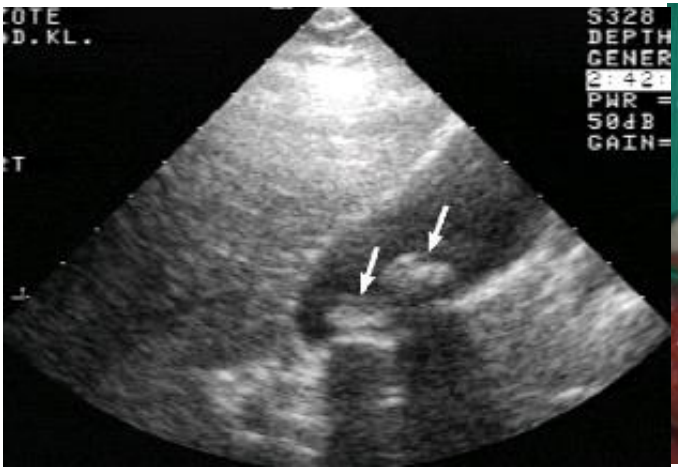
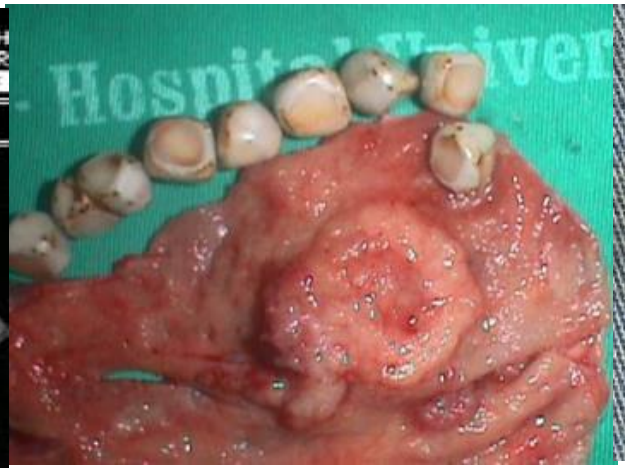





MANAGEMENT OF INCIDENTALLY DETECTED GALLBLADDER CANCER

Orlando Jorge M. Torres
Full Professor and Chairman
Department of Gastrointestinal Surgery
Hepatopancreatobiliary Unit
Federal University of Maranhão - Brazil

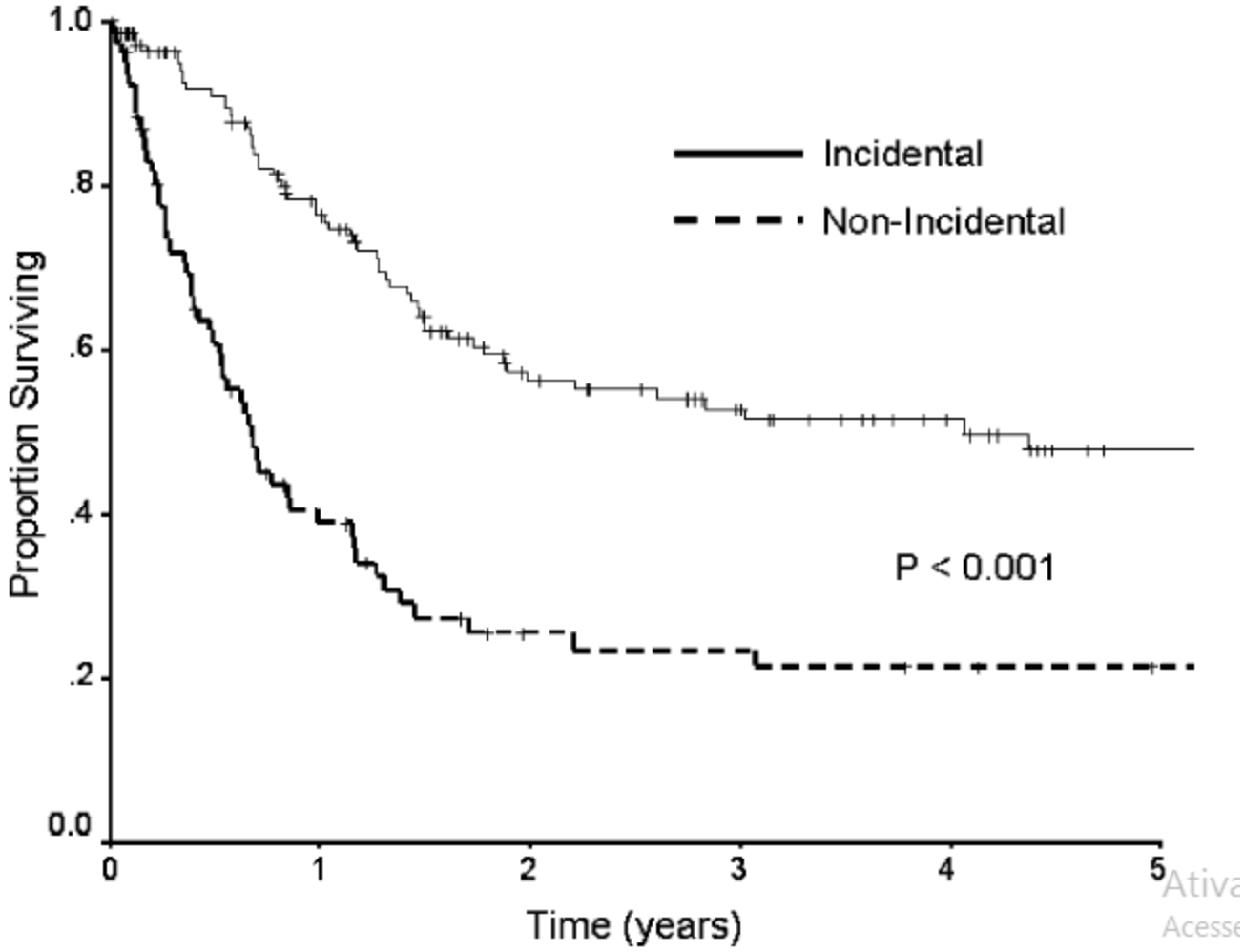
GALLBLADDER CANCER

- Suspected preoperatively
- Unexpected finding during laparoscopic cholecystectomy
- Discovered incidentally (IGBC) by the pathologist

_____

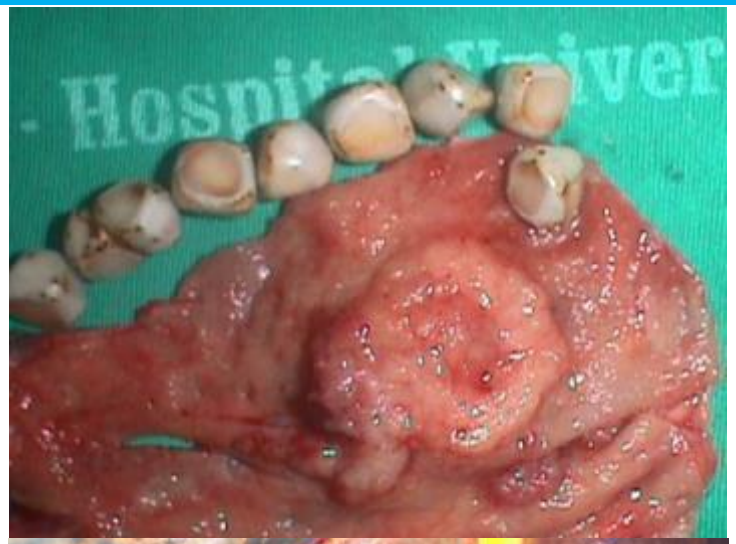
Jarufe N, et al. In Torres OJM. Ed Rubio. In Press

GALLBLADDER CANCER



Pawlik TM, et al. J Gastrointest Surg 2007;11:1478-87

INCIDENTAL GALLBLADDER CANCER ?



Jarufe N, et al. In Torres OJM. Ed Rubio. In Press

GALLBLADDER CANCER

- Detected or suspected preoperatively
  - Acute cholecystitis
  - Porcelain gallbladder
  - Irregular wall thickening
  - Polypoid lesions more than 10 mm
  - Fixed gallstones
  - Long-term disease (large gallstones)
  - Intraluminal mass

Jarufe N, et al. In Torres OJM. Ed Rubio. In Press

RISK FACTORS

FATORES DE RISCO RELACIONADOS AO CÂNCER DA VESÍCULA BILIAR[1-5]

- Litíase biliar
- Lesões polipoides da vesícula biliar
- Anomalias na junção do ducto biliopancreático
- Cistos de colédoco
- Infecções bacterianas
- Vesícula biliar em porcelana
- Adenomiomatose
- Colangite esclerosante primária
- Outras: polipose colônica, doença inflamatória intestinal, exposição química, obesidade, tabagismo, colecistite xantogranulomatosa, multiparidade e estado pós-menopausa.

Torres OJM, et al. Proaci – Semcad. 2011

COLELITÍASE E CÂNCER DE VESÍCULA BILIAR

CHOLELITHIASIS AND GALLBLADDER CARCINOMA

Orlando Jorge Martins Torres, TCBC – MA[1]
Lia Raquel de Alcântara Caldas[2]
Rodrigo Palácio de Azevedo[2]
Ricardo Lima Palácio[2]
Maria Luisa dos Santos Rodrigues[3]
José Anselmo Cordeiro Lopes[4]

RESULTADOS

Entre os 2.008 pacientes submetidos à colecistectomia, havia 1.649 do sexo feminino (82,1%) e 359 do sexo masculino (17,9%), com idade variando entre 5 e 99 anos (média de 46,3 anos).

A freqüência das lesões observadas evidenciou 2,3% de câncer da vesícula biliar (46 pacientes) e está representada na Tabela 1.

Tabela 1
Resultado do estudo anatomopatológico da vesícula biliar.

	Nº	%
Colecistite aguda	32	1,6
Colecistite crônica	1.928	96,0
Câncer	46	2,3
Adenoma	2	0,1

Torres OJM, et al. Rev Col Bras Cir 2002; 29:88-91

ARTIGO DE REVISÃO

Conduta nas lesões polipoides da vesícula biliar

Management of polypoid lesions of the gallbladder

ORLANDO JORGE MARTINS TORRES[1], RACHEL JORGE DINO COSSETTI[2], JANAINA OLIVEIRA BENTIVI[2], MARIA HELENA ALMEIDA COSTA[2], ALINE MARIA SANTOS FARIAS[2], GLÁUCIA MESQUITA CORDEIRO[3]

Disciplina de Clínica Cirúrgica III da Universidade Federal do Maranhão – UFMA – São Luís (MA)

RESUMO

Com o aumento do uso da ultrassonografia na prática diária, mais lesões polipoides da vesícula

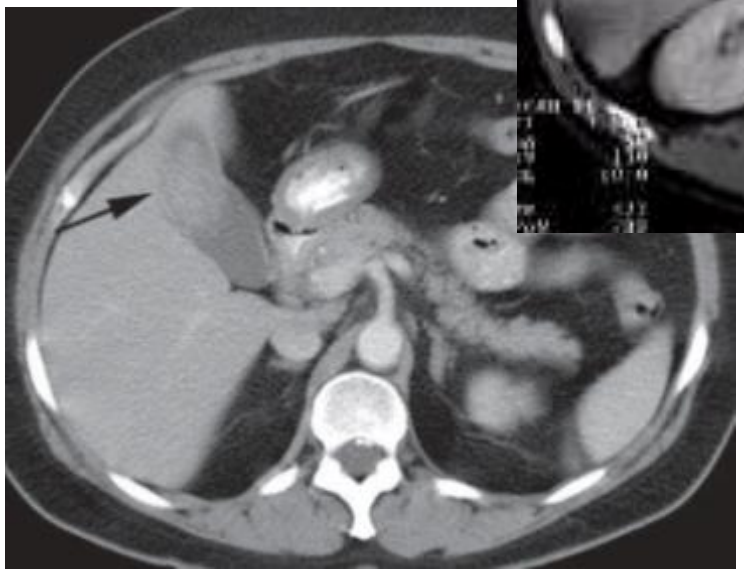
SUMMARY

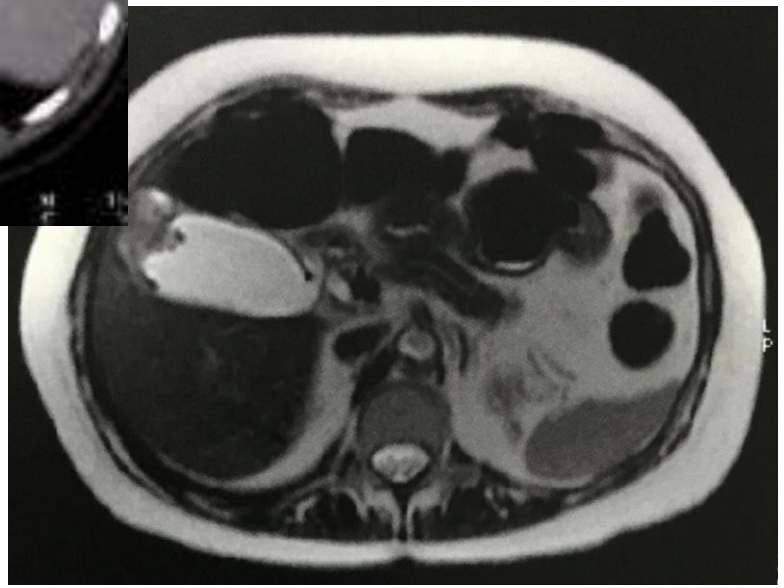
With the increasing use of percutaneous ultrasonography in modern practice, more polypoid

- ❑ > 10 mm
- ❑ Age > 40 years

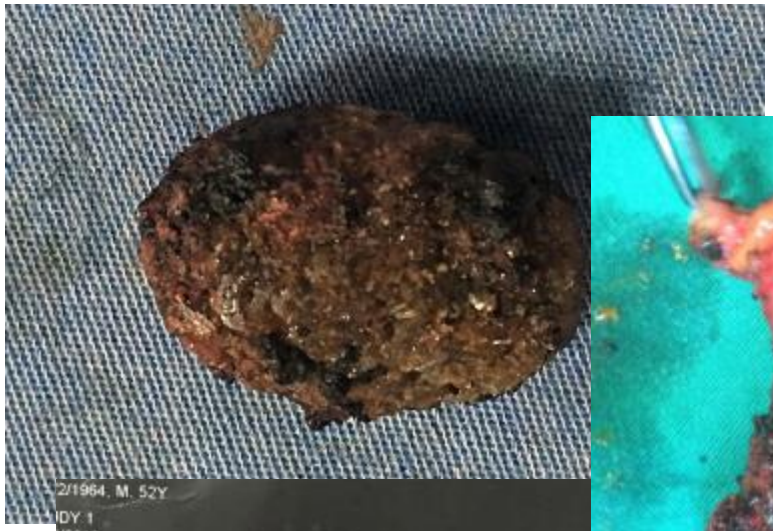
Torres OJM, et al. GED 2009;28(1):21-24

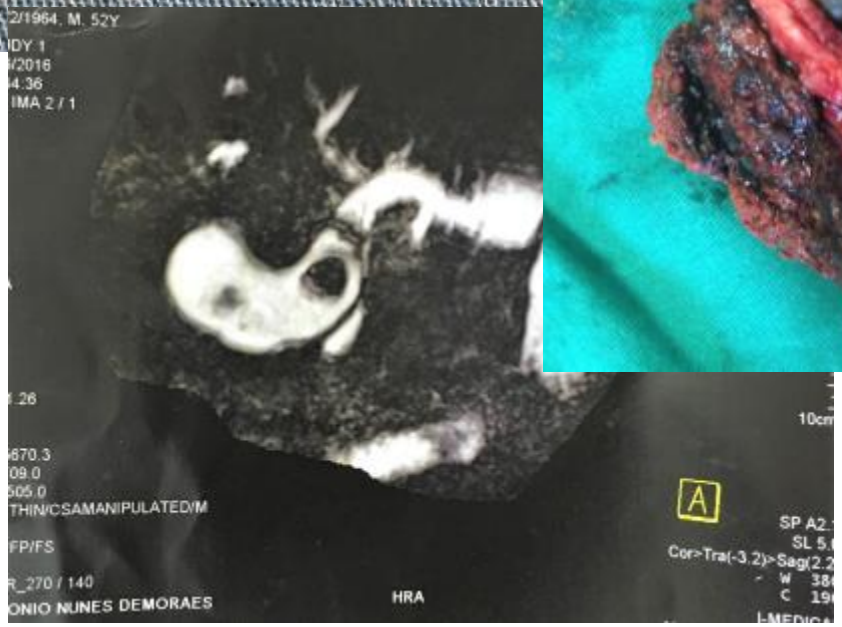
GALLBLADDER CANCER





GALLBLADDER CANCER





Jarufe N, et al. In Torres OJM. Ed Rubio. In Press

HIGH RISK PATIENTS

1

Carefully inspect the gallbladder once extracted

Roa JC, et al. Virchows Arch 2013; 463:651–661.

