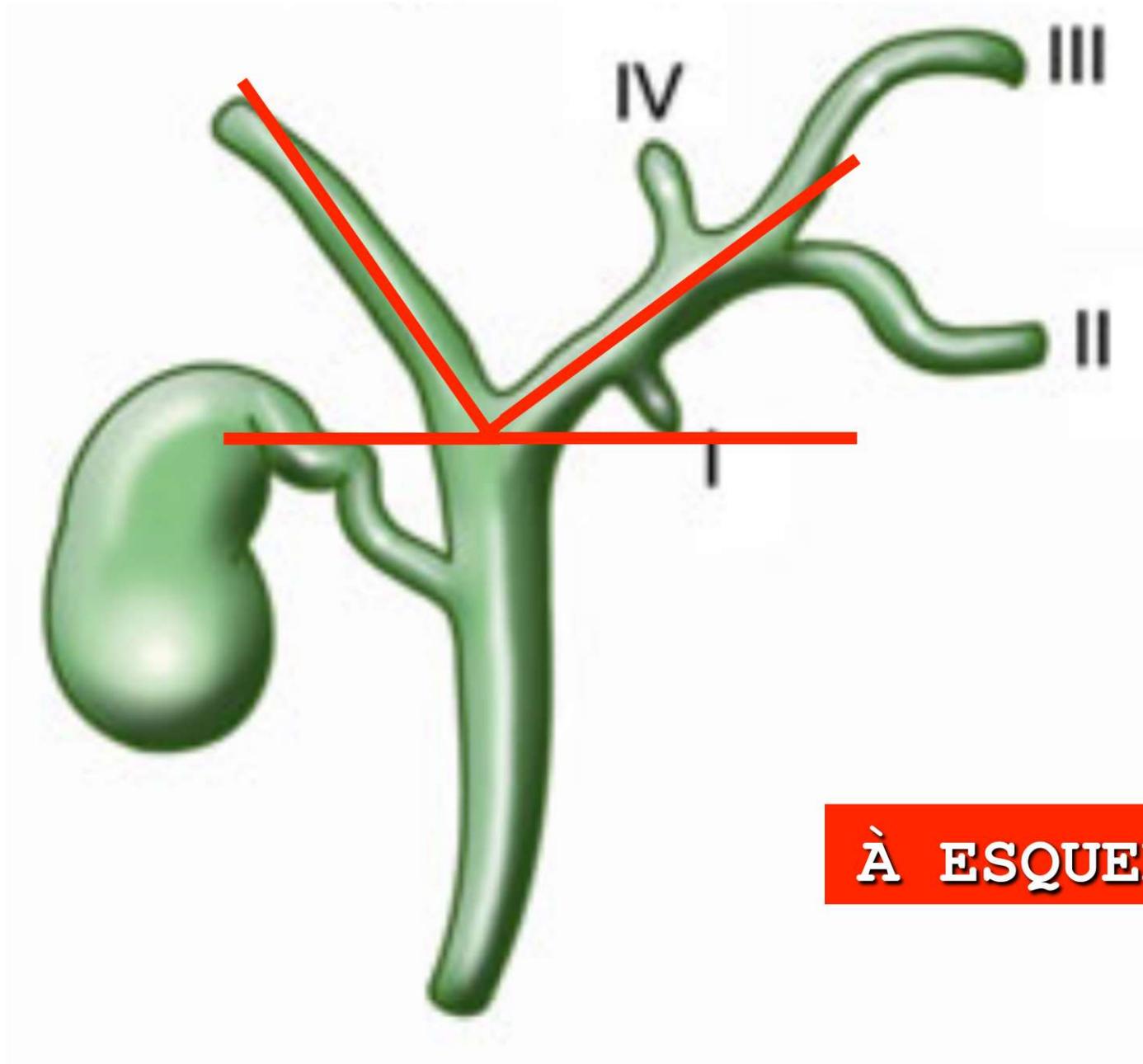
- Presença de cálculos localizados proximal à confluência dos ductos hepáticos direito e esquerdo.
- Independente da existência de cálculos na vesícula biliar ou na via biliar principal.
- Primária ou secundária.



HEPATOLITÍASE



LOCALIZAÇÃO



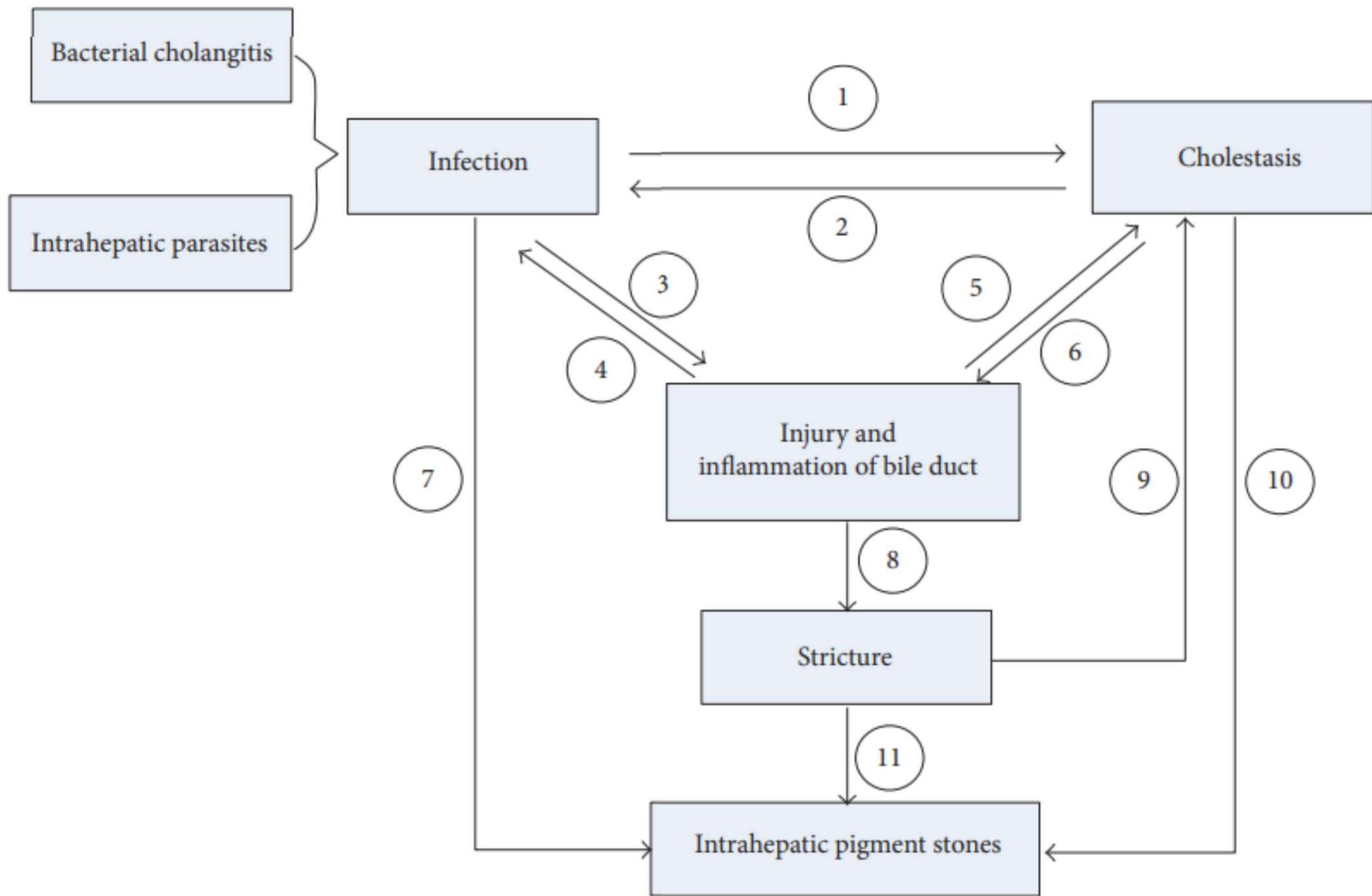
À ESQUERDA

CÁLCULOS



- Bilirrubinato de cálcio
- Pigmentos
- Colesterol





ETIOLOGIA

Infecção bacteriana recorrente

Escherichia coli

Klebsiella,

Streptococcus fecalis

Clostridia

Bacteroides

Infecção parasitária

Clonorchis sinensis

Ascaris lumbricoides

Anomalias da via biliar

Lesão da via biliar

Cisto de colédoco

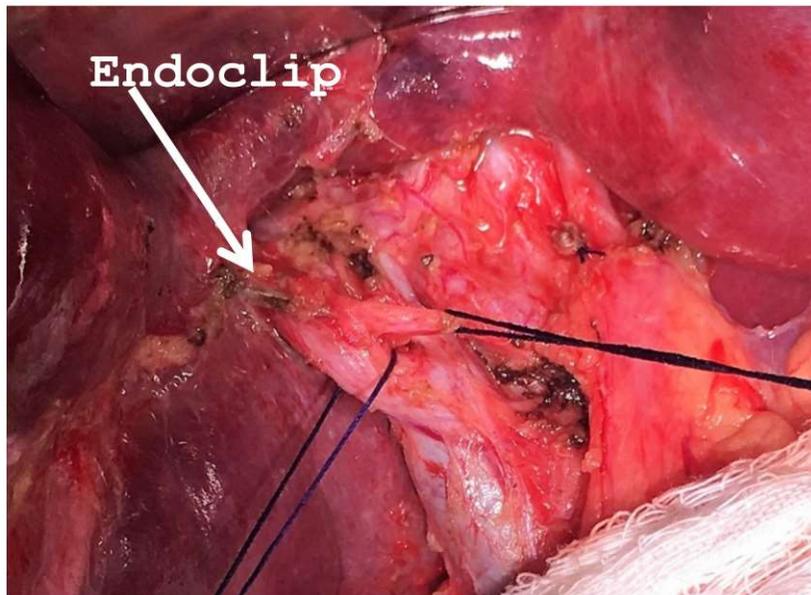
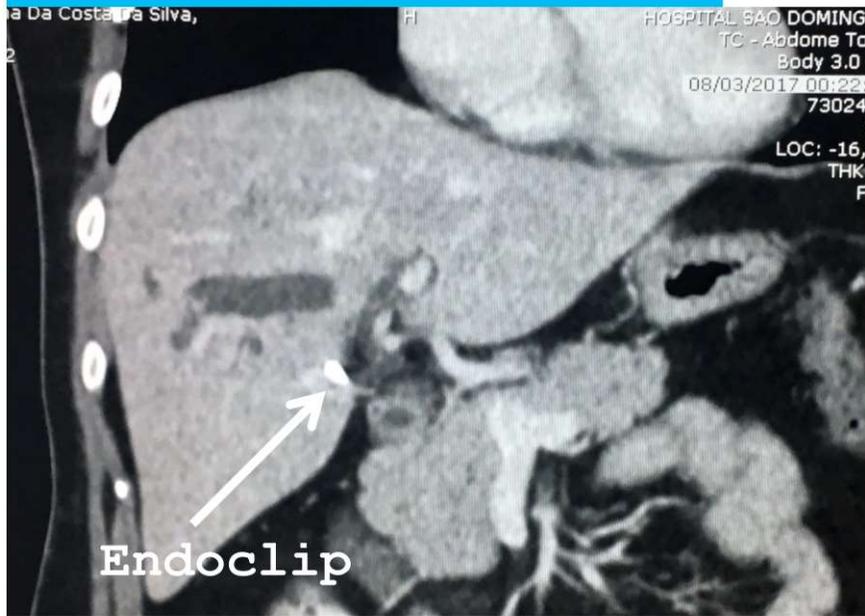
Doença de Caroli

CASE REPORT

Right hepatectomy due to hepatolithiasis caused by endoclip migration after laparoscopic cholecystectomy: a case report

Orlando J. M. Torres^{1,*}, Romerito F. Neiva¹, Camila C. S. Torres¹,
Theago M. Freitas¹, and Eduardo S. M. Fernandes²

COLECISTECTOMIA



LIVER RESECTION FOR NON-ORIENTAL HEPATOLITHIASIS

Ressecção hepática no tratamento da hepatolitíase não oriental

Orlando Jorge M. **TORRES**¹, Marcelo Moura **LINHARES**², Eduardo José B **RAMOS**³, Paulo Cezar G **AMARAL**⁴, Marcos **BELOTTO**⁵, Angelica Maria **LUCHESE**⁶, Romerito Fonseca **NEIVA**¹, Theago Medeiros **FREITAS**¹, Rodolfo **SANTANA**⁵, Josiel Paiva **VIEIRA**¹, Jaldo Santos **FREIRE**¹, Camila Cristina S **TORRES**¹, Antonio Nocchi **KALIL**⁶

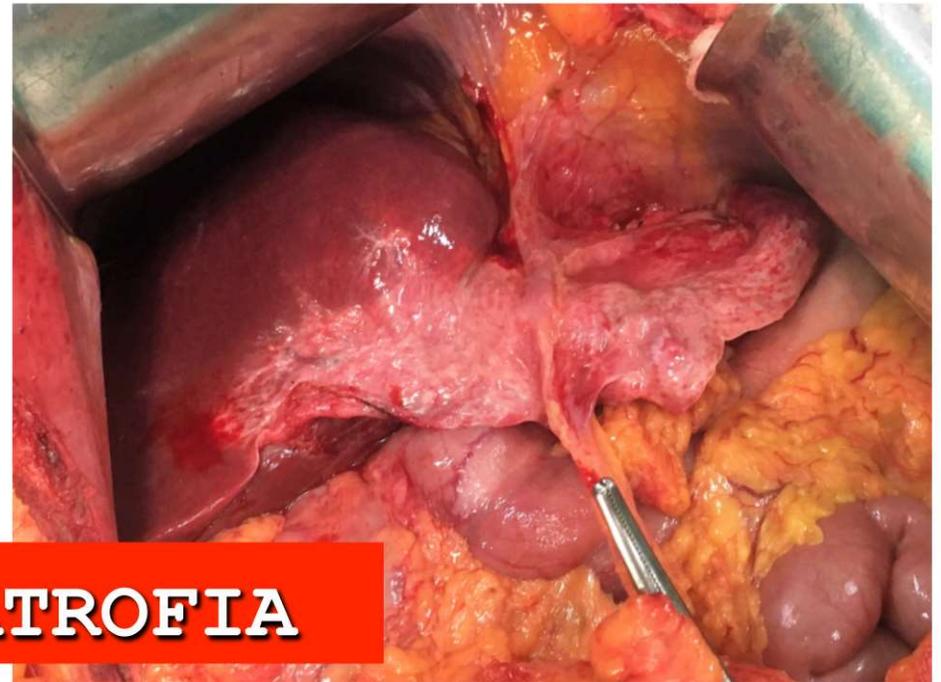
CLÍNICA

Clinical presentation	No. of patients (n = 110)	%
Acute cholangitis	14	12.7
Abdominal pain	78	70.9
Jaundice	4	3.6
Acute pancreatitis	3	2.7
Liver abscess	4	3.6
Subphrenic abscess	1	0.9
Cholecystitis	3	2.7
Incidental	3	2.7
Associated conditions		
Gall stones	22	20.0
Common bile duct stones		
Ascariasis (live or dead)		
Oesophageal varices		
Splenomegaly	4	3.6

Atrofia

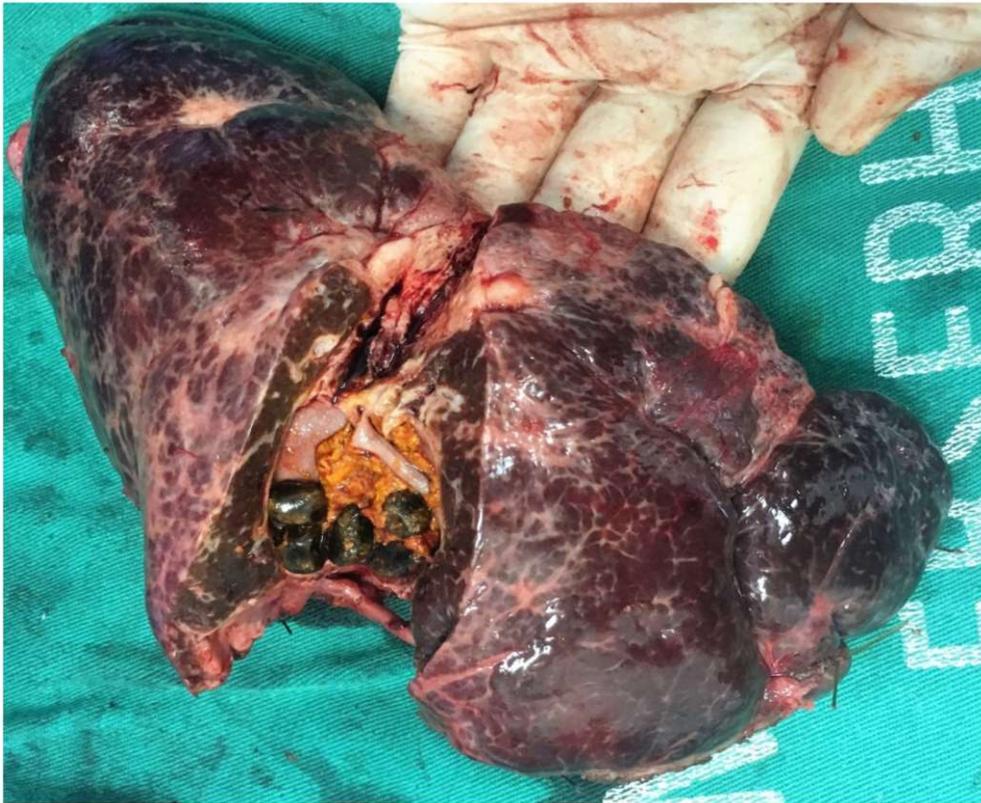
Cirrose biliar secundária

Colangiocarcinoma (3-8%)