ROUTINE HISTOLOGICAL EVALUATION

- SUSPECTED LESION
  - Frozen section
    - Positive
  - Specific surgery
  - Refer to HPB centers

Roa JC, et al. Virchows Arch 2013; 463:651–661.

ROUTINE HISTOLOGICAL EVALUATION

DOI:10.1111/j.1477-2574.2012.00443.x HPB

ORIGINAL ARTICLE

All cholecystectomy specimens must be sent for histopathology to detect inapparent gallbladder cancer

Anil K. Agarwal, Raja Kalayarasan, Shivendra Singh, Amit Javed & Puja Sakhuja

Department of Gastrointestinal Surgery and Pathology, G. B. Pant Hospital and Maulana Azad Medical College, Delhi University, New Delhi, India

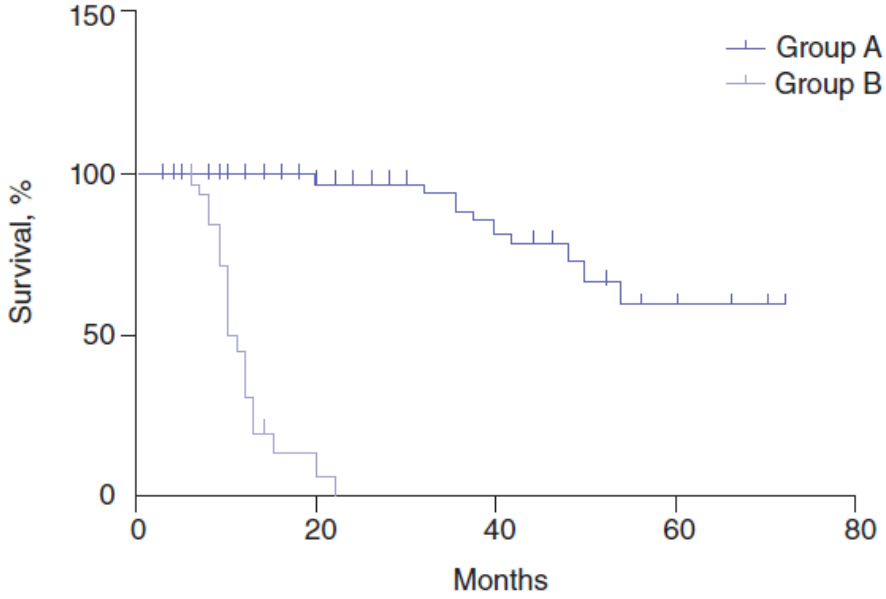


Figure 1 Survival rates in Groups A and B

Histopathological examination
No histopathological examination

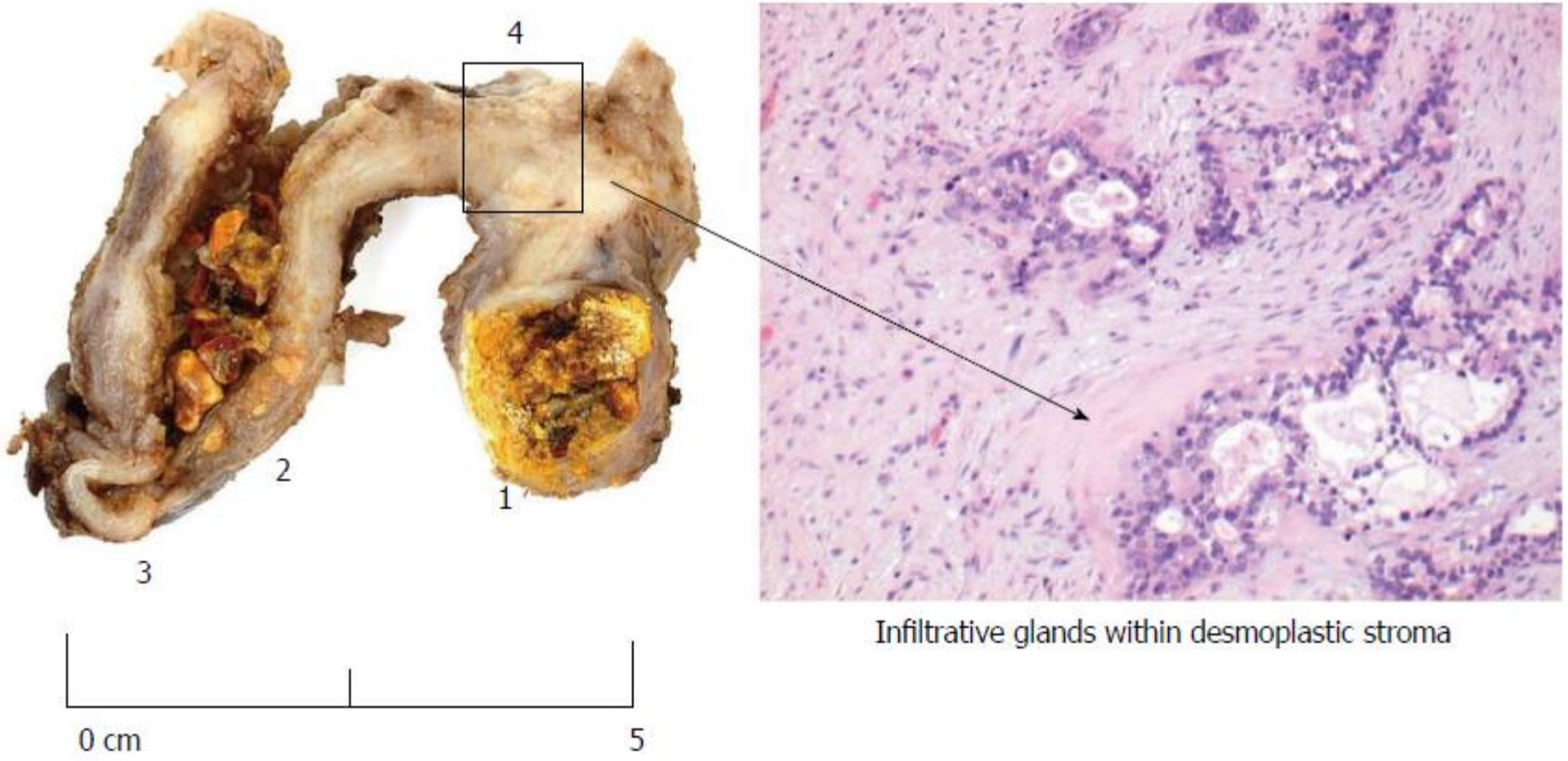
- Operable
  - A 100%
  - B 49.4%
- Resectability rate
  - A 69.9%
  - B 22.2%
- Median survival
  - 54 months
  - 10 months

p< 0,05

2

Agarwal AK, et al. HPB 2012;14:269-73

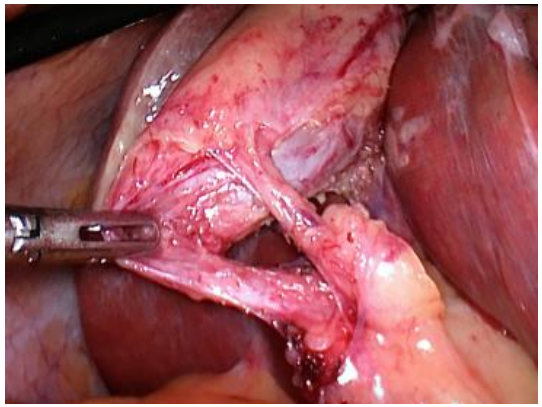
INCIDENTAL GALLBLADDER CARCINOMA

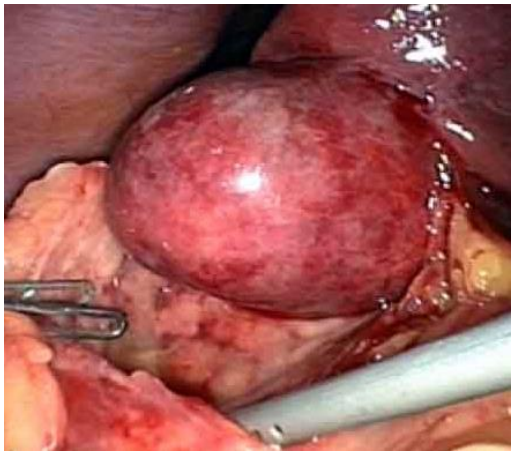


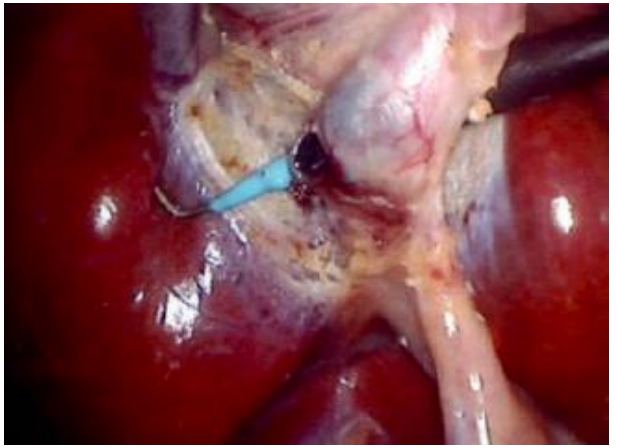
- 1. Cholesterol gallstones, impacted
- 2. RA sinuses containing impacted stones
- 3. Chronic cholecystitis
- 4. Ruptured gallbladder carcinoma

Patel K, et al. World J Gastrointest Surg 2016;8:685-92

INCIDENTAL GALLBLADDER CARCINOMA

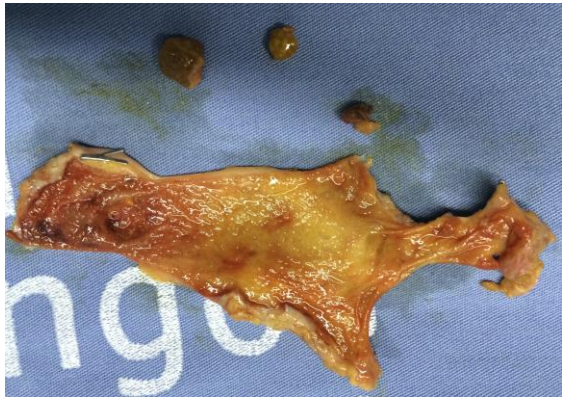






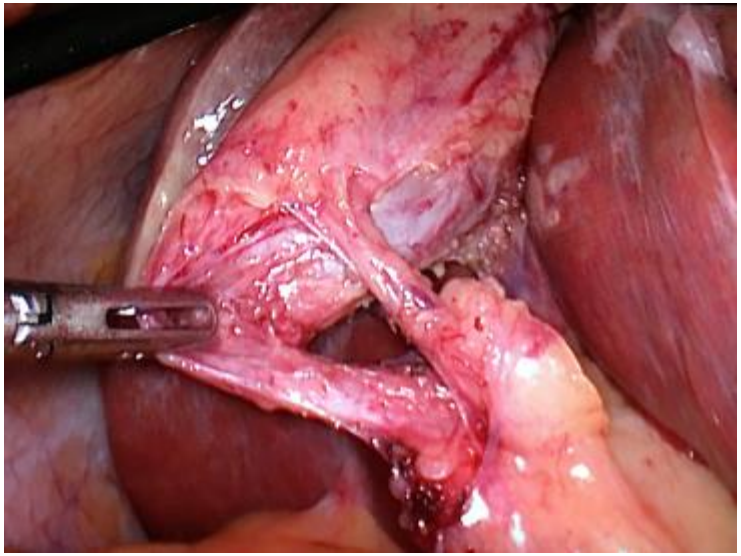
- Informations:
  - Laparoscopic or laparotomic
  - Risk factors (suspected)
  - Acute cholecystitis
  - Gallbladder perforation (spillage of bile)
  - Use of endobag for the removal of the gallbladder
  - Pneumoperitneum was desufflate with the trocars in situ
  - Gallbladder was inspected once extracted

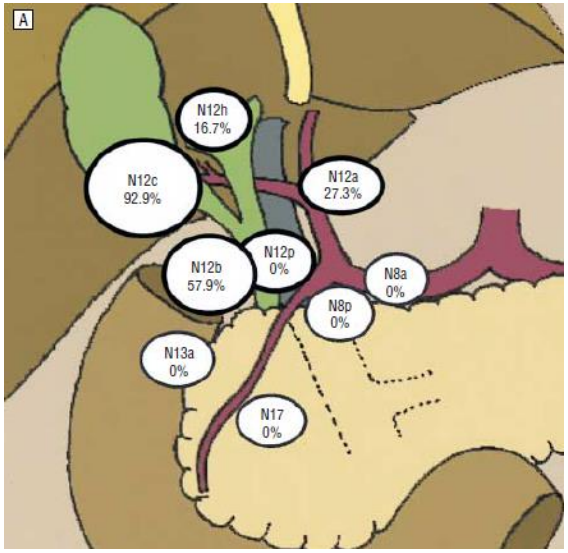
3

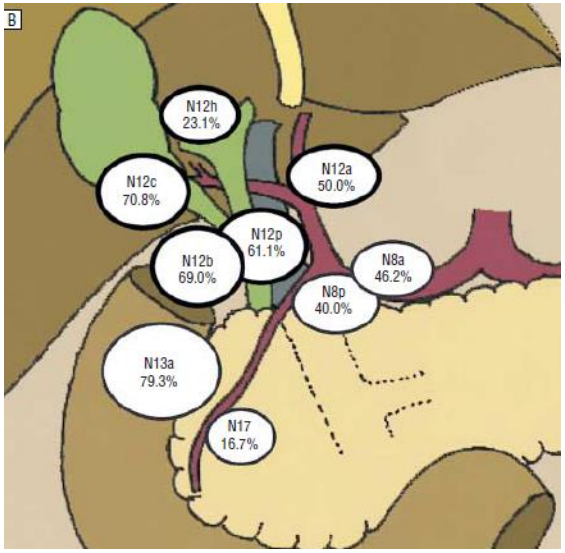


D'Angelica M, et al. Ann Surg Oncol 2009;16:806–816

CYSTIC DUCT LYMPH NODE







- Lymph node station 12c (Calot's lymph node)
  - Initial site of spread of gallbladder cancer
  - Most prevalent site of metastasis
  - Potentially represents a prognosticator
  - Predicts the status of the D2 lymph nodes?
  - Indicates whether an extended resection is required?