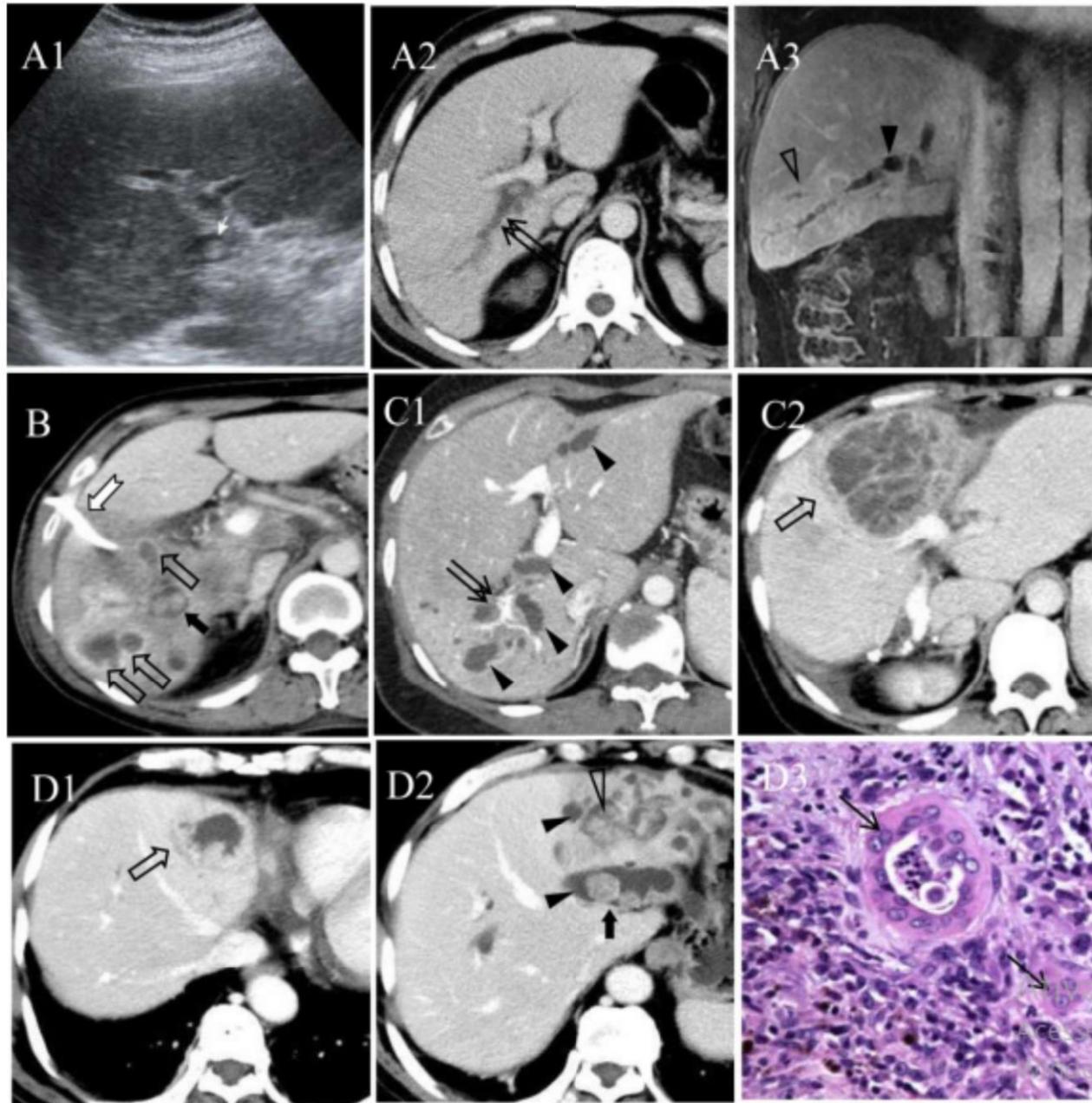


ATROFIA

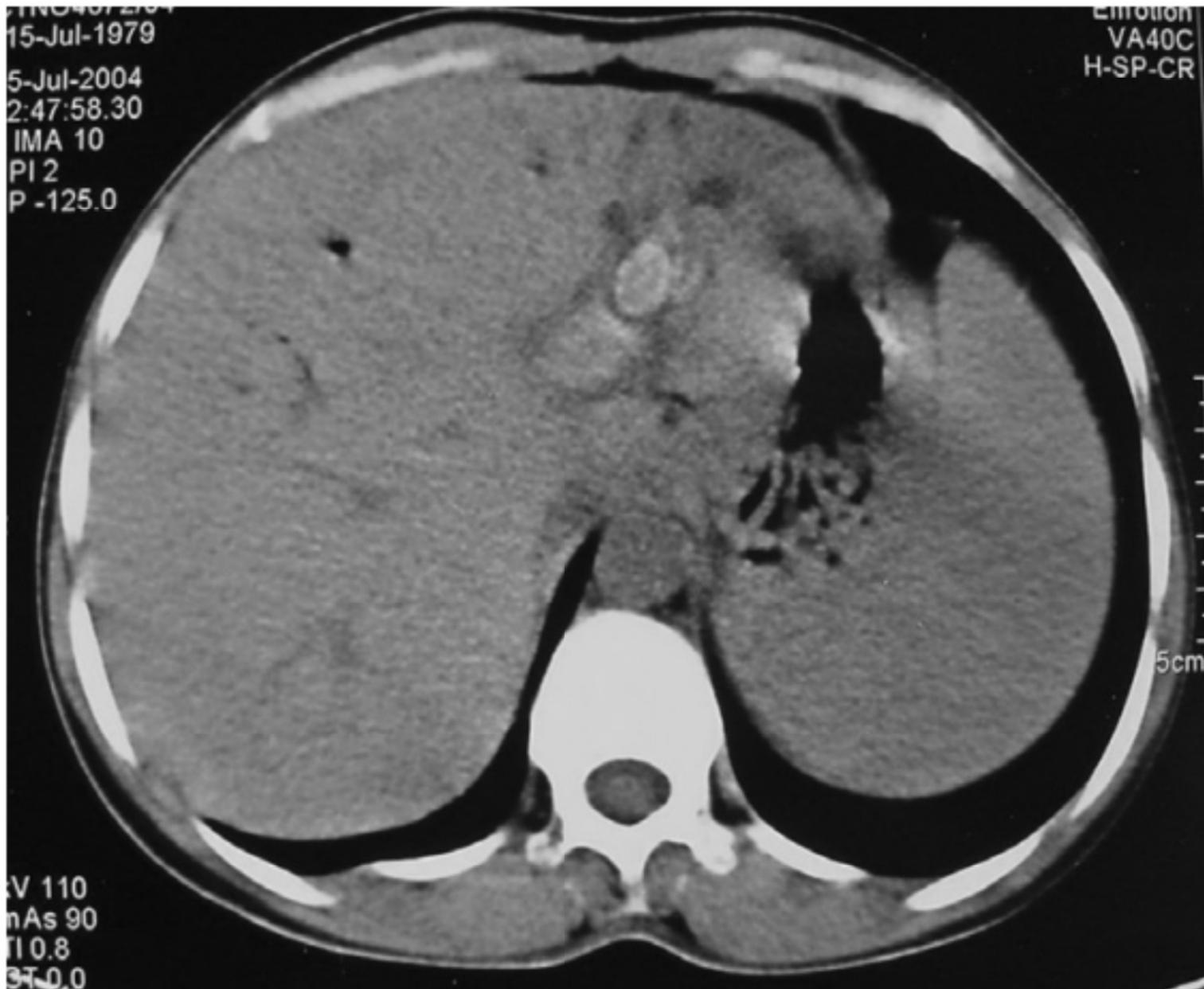
SEM ATROFIA



ABCESSO HEPÁTICO

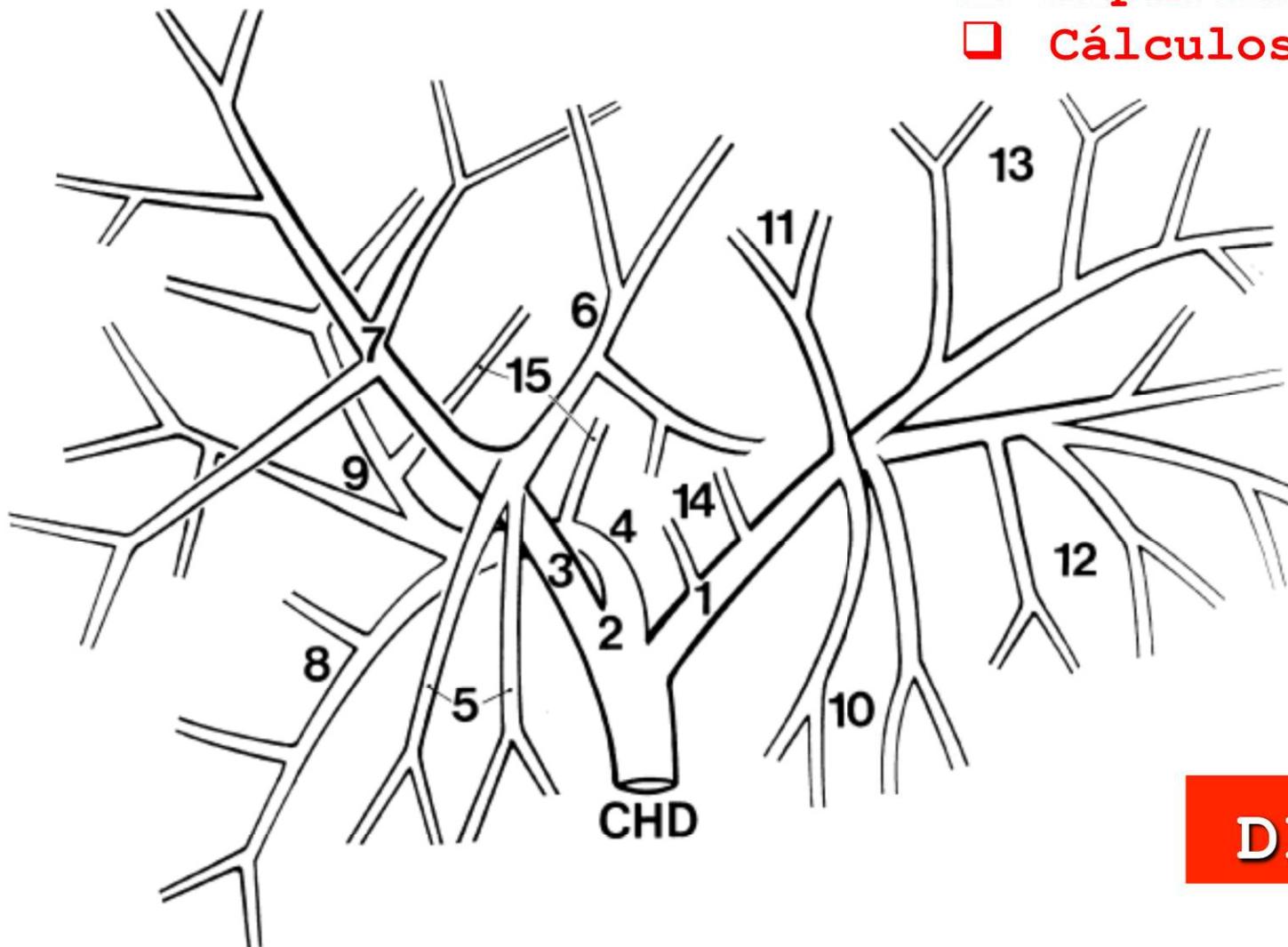


DIAGNÓSTICO



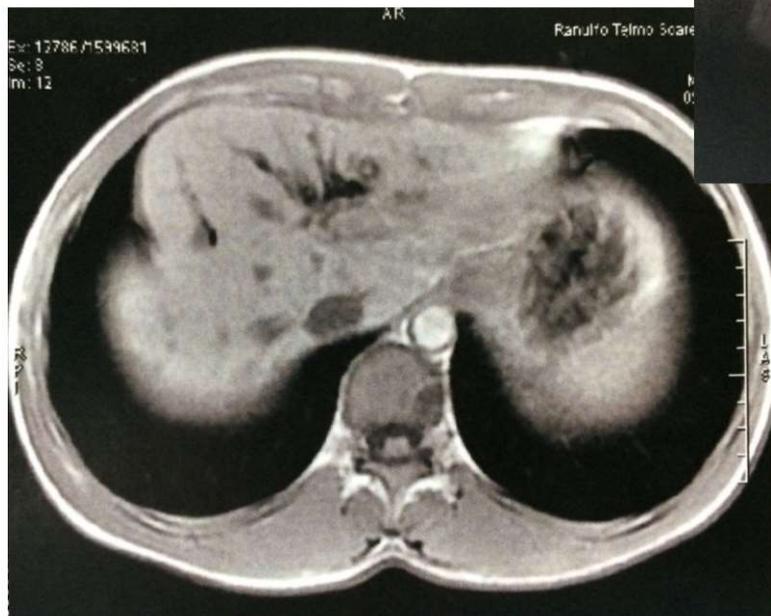
HEPATOLITÍASE

- Localização
- Extensão
- Atrofia
- Cirrose
- Hipertensão Porta
- Cálculos extra-hepático



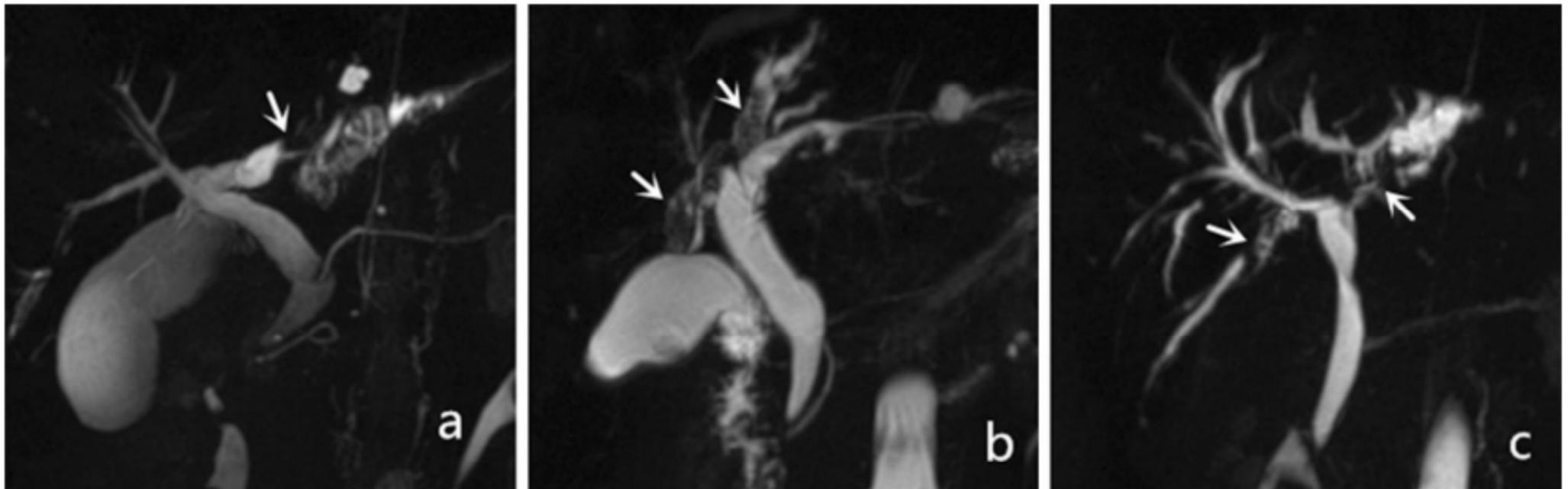
DIAGNÓSTICO

HEPATOLITÍASE

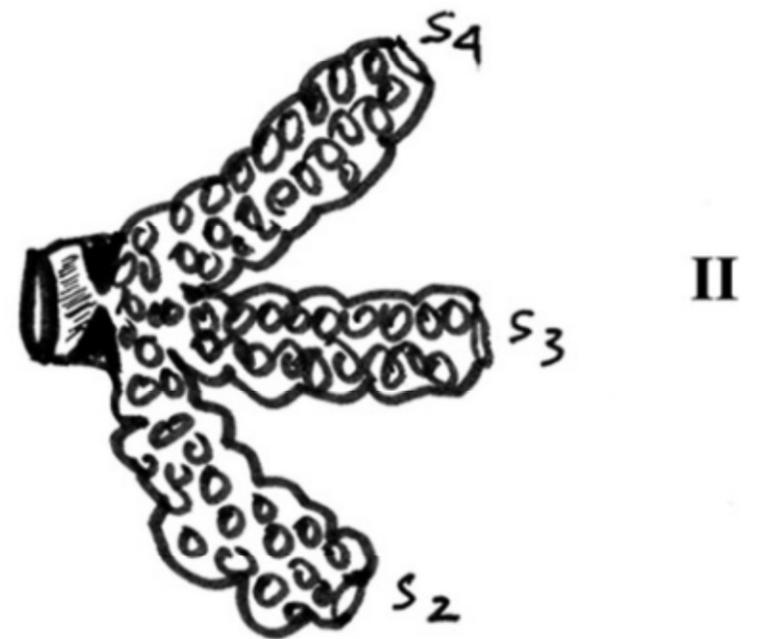
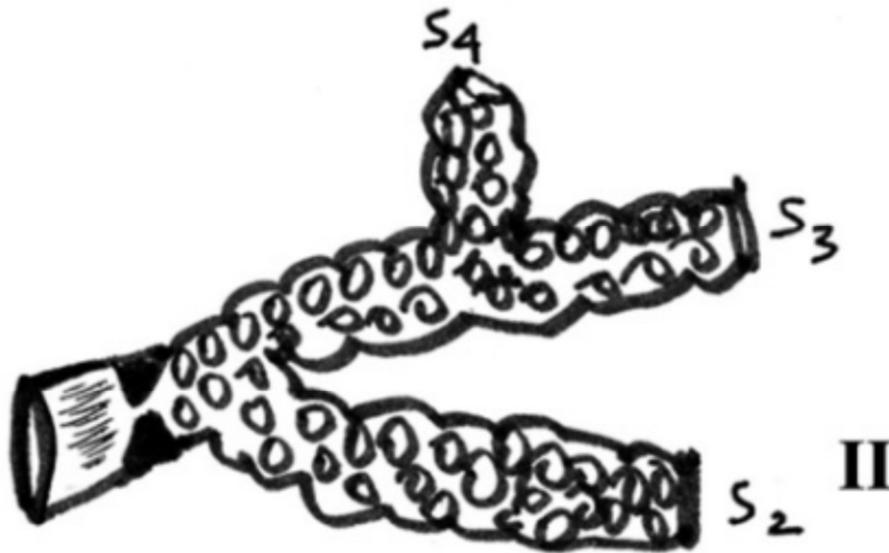
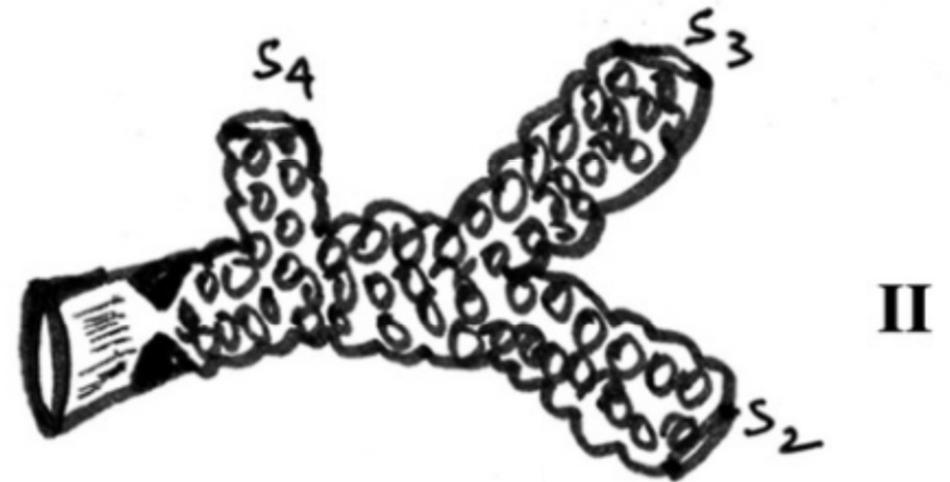


Risk Factors for Cholangiocarcinoma After Initial Hepatectomy for Intrahepatic Stones