Kokudo N, et al. Arch Surg 2003;138(7):741–50

SPILLAGE OF BILE

- 136 patients with gallbladder carcinoma
- With spillage of bile
  - Disease free survival – 20.9 months
  - Overall survival – 25.8 months $p < 0.05$
- Without spillage of bile
  - Disease free survival – 71.4 months
  - Overall survival – 72.6 months

Lee JM, et al. Am Surg 2011;77: 697-701

RETRIEVAL BAG

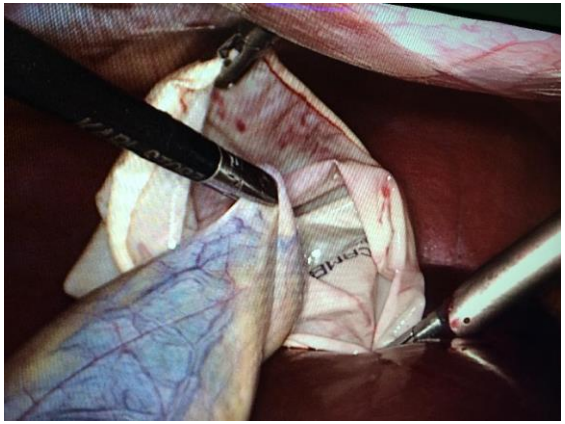
World J Surg (2009) 33:2161–2165
DOI 10.1007/s00268-009-0163-7

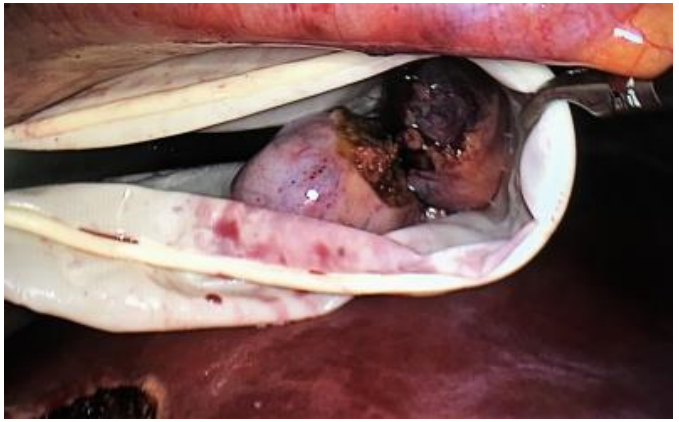
World Journal of Surgery

Use of Retrieval Bags in Incidental Gallbladder Cancer Cases

Thorsten Oliver Goetze · Vittorio Paolucci

- Port-site metastases occur in 14–17% of patients with incidentally discovered gallbladder carcinoma within the first 2 years after the initial operation.
- The most important risk factor for port-site metastases is gallbladder perforation during retrieval.
- Intraoperative perforation increases the incidence of port-site metastases from 9% to 40%.





Goetze TO, Paolucci V. World J Surg 2009;33: 2161-5

RETRIEVAL BAG

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World Journal of Surgery

Use of Retrieval Bags in Incidental Gallbladder Cancer Cases

Thorsten Oliver Goetze · Vittorio Paolucci

Table 8 Recurrence rate of laparoscopic patients with versus without perforation of the organ

Laparoscopy (total)	No Perforation	Perforation
$n = 330$	$n = 257$	$n = 73$
Relapse	Relapse	Relapse
$n = 98$ (30%)	$n = 70$ (27.2%)	$n = 28$ (38.4%)

χ^2 and Fisher's exact test, $P = 0.047$

5

Goetze TO, Paolucci V. World J Surg 2009;33: 2161-5


JAUNDICE
Disseminated disease

JAUNDICE

- Disseminated disease
- En bloc resection (positive margin > 40%)
- Jaundice without lymph node involvement (rare)
- Disease free survival (R0) 6 months
- Relative contraindication

Regimbeau JM, et al. Eur J Surg Oncol 2011; 37:505–512.

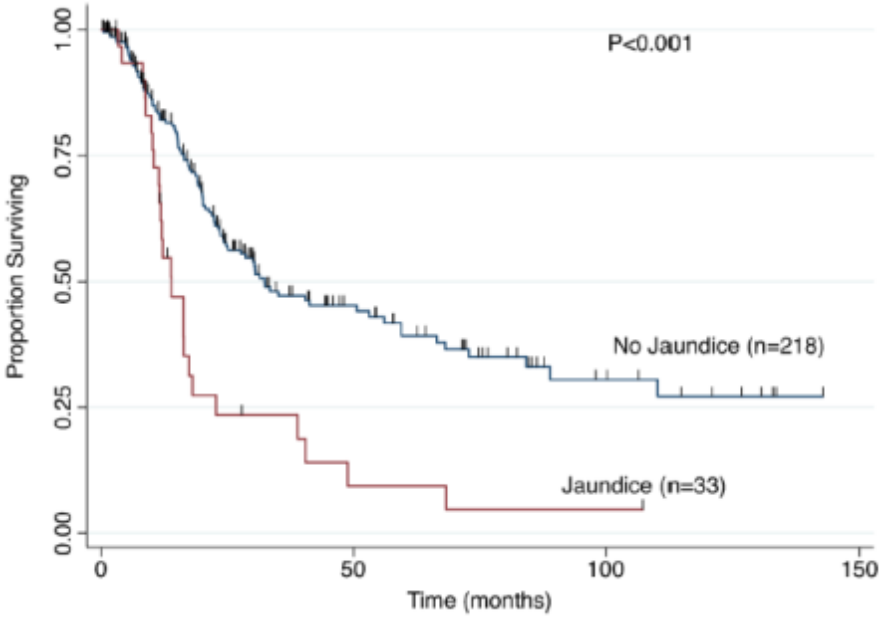
J Gastrointest Surg (2017) 21:1245–1253
DOI 10.1007/s11605-017-3440-z

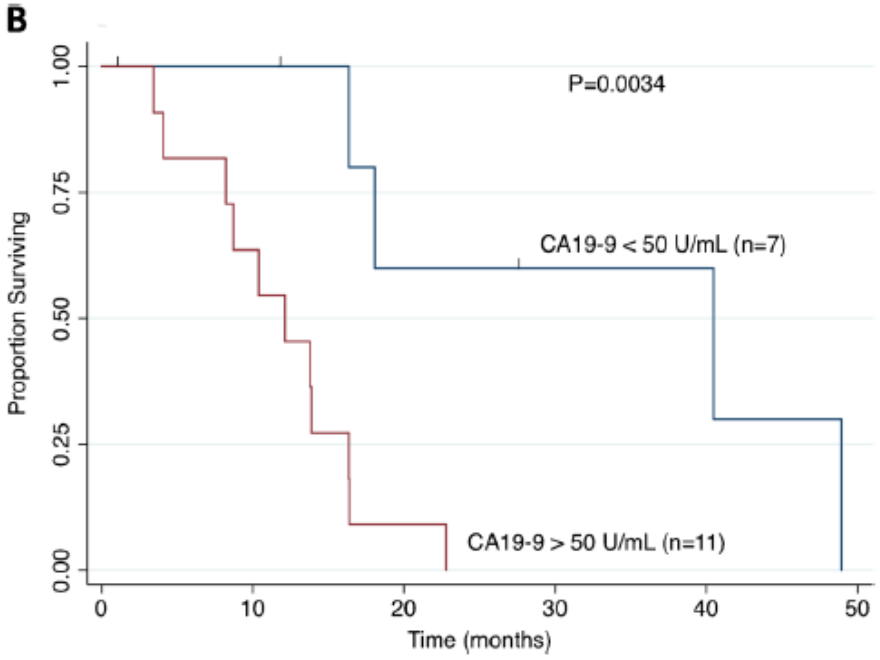
ORIGINAL ARTICLE

JAUNDICE

Gallbladder Cancer Presenting with Jaundice: Uniformly Fatal or Still Potentially Curable?

Thuy B. Tran[1] · Jeffrey A. Norton[1] · Cecilia G. Ethun[2] · Timothy M. Pawlik[3,4] · Stefan Buettner[3] · Carl Schmidt[4] · Eliza W. Beal[4] · William G. Hawkins[5] · Ryan C. Fields[5] · Bradley A. Krasnick[5] · Sharon M. Weber[6] · Ahmed Salem[6] · Robert C. G. Martin[7] · Charles R. Scoggins[7] · Perry Shen[8] · Harveshp D. Mogal[8] · Kamran Idrees[9] · Chelsea A. Isom[9] · Ioannis Hatzaras[10] · Rivfka Shenoy[10] · Shishir K. Maithel[2] · George A. Poultsides[1]





Tran TB, et al. J Gastrointest Surg 2017;21: 1245-53

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ORIGINAL ARTICLE

Gallbladder Cancer Presenting with Jaundice: Uniformly Fatal or Still Potentially Curable?

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JAUNDICE

- Inoperable
- Different results
- Long-term survival (better):
  - Low CA 19-9
  - No linfovascular invasion

NOT A CONTRAINDICATION

Tran TB, et al. J Gastrointest Surg 2017;21: 1245-53

INCIDENTAL GALLBLADDER CARCINOMA

Incidence of residual disease

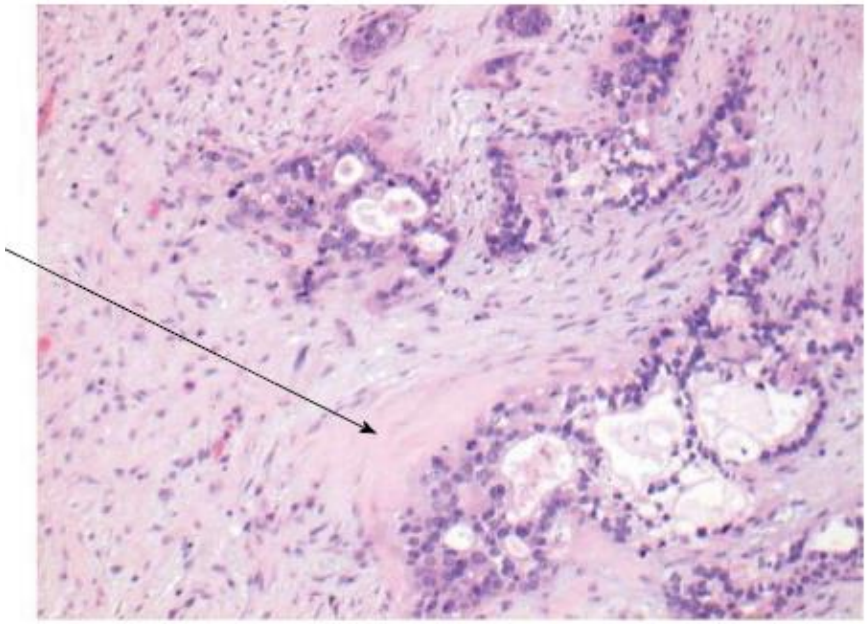
- T1 – 37.5%
- T2 – 56.7%
- T3 – 77.3%

Re-resection associated with better survival
41% versus 15% (five years)

Fuks D, World J Surg. 2011;35:1887–97.

INCIDENTAL GALLBLADDER CARCINOMA

RE-RESECTION

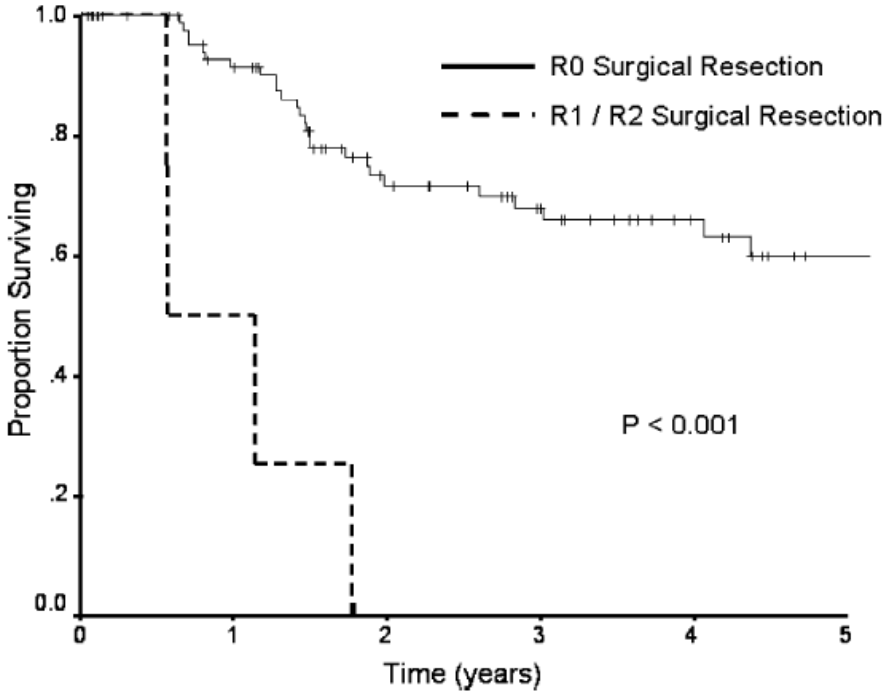


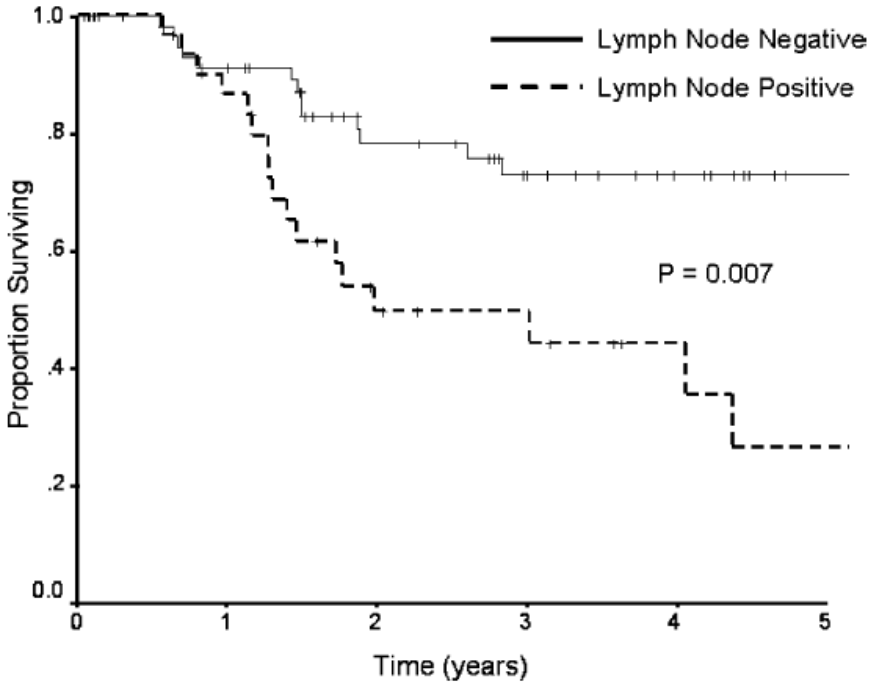
- 1. T1b or more (including cystic duct)
- 2. Positive cystic duct lymph node

D'Angelica M, et al. Ann Surg Oncol 2009;16:806–816

RE-RESECTION

- R0 resection
- Lymphadenectomy





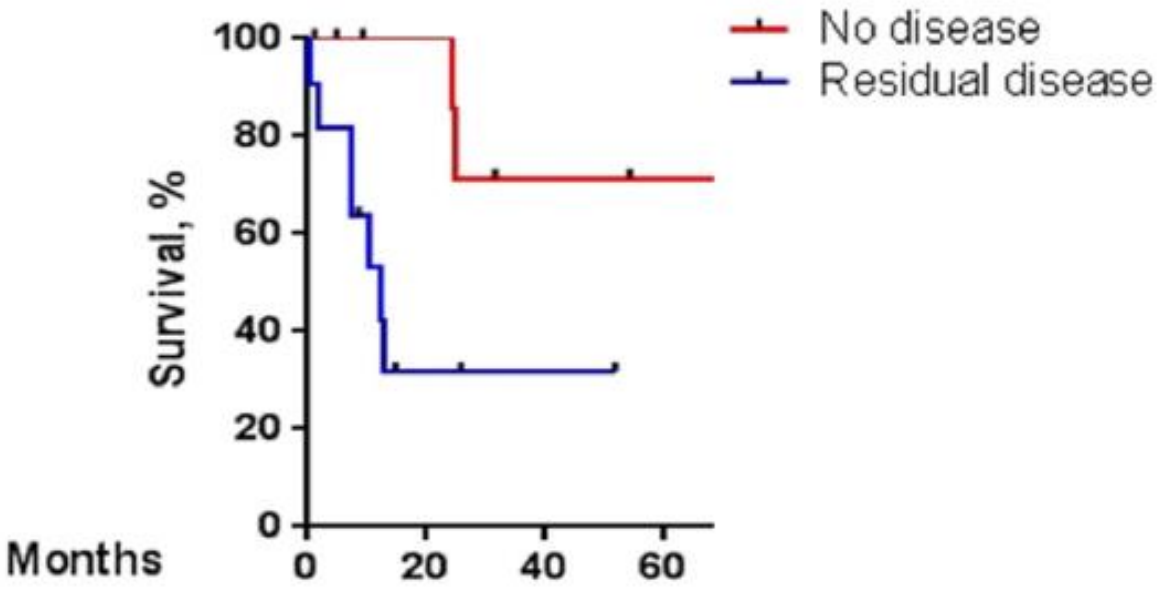
Pawlik TM, et al. J Gastrointest Surg 2007;11:1478-87

http://dx.doi.org/10.1016/j.hpb.2016.11.006

ORIGINAL ARTICLE

Does a second resection provide a survival benefit in patients diagnosed with incidental T1b/T2 gallbladder cancer following cholecystectomy?

Henry Watson[1], Bobby Dasari[1], Judy Wyatt[2], Ernest Hidalgo[1], Raj Prasad[1], Peter Lodge[1] & Giles Toogood[1]



Watson H, et al. HPB 2017;19:104-7

STAGING FOR GALLBLADDER CARCINOMA

- Contrast-enhanced computed tomography
  - Portal lymph node
  - Peritoneal disease
  - Vascular invasion
- Magnetic resonance imaging (MRI)
  - Biliary tract involvement
  - Vascular invasion
  - Liver parenchyma invasion
  - Lymph node involvement
- 18-FDG positron emission tomography (PET)-CT
  - Occult peritoneal and/or omental metastases
  - Lymph node metastases
  - Residual disease on gallbladder bed
  - Port site disease

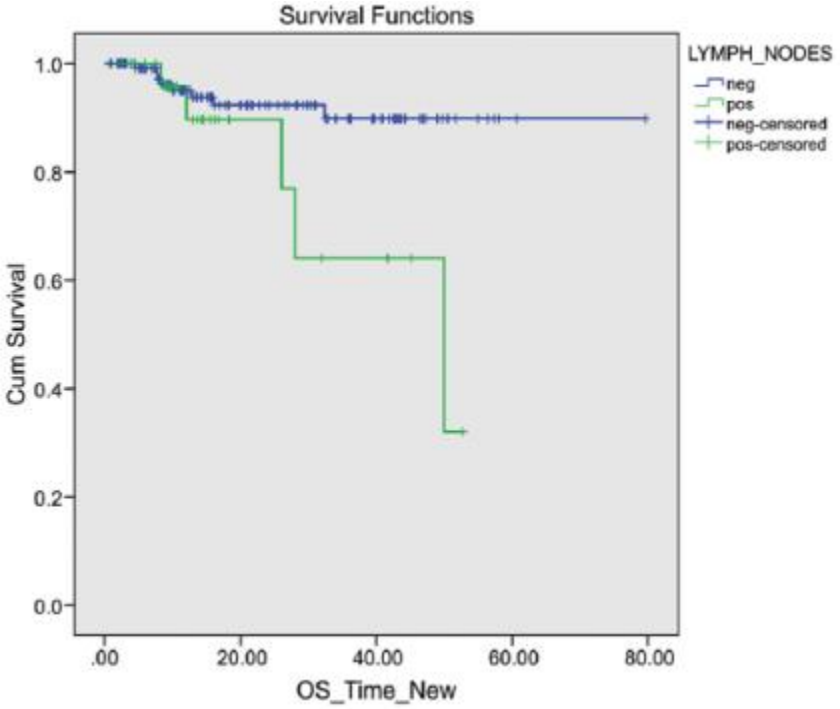
Cavallaro A, et al. Int J Surg 2014

ESTADIAMENTO PET-CT

Journal of Surgical Oncology 2016;113:652–658

Role of PET CT Scan in Redefining Treatment of Incidental Gall Bladder Carcinoma

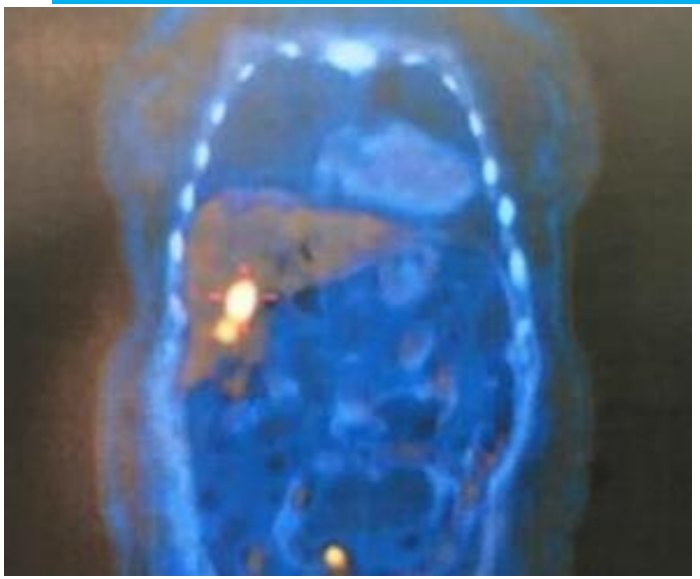
MAHESH GOEL, MS,[1]* ANUP TAMHANKAR, MS, MCh,[1] VENKATESH RANGARAJAN, MD,[2]
SHRADDHA PATKAR, MS, MCh,[1] MUKTA RAMADWAR, MD,[3] AND SHAILESH V. SHRIKHANDE, MS, FRCS[1]
[1]Gastrointestinal and Hepato-Pancreato-Biliary Surgical Service, Tata Memorial Centre, Mumbai, India
[2]Department of Nuclear Medicine, Tata Memorial Centre, Mumbai, India
[3]Department of Pathology, Tata Memorial Centre, Mumbai, India

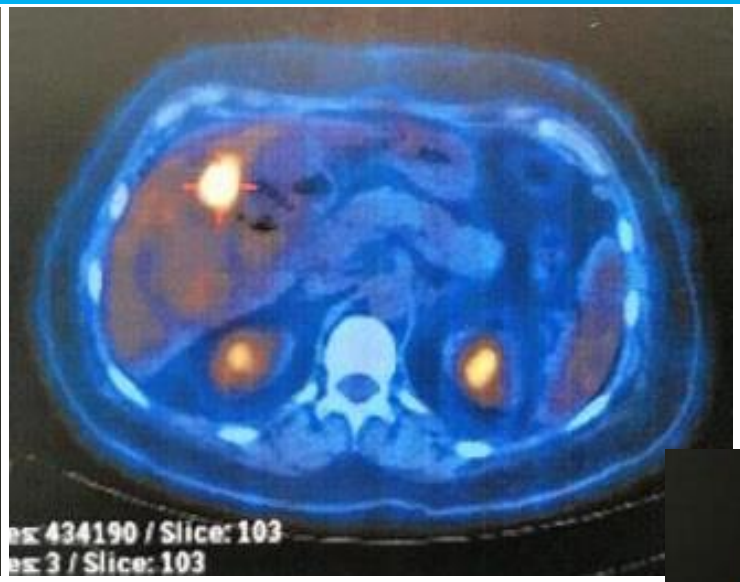


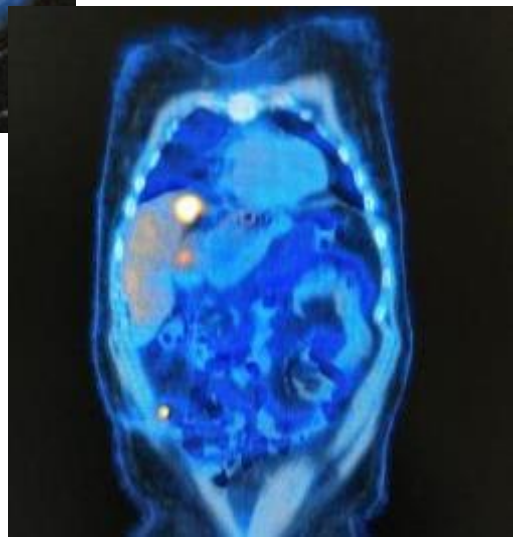
- PET-CT
  - Stratify patients
  - Avoid surgery in pT1b
  - Chemotherapy in pT2

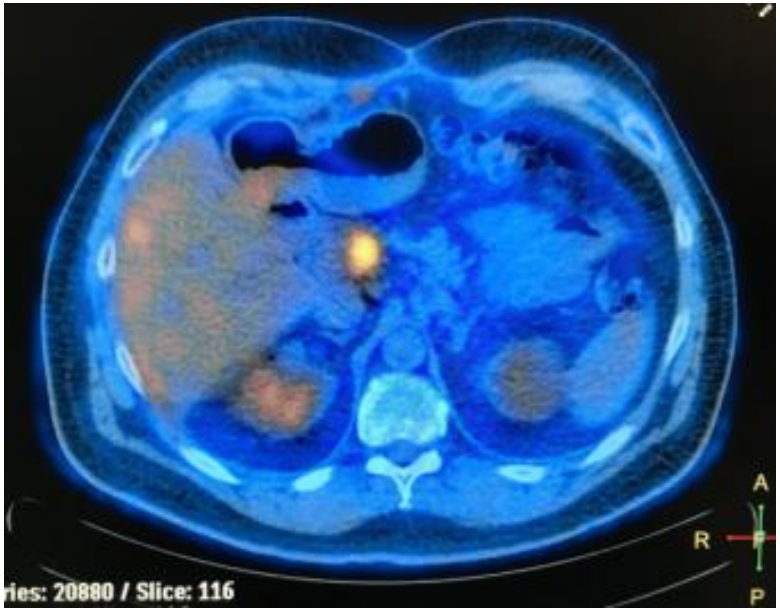
Goel M, et al. J Surg Oncol 2016;113:652-8

STAGING FOR GALLBLADDER CARCINOMA









- PET-CT
  - Metastasis
  - Lymph node disease
  - Residual disease on gallbladder bed
  - Port site disease

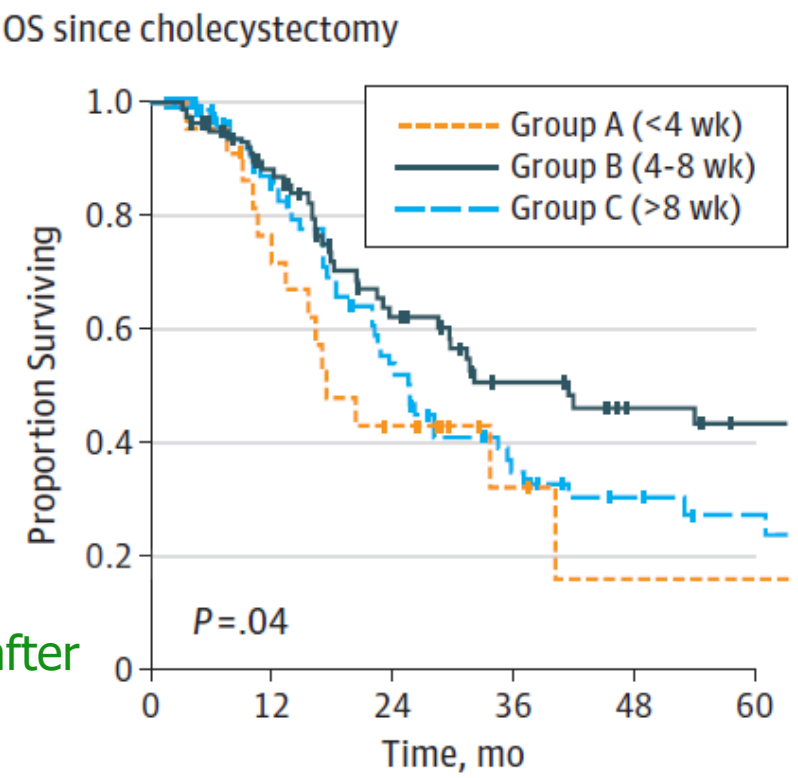
TIME TO RE-RESECTION

JAMA Surgery | Original Investigation

Association of Optimal Time Interval to Re-resection for Incidental Gallbladder Cancer With Overall Survival

A Multi-Institution Analysis From the US Extrahepatic Biliary Malignancy Consortium

Cecilia G. Ethun, MD; Lauren M. Postlewait, MD; Nina Le, BS; Timothy M. Pawlik, MD, MPH, PhD; Stefan Buettner, MD; George Poultsides, MD; Thuy Tran, MD; Kamran Idrees, MD; Chelsea A. Isom, MD; Ryan C. Fields, MD; Linda X. Jin, MD; Sharon M. Weber, MD; Ahmed Salem, MD; Robert C. G. Martin, MD; Charles Scoggins, MD; Perry Shen, MD; Harveshp D. Mogal, MD; Carl Schmidt, MD; Eliza Beal, MD; Ioannis Hatzaras, MD; Rivfka Shenoy, MD; David A. Kooby, MD; Shishir K. Maithel, MD



- Time to re-resection

  Appears to be between 4 and 8 weeks after the initial cholecystectomy. p< 0,05

Ethun CG, et al. JAMA Surg 2017;152:143-9

TIME TO RE-RESECTION

- Nicolas Jarufe
  Santiago (Chile)

- Anil Agarwal
  New Delhi (India)

- Time to re-resection
  Immediately

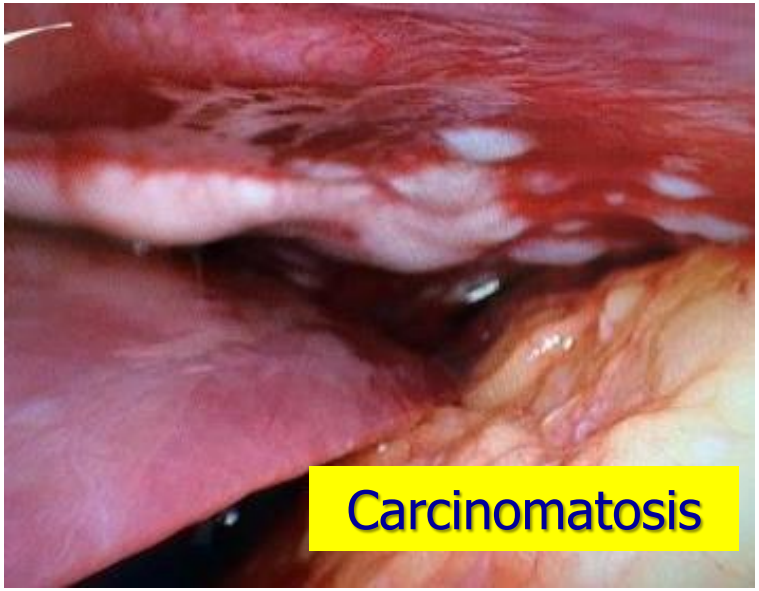
9

LAPAROSCOPIC STAGING

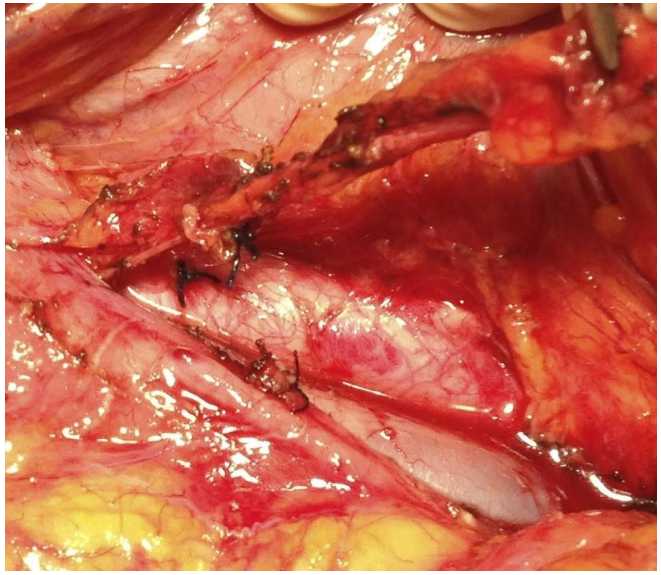
- Avoid unnecessary surgery (38-62%)
- Oncologic irressecability in up 23%
- High incidence of positive findings
- Recommended for re-resection

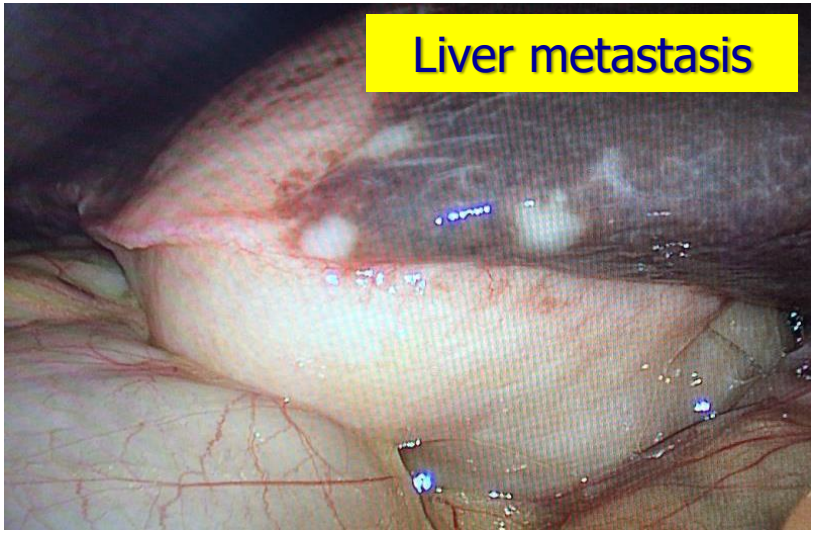
Agarwal AK, et al. Ann Surg 2013;258:318–323.