Ze-Wu Meng¹ · Sheng-Hua Han¹ · Jin-Hai Zhu¹ · Liang-Yi Zhou¹ · Yan-Ling Chen¹

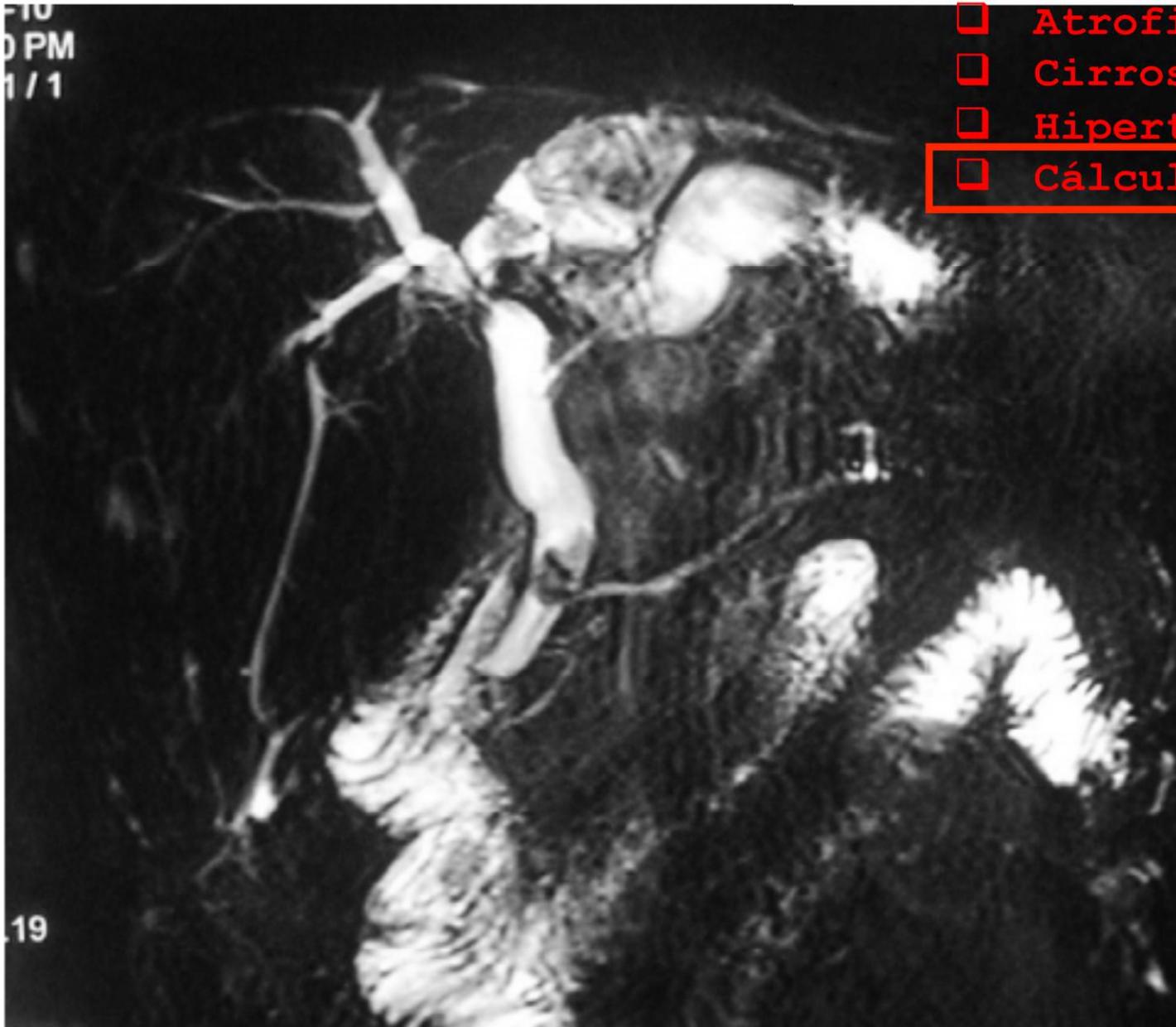


ATROFIA



DOENÇA EXTRA-HEPÁTICA

- Localização
- Extensão
- Atrofia
- Cirrose
- Hipertensão Porta
- Cálculos extra-hepático



CLASSIFICAÇÃO DE DONG

Table 1. Dong's classification of hepatolithiasis

Type	Definition or content
Type I	Localized stones: unilobar or bilobar
Type II	Diffusely distributed stones
IIa	Without hepatic atrophy; no stricture of the intrahepatic bile ducts
IIb	Atrophy limited in segment or/and stricture of the intrahepatic bile ducts.
IIc	With biliary cirrhosis and portal hypertension
Additional Type E	Extrahepatic stones
Ea	Normal sphincter of Oddi
Eb	Relaxation of the sphincter of Oddi.
Ec	Stricture of the sphincter of Oddi.

Table 2 Severity of hepatolithiasis graded as proposed by the Hepatolithiasis Research Group, Japan

Grade	Symptoms
I	No symptoms
II	Abdominal pain
III	Transient jaundice or cholangitis
IV	Continuous jaundice, sepsis or cholangiocarcinoma

ESTENOSE

Features	Group I Stricture + No (%) (n = 84)	Group II Stricture - No (%) (n = 26)	P-value
Presentation			
Acute cholangitis	4 (4.8)	10	0.000
Abdominal pain	70 (83.3)	8	0.000
Acute pancreatitis	0 (0.0)	3	0.014
Jaundice	0 (0.0)	4	0.002
Liver abscess	4 (4.8)	0	0.593
Subphrenic abscess	1 (1.2)	0	
Associated condition			
Gall stones	10 (11.9)	12	0.000
Common bile duct stones	4 (4.8)	16	0.000
Ascariasis (live or dead)	2 (2.4)	6	0.002
Oesophageal varices	0 (0.0)	3	0.014
Splenomegaly	0 (0.0)	4	0.002

CLÍNICA

Clinical presentation	n	%
Cholangitis	15	29.4
Abdominal pain	13	25.4
Fever and abdominal pain	11	21.5
Jaundice and pain	5	9.8
Weight loss	5	9.8

TRATAMENTO NÃO CIRÚRGICO

Tratamento percutâneo

Com litotripsia

Sem litotripsia

Tratamento endoscópico

Com litotripsia

Sem litotripsia

OBJETIVOS DA CIRURGIA

- Tratar a infecção
- Evitar colangite recorrente
- Prevenir/tratar fibrose hepática
- Diminuir a instrumentação
- Prevenir colangiocarcinoma

ORIGINAL ARTICLE

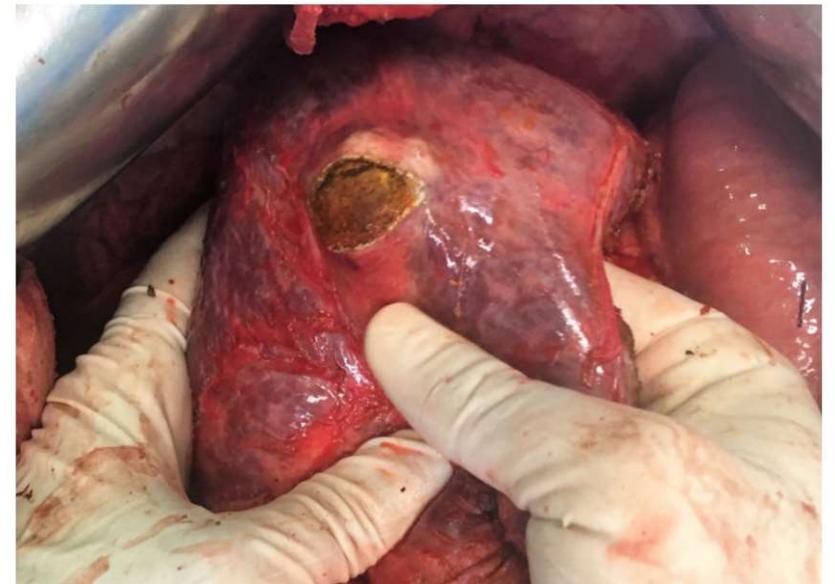
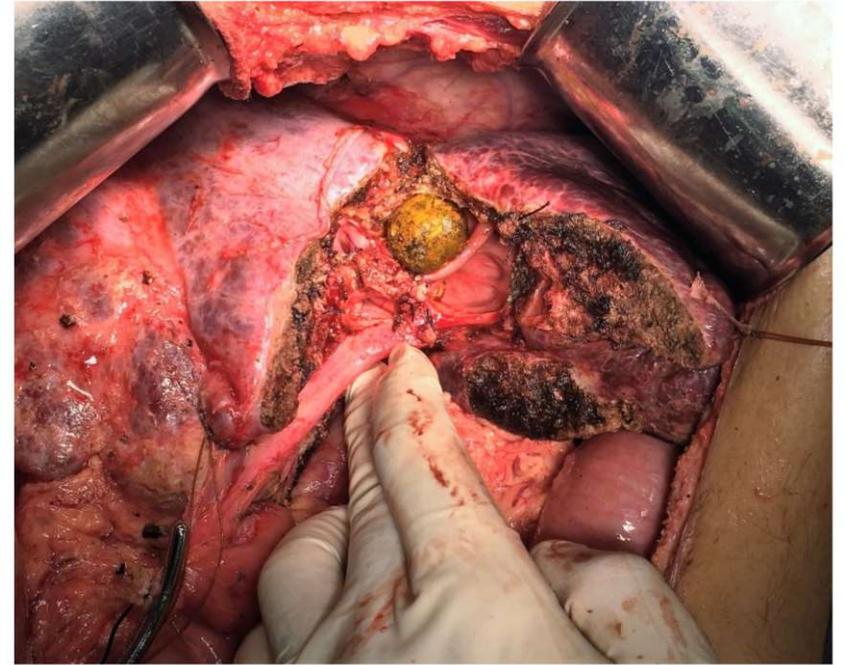
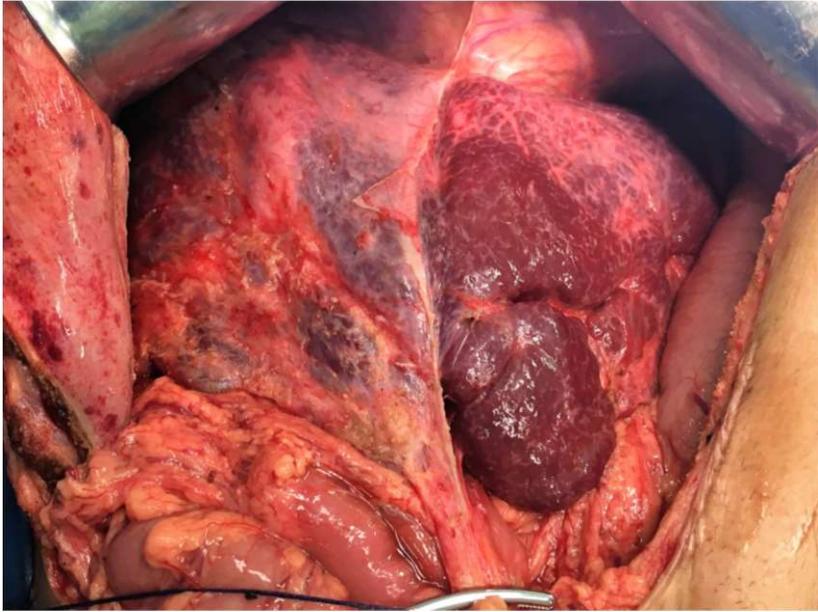
Anatomic hepatectomy as a definitive treatment for hepatolithiasis: a cohort study**Table 4** Type of liver resection in hepatolithiasis (Brisbane Terminology)¹³