LAPAROSCOPIC STAGING



- Frozen section of lymph node 16b1





LYMPH NODE STAGING

Table 2. DEFINITION OF REGIONAL LYMPH NODE GROUPS

TNM classification	This Study
N1	N1
Hilar	Pericholedochal (No. 12h, 12c, 12b)
Cystic duct	
Pericholedochal	
N2	N2
Periportal	Periportal (No. 12 p, 12a)
Periduodenal	Common hepatic (No. 8a, 8p)
Peripancreatic	Posterior pancreaticoduodenal (No. 13a)
Celiac	Celiac (No. 9)
Superior mesenteric	Superior mesenteric (No. 14)

Numbers in parentheses indicate lymph node group according to the classification by the Japanese Society of Biliary Surgery.

Reid KM, et al. J Gastrointest Surg 11:671-681, 2007

HPB

ORIGINAL ARTICLE

Role of routine 16b1 lymph node biopsy in the management of gallbladder cancer: an analysis

Anil K. Agarwal, Raja Kalayarasan, Amit Javed & Puja Sakhuja

Department of Gastrointestinal Surgery and Pathology, Govind Ballabh Pant Hospital and Maulana Azad Medical College, Delhi University, New Delhi, India

Table 1 Clinicopathological characteristics in gallbladder cancer (GBC) patients with 16b1 lymph node (LN) metastases (Group A) and without 16b1 LN metastases (Group B)

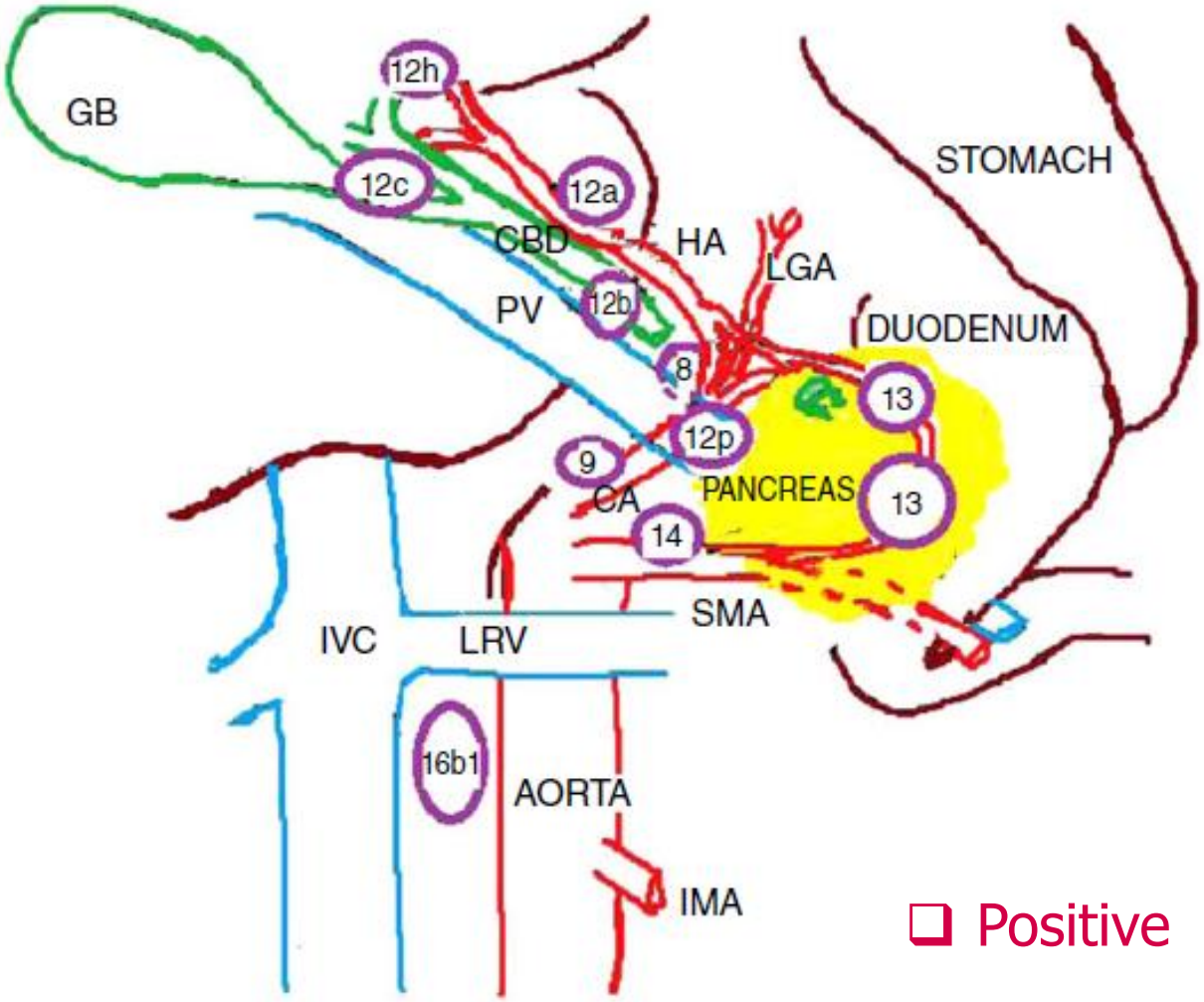
Characteristics	Group A (n = 34)	Group B (n = 149)	P-value
Clinical stage, n (%)			
Early GBC	2 (5.9%)	23 (15.4%)	0.175
Locally advanced GBC	32 (94.1%)	126 (84.6%)	
Jaundice	11 (32.4%)	18 (12.1%)	0.008
Gastric outlet obstruction	4 (11.8%)	5 (3.4%)	0.063
Incidental GBC, n (%)			
Stage T1b	–	6 (4.0%)	1.000
Stages T2 and T3	2 (5.9%)	23 (15.4%)	
Tumour markers			
CEA, ng/ml, median (range)	21.7 (2.3–189)	10.6 (2.7–105)	0.012
CA 19-9, U/ml, median (range)	181.5 (10.3–1081)	79.3 (12.6–313)	0.023

CEA, carcinoembryonic antigen; CA 19-9, carbohydrate antigen 19-9.

Agarwal AK, et al. HPB 2014;16:229-34

LYMPH NODE BIOPSY

- Frozen section of lymph node 16b1



Abbreviations

GB – Gallbladder
CBD – Common bile duct
PV – Portal vein
HA – Hepatic artery
LGA – Left gastric artery
CA – Coeliac artery
SMA – Superior mesenteric artery
IMA – Inferior mesenteric artery
LRV – Left renal vein
IVC – Inferior vena cava

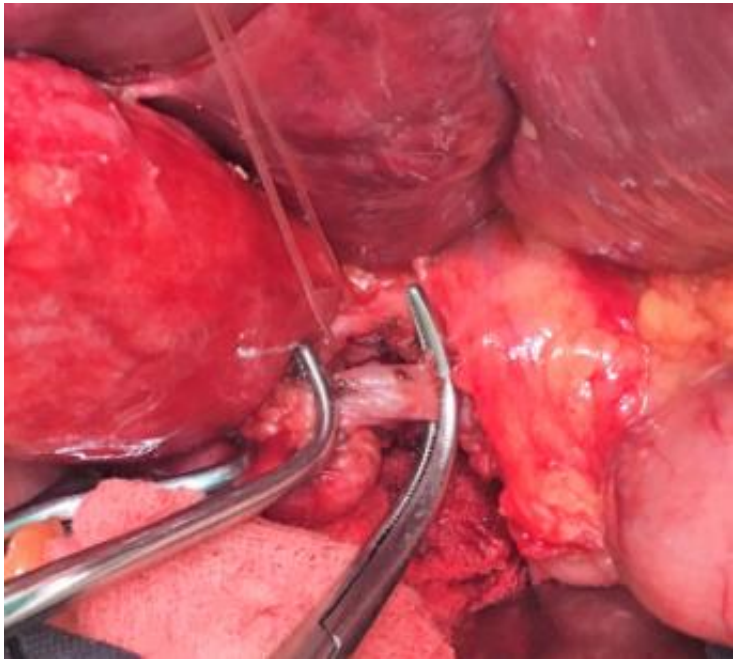
- Positive

11

Do not proceed the surgery

Agarwal AK, et al. HPB 2014;16:229-34

CYSTIC DUCT EVALUATION



- Adequate sample
- Careful evaluation
- Prognostic

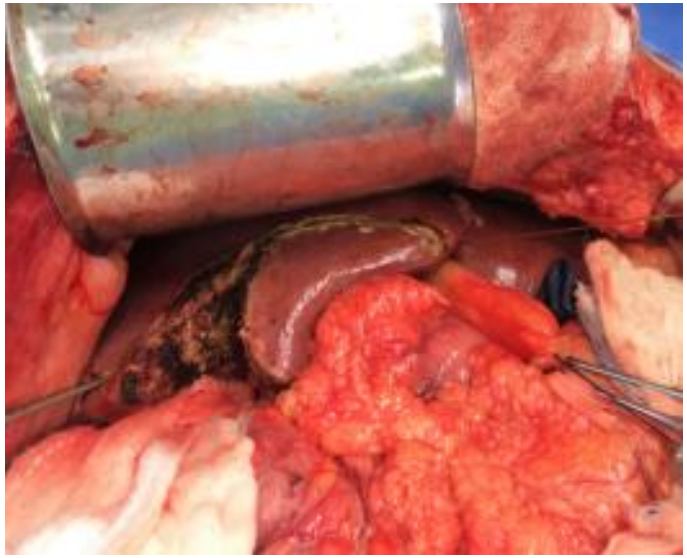
12

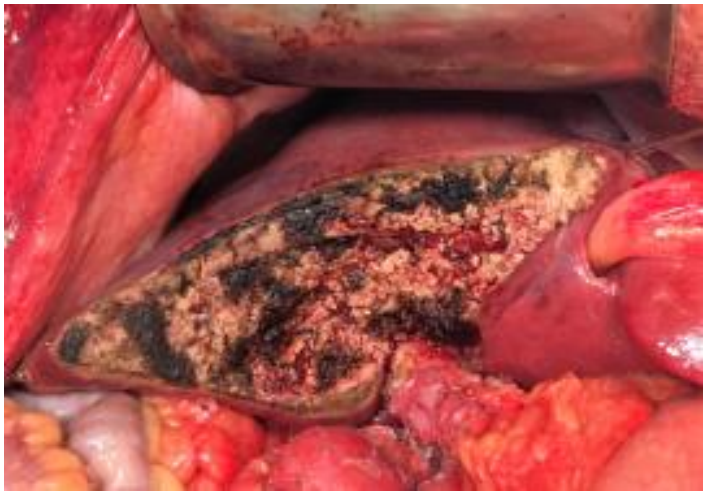
ROUTINELY

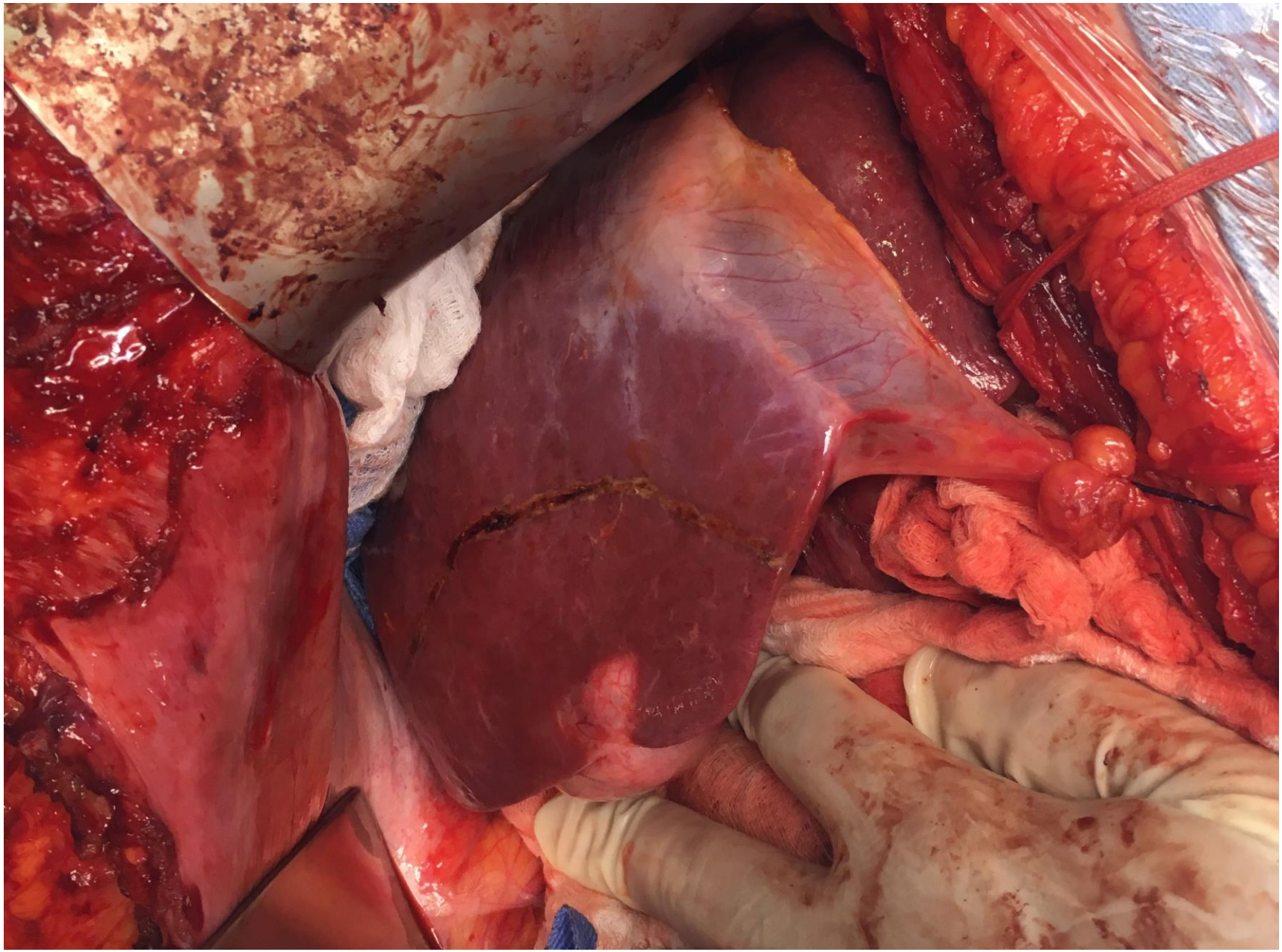
Shindoh J, et al. Ann Surg 2015;261:733–739.

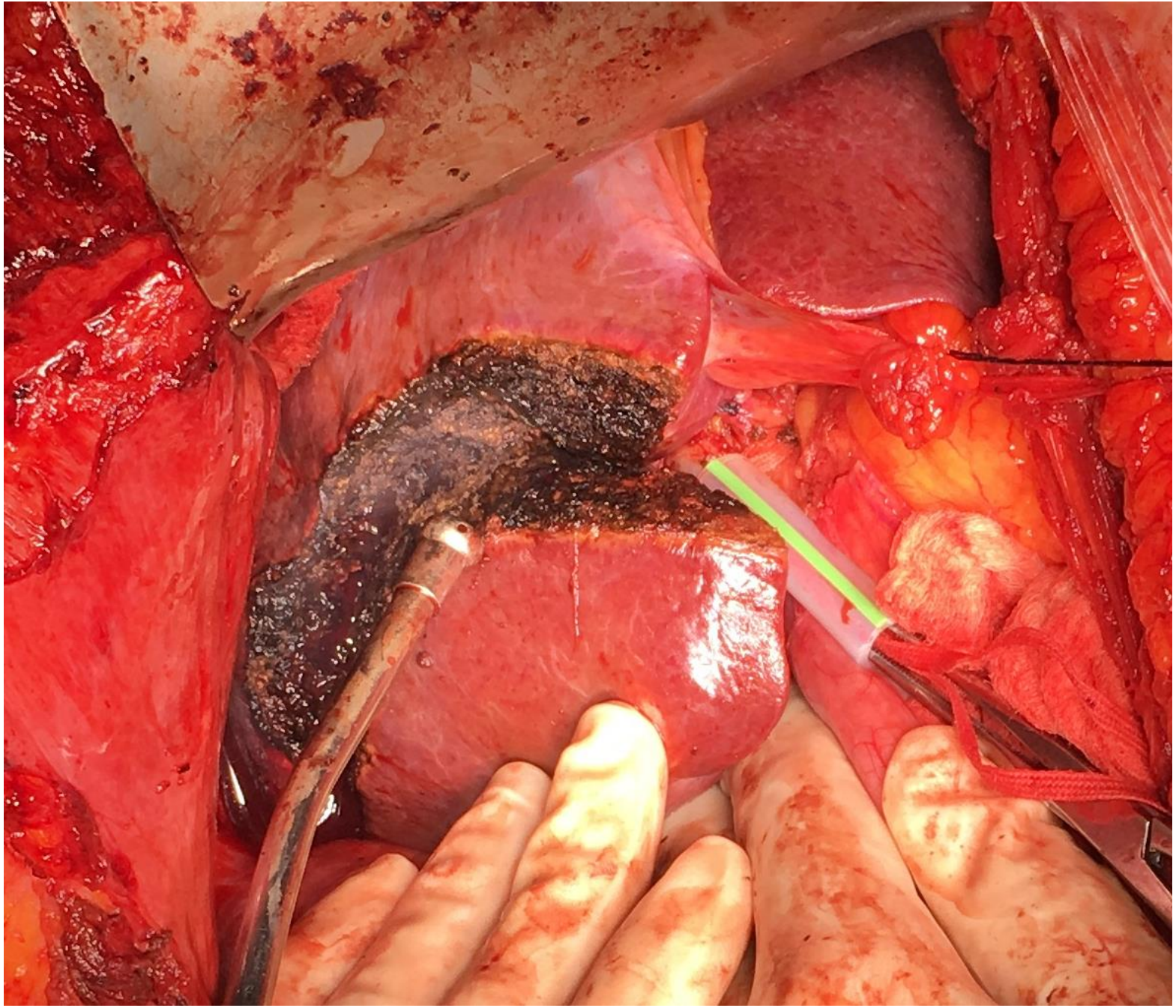
EXTENT OF LIVER RESECTION

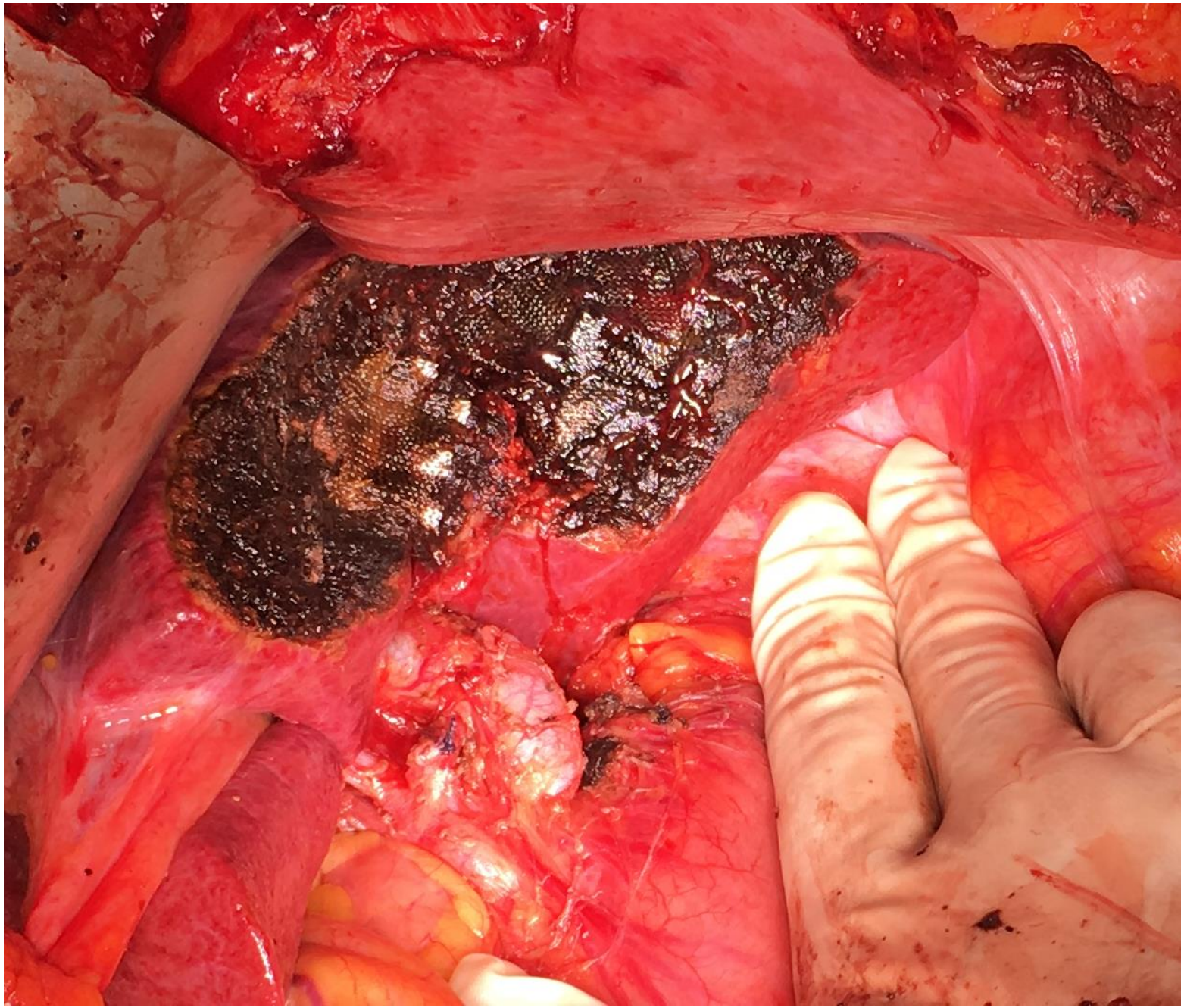
- Wedge resection
  - No infiltration
- Hepatectomy IVb/V
  - No infiltration
  - Limited infiltration
- Major hepatectomy
  - Extensive infiltration
  - Vascular involvement

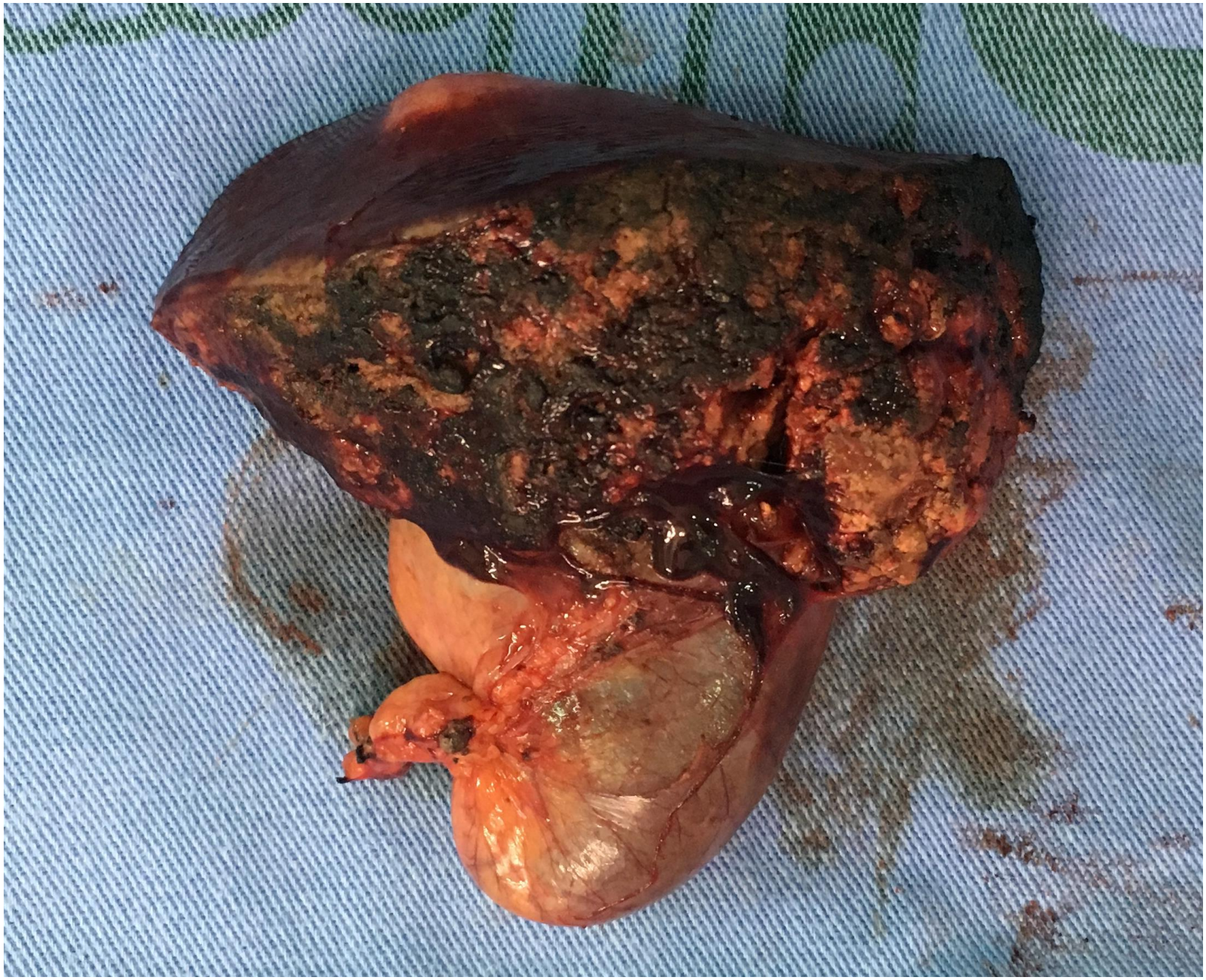


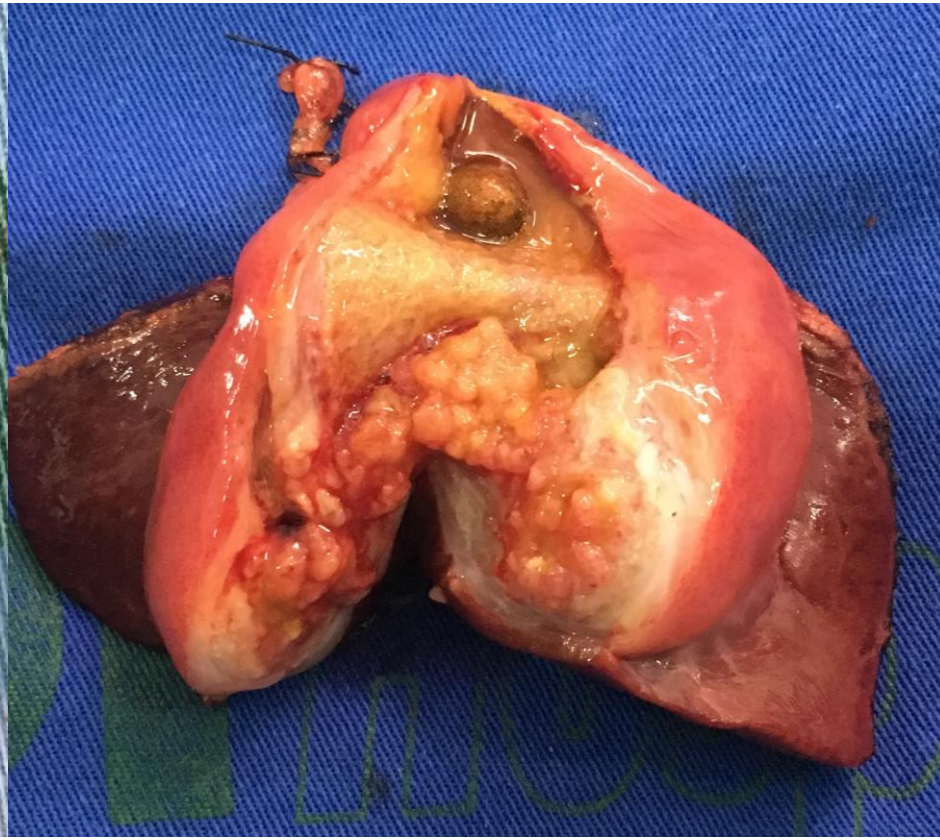












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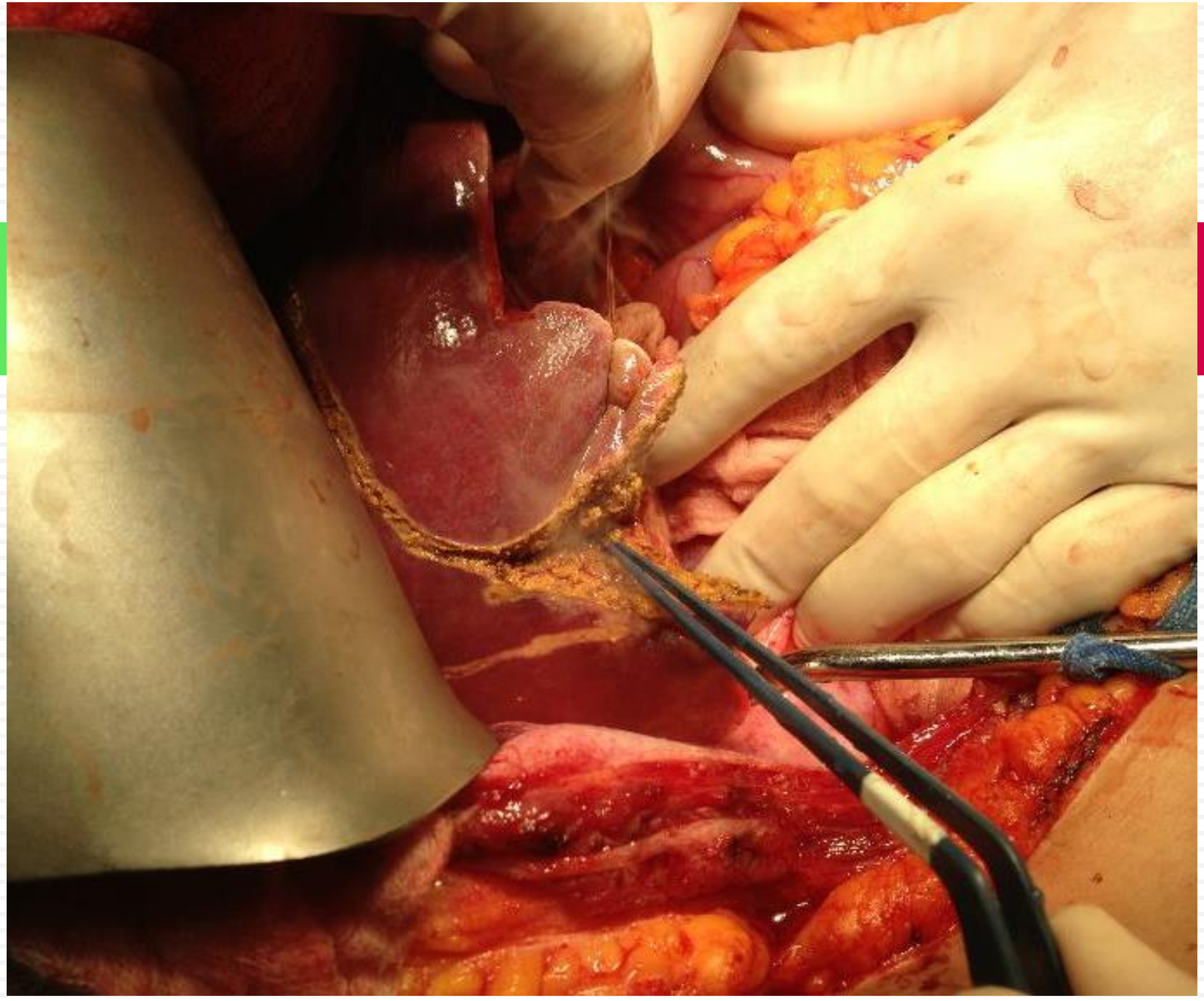