Type of liver resection	<i>n</i>	%
Left lateral sectionectomy	22	42.3
Right posterior sectionectomy	9	17.5
Left hepatectomy	8	15.4
Right hepatectomy	6	11.5
Right anterior sectionectomy	2	3.9
Extended right hepatectomy	1	1.9
Extended left hepatectomy	1	1.9
Left lateral sectionectomy + segmentectomy VII	1	1.9
Right posterior sectionectomy + segmentectomy V	1	1.9
Segmentectomy VIII	1	1.9
Total	52	100

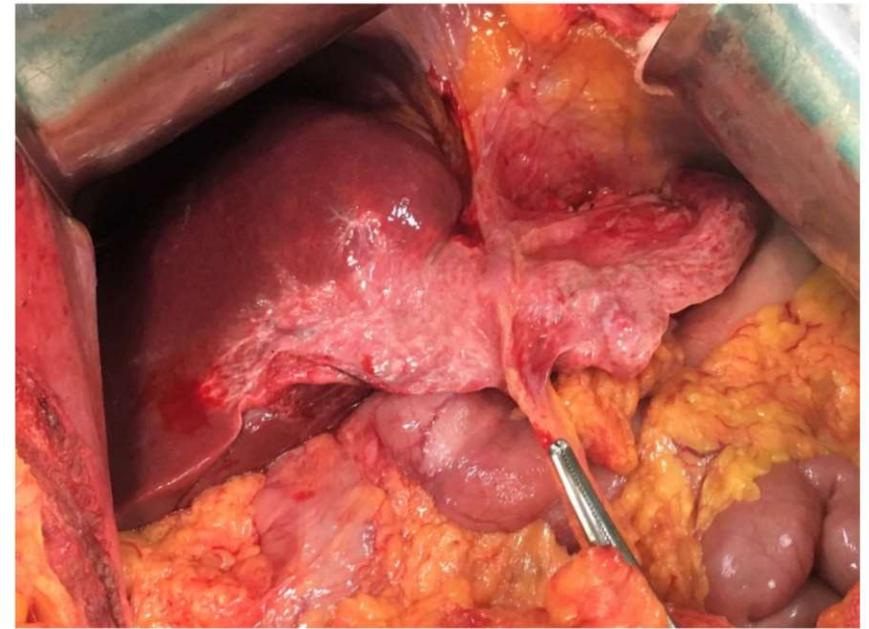
CIRURGIA

Surgical procedure	n	%
Left lateral sectionectomy	24	47.1
Left hepatectomy	14	27.5
Right hepatectomy	8	15.7
Right posterior sectionectomy	3	5.9
Bisegmentectomy 5-6	1	1.9
Non-anatomic hepatectomy	1	1.9
Additional hepaticojejunostomy	4	7.8