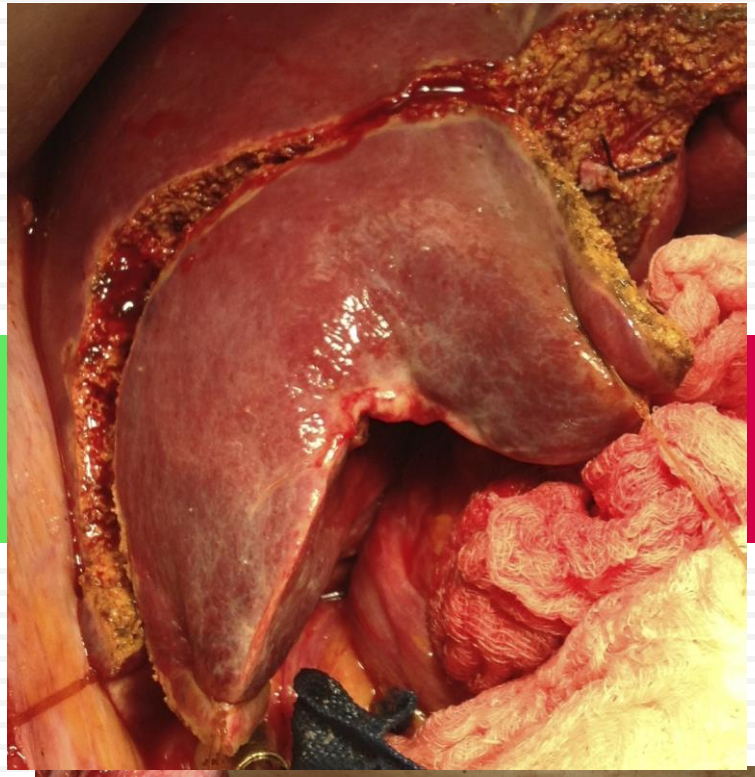

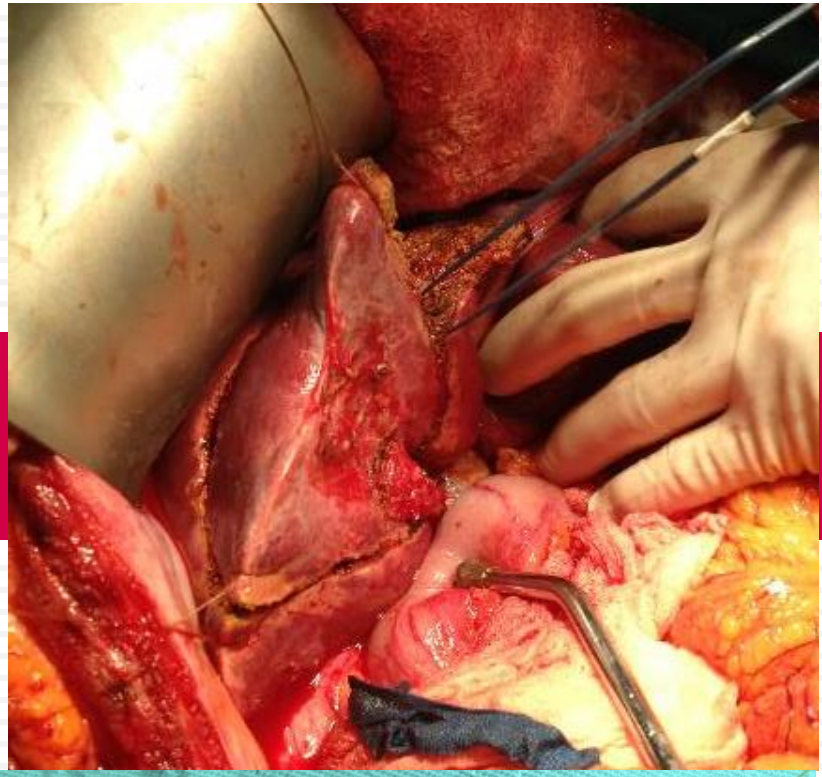

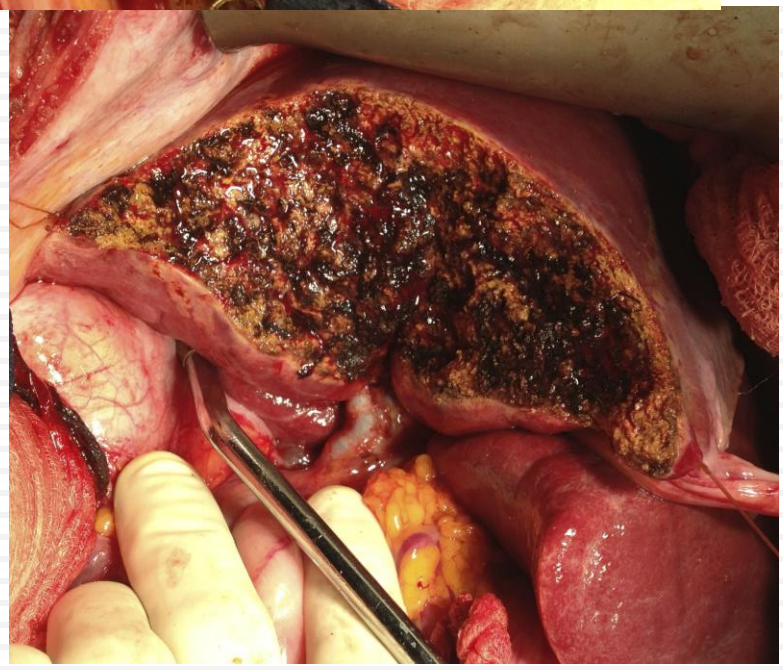


Universitário

EXTENT OF LIVER RESECTION

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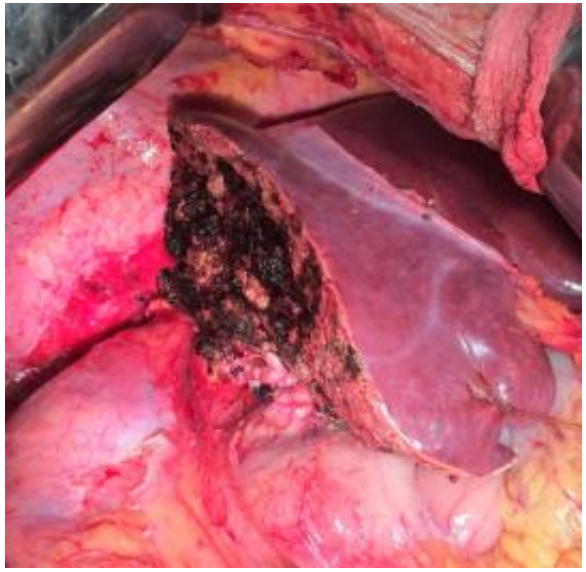
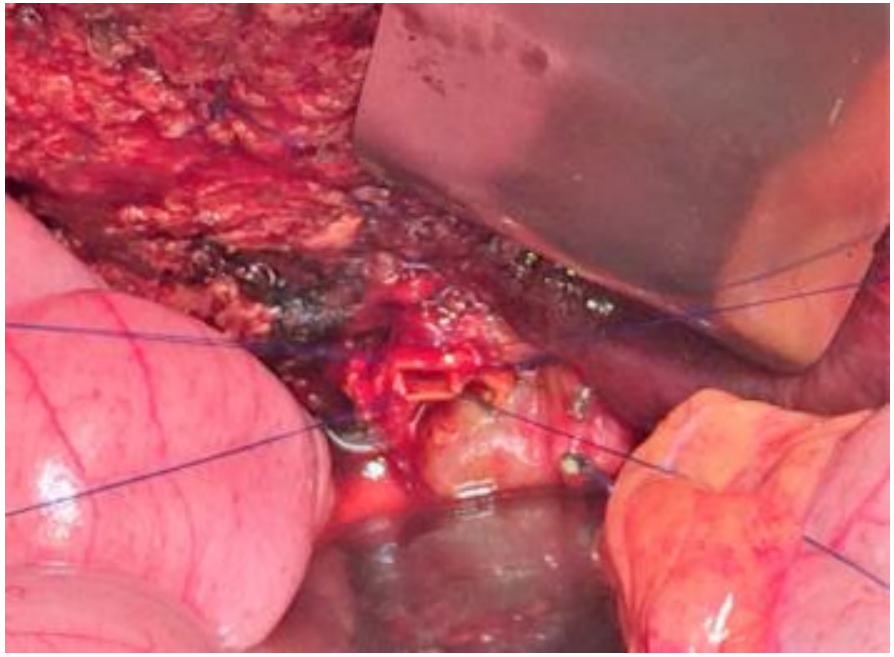
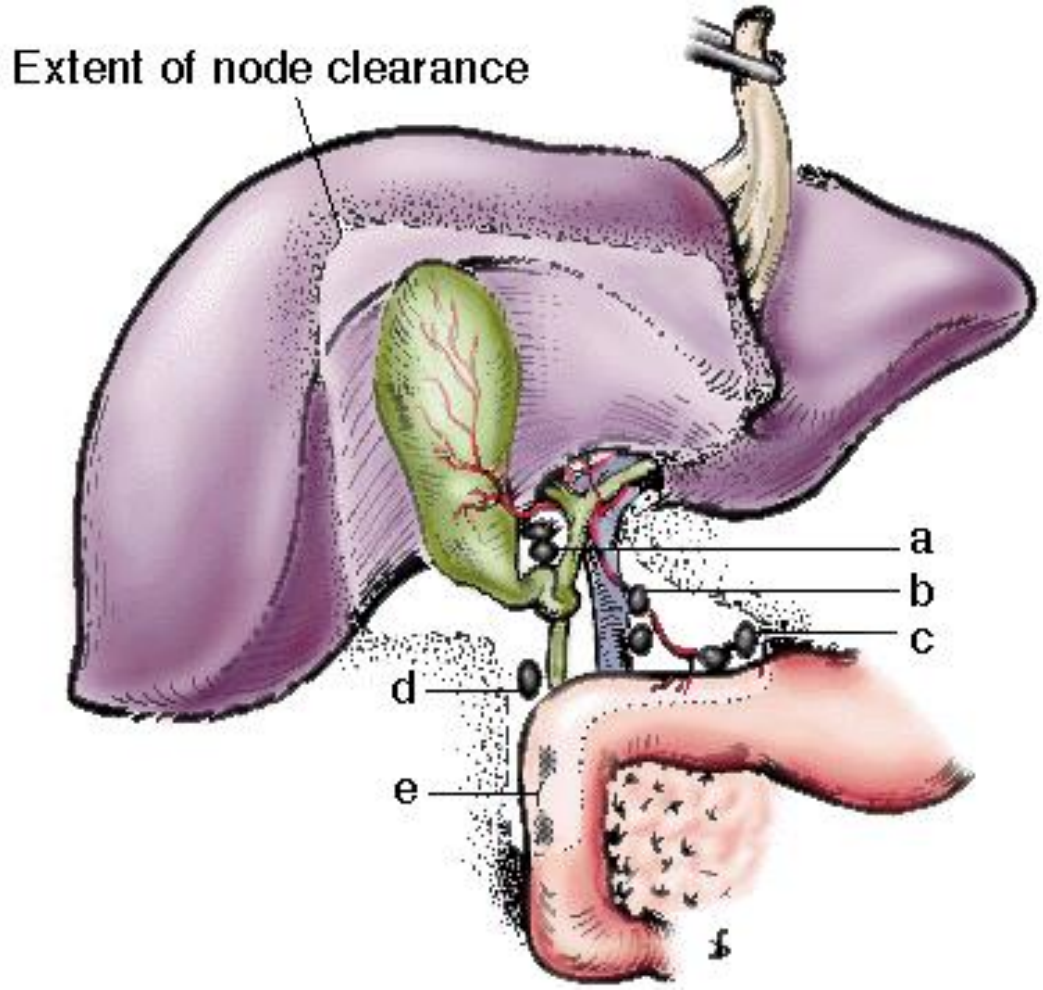


13

"Negative margin"



EXTENT OF LYMPHADENECTOMY



Ito H, et al. Ann Surg 2011;254:320-5

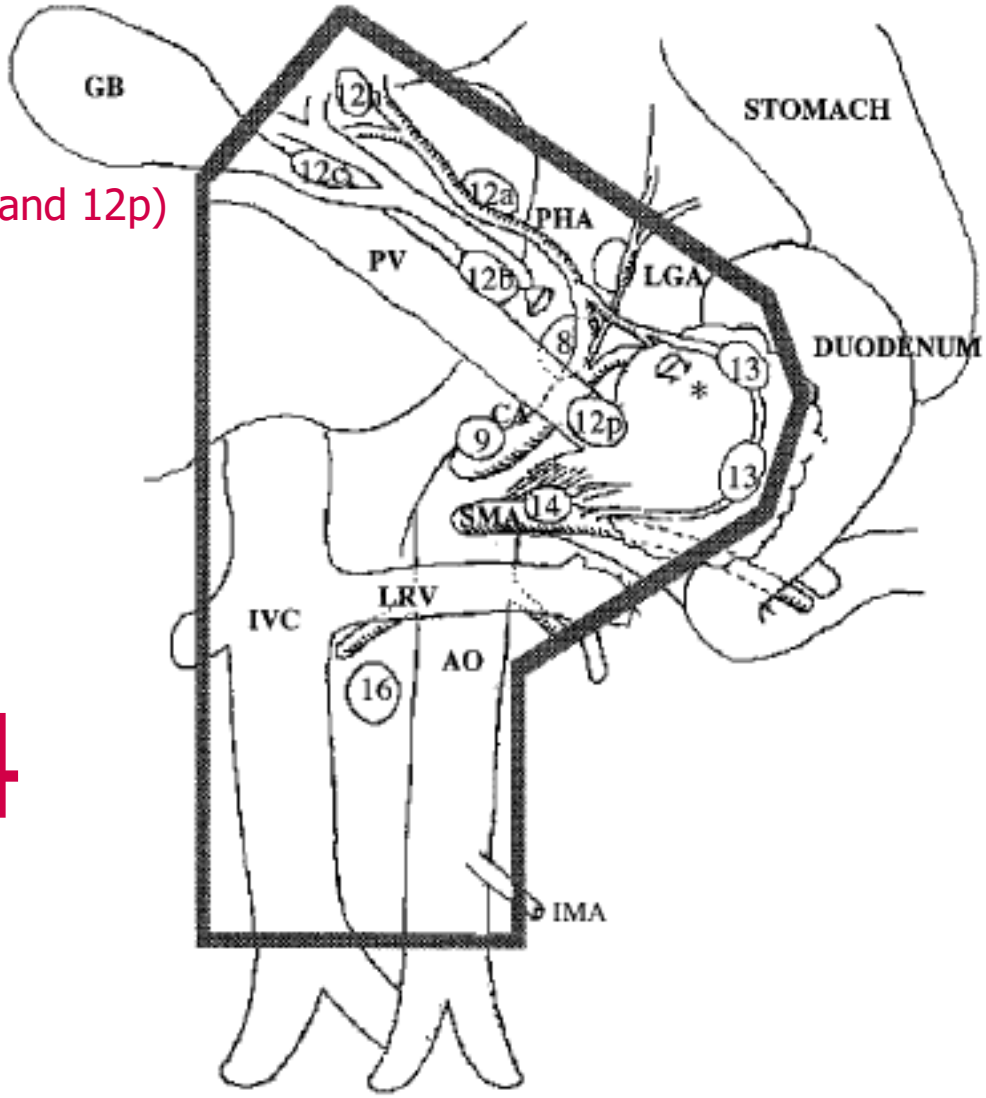
EXTENT OF LYMPHADENECTOMY

- Hepatoduodenal ligament (12h,12c,12b,12ª and 12p)
- Comum hepatic artery (8)
- Posterior pancreatoduodenal (13)

"No survival benefit"