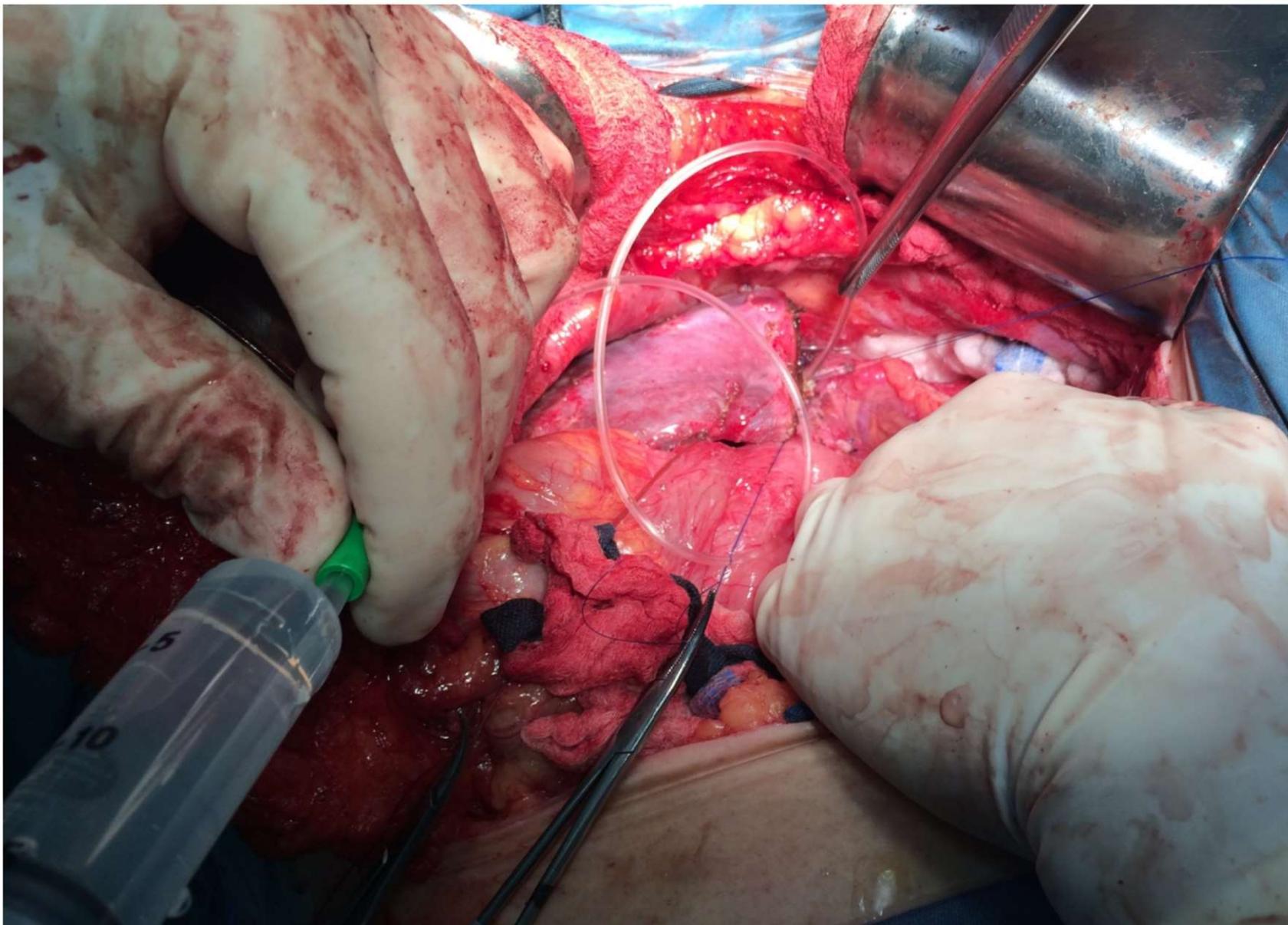
RESSECÇÃO HEPÁTICA



RESSECÇÃO HEPÁTICA



CLAREAMENTO DA VIA BILIAR

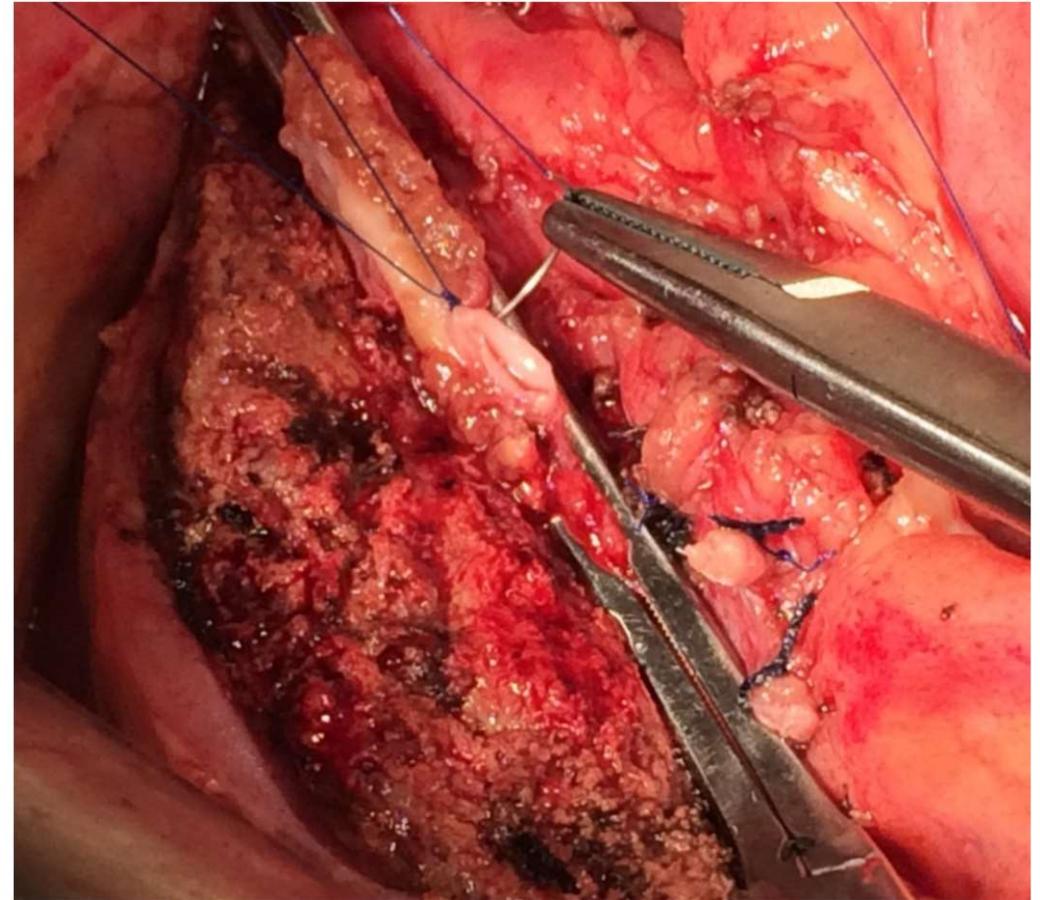
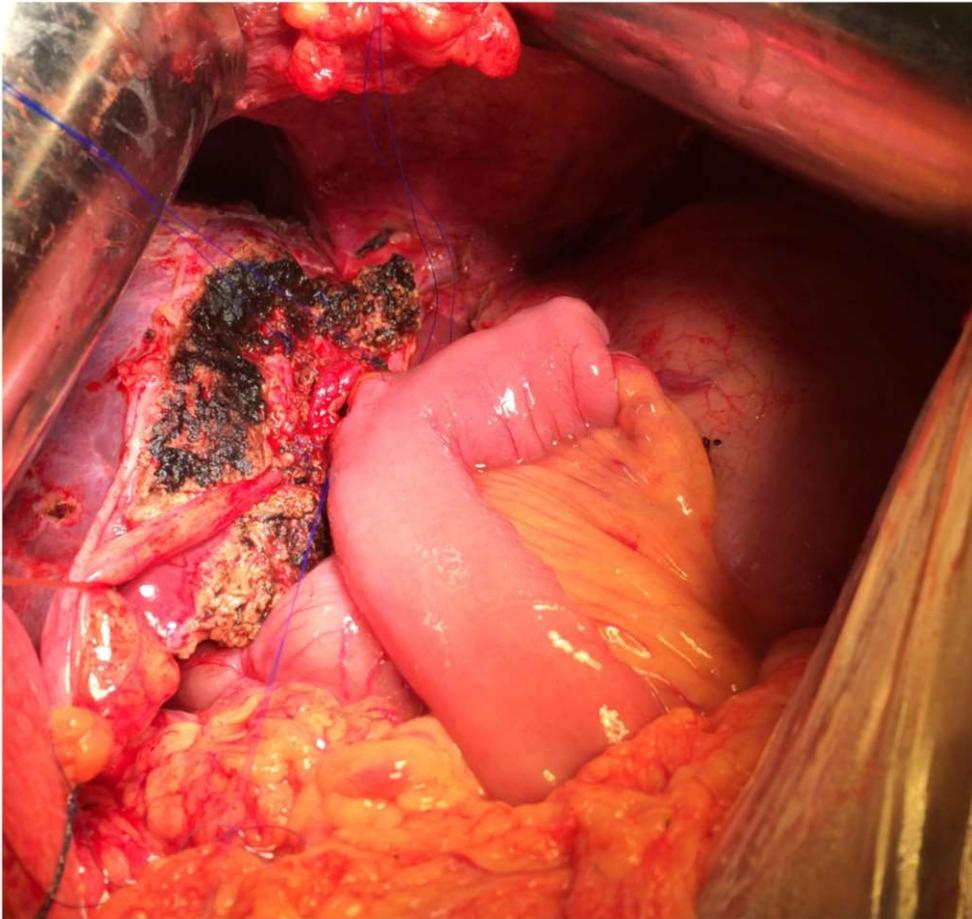


VIA BILIAR

Principal

Superfície de ressecção

DERIVAÇÃO BILIO-DIGESTIVA





World Journal of
Gastroenterology

Submit a Manuscript: <http://www.wjgnet.com/esps/>
Help Desk: <http://www.wjgnet.com/esps/helpdesk.aspx>
DOI: 10.3748/wjg.v21.i12.3564

World J Gastroenterol 2015 March 28; 21(12): 3564-3570
ISSN 1007-9327 (print) ISSN 2219-2840 (online)
© 2015 Baishideng Publishing Group Inc. All rights reserved.

ORIGINAL ARTICLE

Case Control Study

Hepatectomy with primary closure of common bile duct for hepatolithiasis combined with choledocholithiasis

Comparison of laparoscopic versus open left-sided hepatectomy for intrahepatic duct stones

Yong Chan Shin¹ · Jin-Young Jang¹ · Mee Joo Kang¹ · Woohyun Jung¹ · Jihoon Chang¹ · Ye Rim Chang¹ · Sun-Whe Kim¹

LAPAROSCOPIA

	LLS (<i>n</i> = 33)	OLS (<i>n</i> = 30)	<i>p</i> Value
Operation time (min)	175.1 ± 57.2	203.8 ± 43.0	0.029
Estimated blood loss (ml)	268.5 ± 170.8	340.0 ± 221.6	0.198
Intraoperative transfusion (yes)	2 (6.1 %)	1 (3.3 %)	0.612
Postoperative hospital stay (days)	8.0 ± 2.7	14.7 ± 5.8	<0.001
Complications (total)	4 (12.1 %)	14 (46.7 %)	0.002
Wound problems	1 (3 %)	7 (12.7 %)	0.016
Intraabdominal fluid collection	3 (9.1 %)	5 (16.7 %)	0.367
Biliary fistula	0	2 (6.7 %)	0.132
T-tube tractitis	0	1 (3.3 %)	0.290
Initial residual stone	4 (12.1 %)	10 (33.3 %)	0.043
Final residual stone	0	3 (10 %)	0.063
Recurrent stone	1 (3 %)	2 (6.7 %)	0.498
Median F/U (months)	53.1 (3.8–133.2)	93.5 (13.2–139.9)	0.014

LAPAROSCOPIA



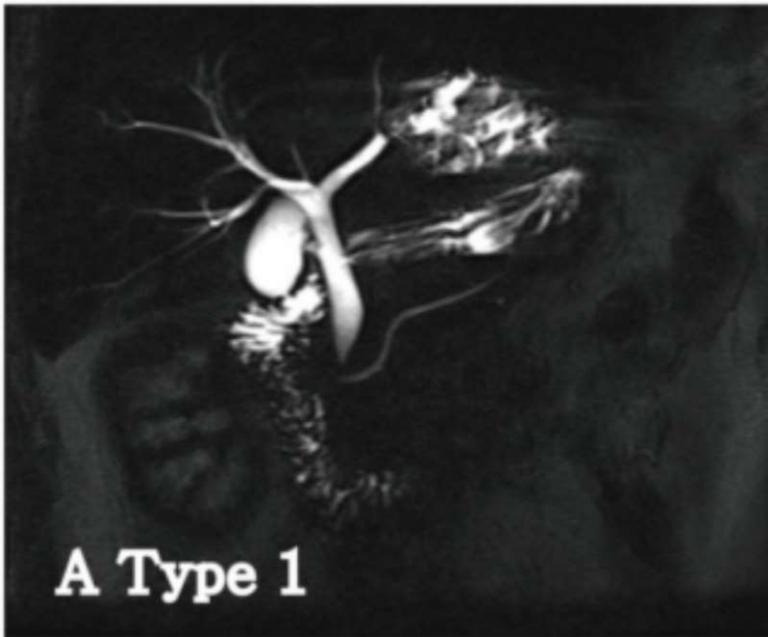
Research Paper

Comparison of Laparoscopic Versus Open Left Hemihepatectomy for Left-Sided Hepatolithiasis

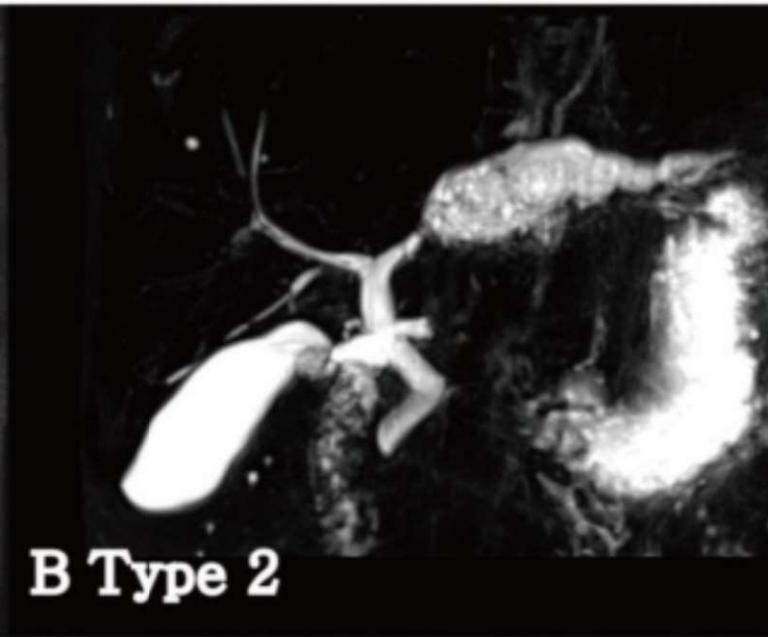
Jung-Man Namgoong, Ki-Hun Kim[✉], Gil-Chun Park, Dong-Hwan Jung, Gi-Won Song, Tae-Yong Ha, Duk-Bok Moon, Chul-Soo Ahn, Shin Hwang, Sung-Gyu Lee

Department of Surgery, University of Ulsan College of Medicine, Asan Medical Center, Seoul, Korea

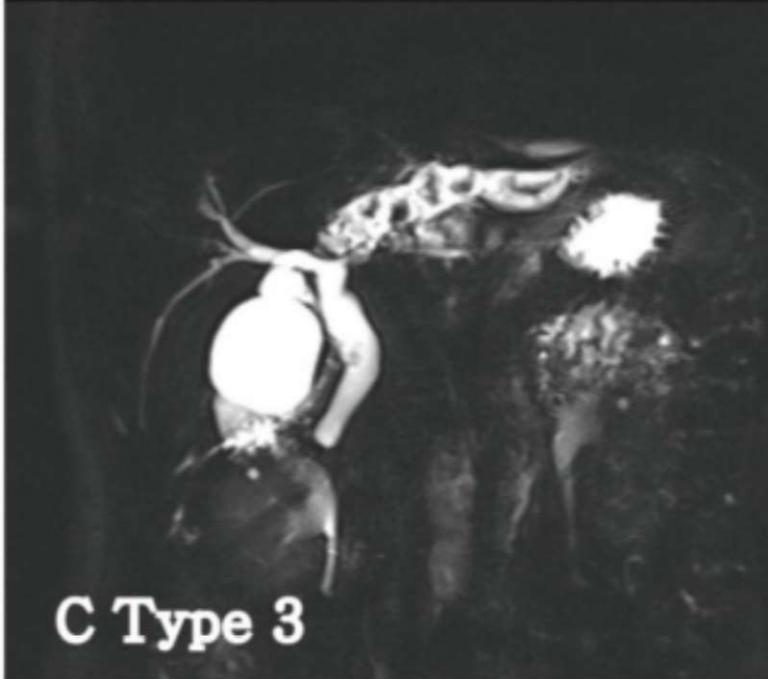
LAPAROSCOPIA



A Type 1



B Type 2



C Type 3



D Type 4

LAPAROSCOPIA



LAPAROSCOPIA

Table 3. Perioperative outcomes

Variable	LLH (n=37)	OLH (n=112)	p-value
Duration of operation (min)	257±50.4	237±75.5	0.022
Intraoperative transfusion (patient number)	0 (0)	10 (9)	0.048
Intraoperative bleeding (mL)	280±96.9	347±285.5	0.035
Resection of Caudate lobe	1 (2.7)	15 (13.4)	0.121
T-tube insertion	0 (0)	5 (4.5)	0.333
Time to oral intake (day)	2.2±0.48	2.8±0.46	<0.001
Postoperative hospital stay (day)	8.8±4.10	14.1±4.98	<0.001
Postoperative complication	4 (10.8)	20 (17.8)	0.982
Liver-related complications	2 (5.4)	3 (2.7)	0.598
Bile leakage	0 (0)	1 (0.8)	0.564
Intra-abdominal fluid collection	2 (5.4)	2 (1.7)	0.257
Infectious complications	2 (5.4)	17 (15.2)	0.160
Intra-abdominal abscess	0 (0)	4 (3.6)	0.151
Wound abscess	2 (5.4)	12 (10.7)	0.337
Pneumonia	0 (0)	1 (0.8)	0.564
Dindo-Clavien classification			
Grade I	2 (5.4)	7 (6.3)	0.852
Grade II	2 (5.4)	11 (9.8)	0.409
Grade IIIa/IIIb	0 (0) / 0 (0)	2 (1.7) / 0 (0)	0.413
Grade IV	0 (0)	0 (0)	-
Postoperative mortality	0 (0)	0 (0)	-

Values are presented as mean ± SD or number (%).

Table 4. The stone clearance and recurrence rate

Variable	LLH (n=37)	OLH (n=112)	p-value
Initial clearance rate ^a	37 (100)	108 (96.4)	0.191
Final clearance rate ^b after postoperative ERCP, EST and PTCS	37 (100)	112 (100)	-
Recurrent stone	0 (0)	2 (1.8)	0.281

LAPAROSCOPIA

COMPLICAÇÕES

**Table 2 Postoperative complications, hospital stay and costs
n (%)**

Complication	Drainage group (<i>n</i> = 48)	Non-drainage group (<i>n</i> = 43)	<i>P</i> value
Residual stones	7 (14.6)	4 (9.3)	0.329
Bile leakage	7 (14.6)	6 (13.9)	0.586
Pancreatitis	2 (4.2)	2 (4.7)	0.649
Cholangitis	13 (27.1)	9 (20.9)	0.331
T-tube dislocation	1 (2.1)	0	0.527
Postoperative hospital stay (d)	15.4 ± 2.1	11.2 ± 2.8	0.000
Postoperative costs (yuan)	32 933.3 ± 6235.1	29 325.6 ± 5668.2	0.005

RESULTADOS

Table 2. Surgical procedures in patients with primary intrahepatic lithiasis.

Surgical procedure	No.
Bilateral Stones (<i>n</i> = 51)	
Hepaticojejunostomy	25
Papillosphincteroplasty	2
Hepaticojejunostomy + bisegmentectomy (II, III)	3
Hepaticojejunostomy + left hepatectomy	1
Unilateral Stones (<i>n</i> = 7)	
Segmentectomy (II, III)	3
Left hepatectomy	1
Right hepatectomy	3
Bisegmentectomy (II, III) + Hepaticojejunostomy	3
Left hepatectomy + hepaticojejunostomy	1
Bisegmentectomy (II, III) + Papillosphincteroplasty	2
Hepaticojejunostomy + stone clearance	3
Papillosphincteroplasty + stone clearance	1

DERIVAÇÃO BILIO-DIGESTIVA

RESULTADOS

Table 2
Surgical procedure and long-term results

Surgical procedure	n (%)	Good results (%)
Liver resection	17 (53.1)	17 (100)
Liver resection plus hepaticojejunostomy	10 (46.9)	8 (80)
Total	27 (100)	25 (92.6)

$P = .1282.$

DERIVAÇÃO BILIO-DIGESTIVA

COMPLICAÇÕES

Table 5 Summary of postoperative course and complications

	No. of patients (%)
Postoperative course	
Uneventful	45 (61.6)
Minor complication (grade I–II)	19 (26.0)
Major complication (grade III–IV)	9 (12.3)
Type of complication	
Wound infection	18 (24.6)
Bile leak	12 (16.4)
Bacteremia	11 (15.1)
Postoperative cholangitis	5 (6.8)
Intra-abdominal abscess	5 (6.8)

COMPLICAÇÕES

Table 4 Isolated microorganisms

Organism	No. of patients
<i>Enterococcus</i> species	44
<i>Pseudomonas</i> species	29
<i>E. coli</i> species	19
<i>Klebsiella</i> species	10
<i>Candida</i> species	10
<i>Citrobacter</i> species	6
<i>Enterobacter</i> species	4
<i>Clostridium</i> species	3
<i>Stenotrophomonas</i> species	2
<i>Staphylococcus</i> species	2
<i>Streptococcus</i> species	2
<i>Acinetobacter</i> species	1
<i>Providencia</i> species	1

COMPLICAÇÕES

Postoperative complications	n	%
Surgical site infection	9	17.6
Pneumonia	4	7.8
Biliary fistula	4	7.8
Pleural effusion	2	3.9
Bleeding	2	3.9
Acute renal failure	2	3.9
Subphrenic abscess	1	1.9

Incidence of underlying biliary neoplasm in patients after major hepatectomy for preoperative benign hepatolithiasis

Table 1. The incidence of underlying biliary neoplasm

Pathological differentiation		n=73
BIN	Low grade	7 (9.6%)
	Intermediate grade	1 (1.4%)
	High grade	4 (5.5%)
IPMN		1 (1.4%)
Cholangiocarcinoma		7 (9.6%)
Total		20 (27.4%)

BIN, biliary intraepithelial neoplasia; IPMN, intraductal papillary mucinous neoplasm

COLANGIOCARCINOMA

Table 3. Comparison of clinical characteristics between the benign stricture group and the biliary neoplasm group

Variables	Benign stricture n=53	Biliary neoplasm n=20	p-value
Age [range] (years)	61.13 [46-78]	62.15 [25-75]	0.36
Sex			
Male	16 (30.2%)	11 (55.0%)	0.05
Female	37 (69.8%)	9 (45.0%)	
Operative procedure			
Left hepatectomy	35 (66.0%)	12 (60.0%)	0.772
Right hepatectomy	9 (17.0%)	3 (15.0%)	
Left hepatectomy+S1	8 (15.1%)	5 (25.0%)	
Right hepatectomy+S1	1 (1.9%)	0 (0%)	
Symptom			
No symptom	15 (28.3%)	7 (35.0%)	0.571
Abdominal pain	32 (60.4%)	10 (50.0%)	
Fever	5 (9.4%)	2 (10.0%)	0.482
Jaundice	1 (1.9%)	0 (0%)	
Weight loss	0 (0%)	1 (5.0%)	
Total bilirubin [range] (mg/dl)	0.82 [0.2-7.9]	0.65 [0.4-1.3]	0.85
CA 19-9 [range] (U/ml)	35.9 [0.5-157.2]	21.545 [4.3-114.3]	
Atrophy			
Absence of atrophy	34 (64.2%)	8 (40.0%)	0.063
Presence of atrophy	19 (35.8%)	12 (60.0%)	

Obrigado!



www.drortlandotorres.com.br