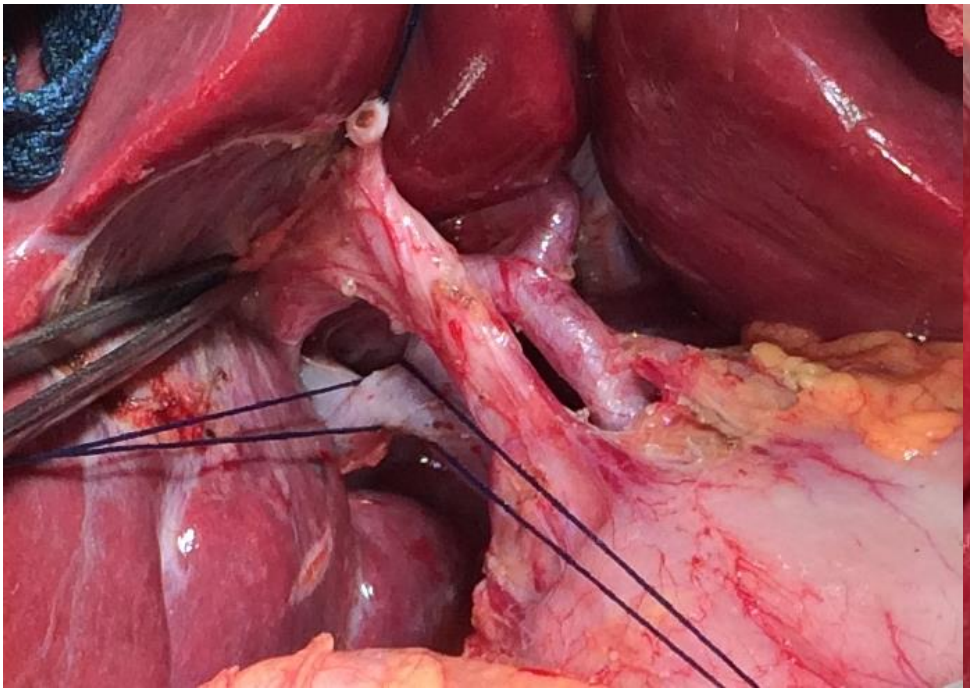
- Celiac trunk (9)
- SMA (14)
- Paraaortic (16)

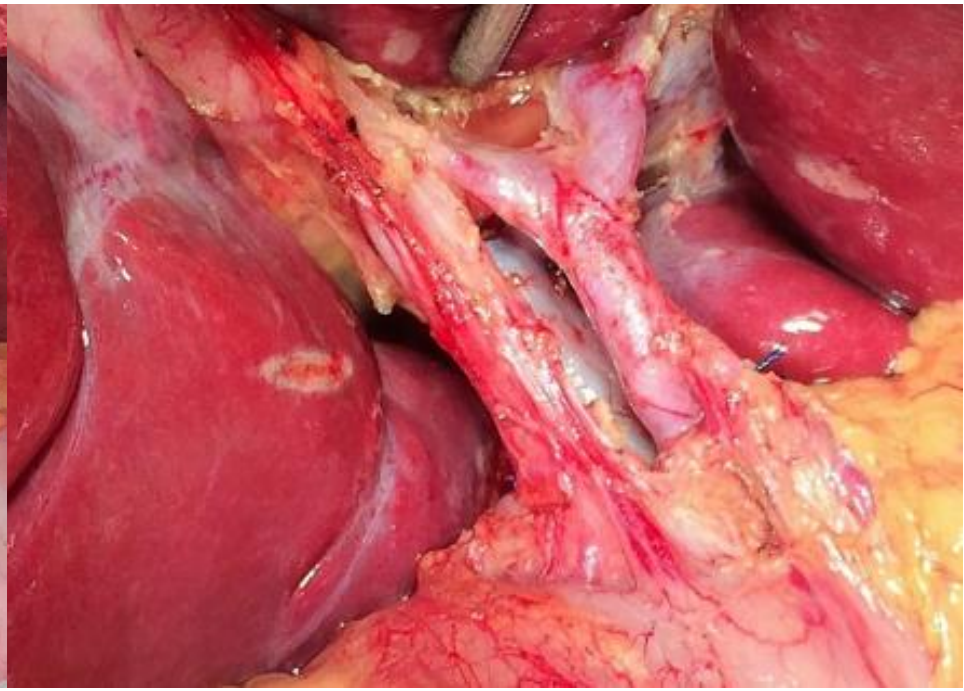
14



Shirai Y, et al. World J Surg Oncol 2012; 10:87.

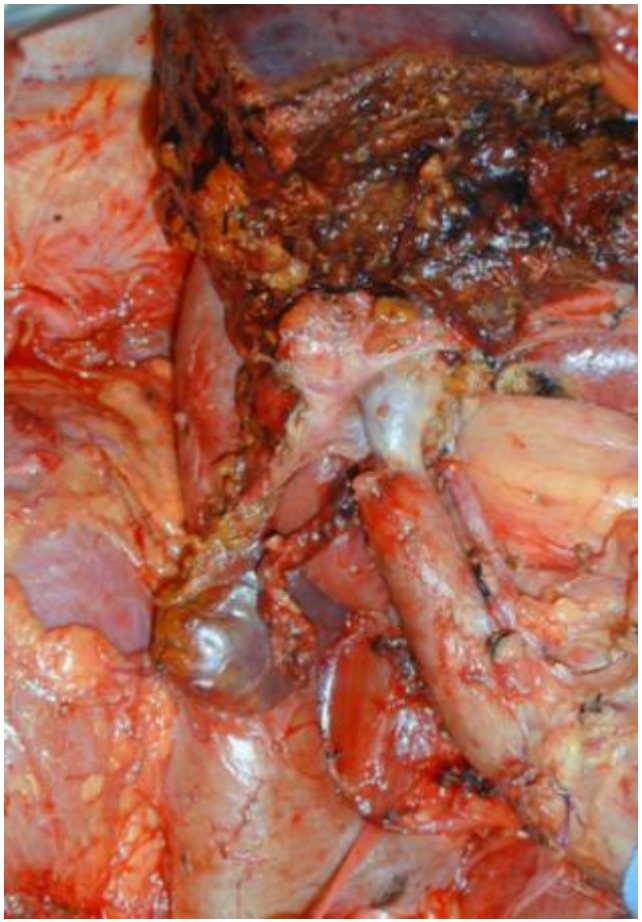
EXTENT OF LYMPHADENECTOMY





Adequate staging – 6 lymph nodes

EXTENT OF LYMPHADENECTOMY



❑ Right hepatectomy + 4b

❑ Extended lymph node disection

Resende AP, et al. In Torres OJM. Ed Rubio. In Press

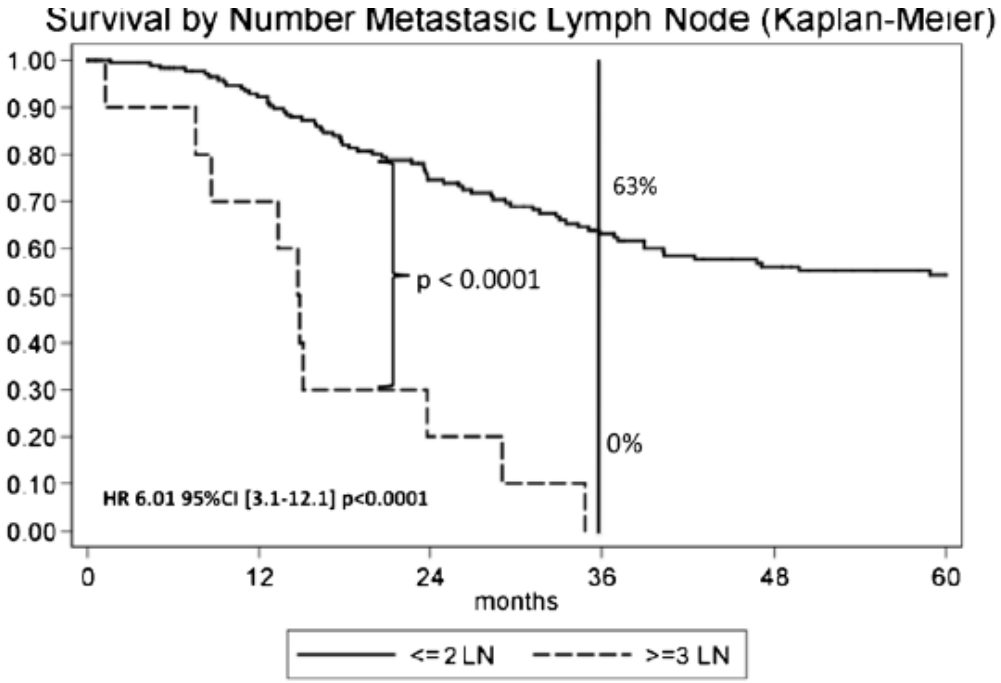
EXTENT OF LYMPHADENECTOMY

DOI 10.1007/s11605-017-3507-x

2017 SSAT PLENARY PRESENTATION

Extended Lymphadenectomy Is Required for Incidental Gallbladder Cancer Independent of Cystic Duct Lymph Node Status

Eduardo A. Vega[1,2] · Eduardo Vinuela[2,3] · Suguru Yamashita[1,4] · Marcel Sanhueza[2,3] · Gabriel Cavada[5] · Cristian Diaz[2,3] · Thomas A. Aloia[1] · Yun Shin Chun[1] · Ching-Wei D Tzeng[1] · Masayuki Okuno[1] · Claire Goumard[1] · Jean-Nicolas Vauthey[1] · Jeffrey E. Lee[1] · Claudius Conrad[1]



Vega EA, et al. J Gastrointest Surg 2017 – Ahead of print

EXTRAHEPATIC BILE DUCT RESECTION

- Incidental gallbladder carcinoma
  - Cistic duct not identified during re-resection
- Lymph node involving the biliary tract
- Adequate lymphadenectomy not possible

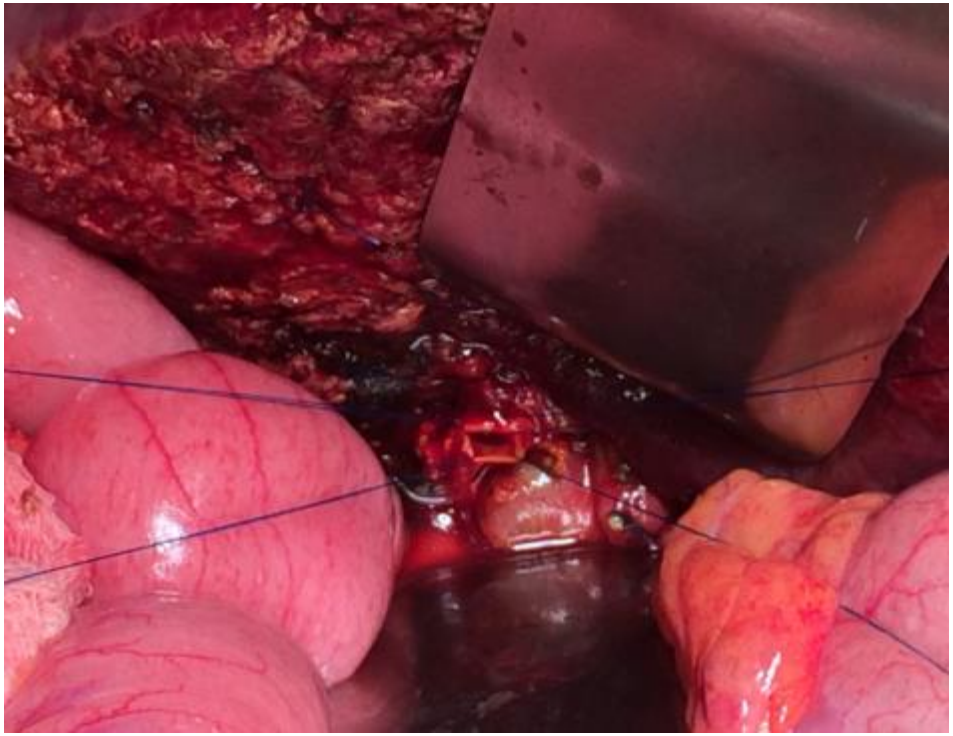
EXTRAHEPATIC BILE DUCT RESECTION

Langenbecks Arch Surg (2013) 398:1137–1144
DOI 10.1007/s00423-013-1120-3

ORIGINAL ARTICLE

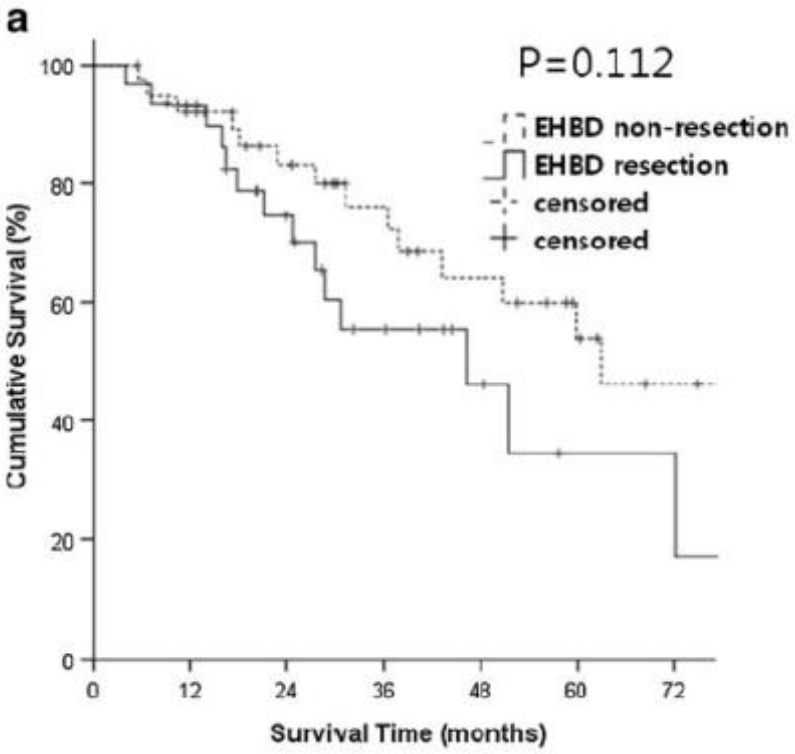
Surgical strategy for T2 and T3 gallbladder cancer: is extrahepatic bile duct resection always necessary?

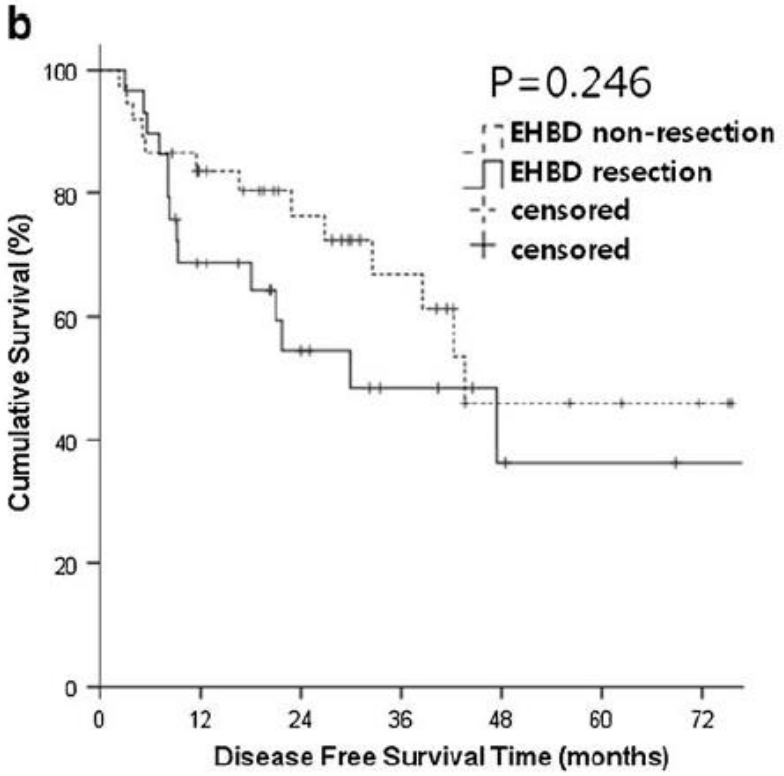
Sae Byeol Choi · Hyung Joon Han · Wan Bae Kim · Tae Jin Song · Sung Ock Suh · Sang Yong Choi



Choi SB, et al. Langenbecks Arch Surh 2013;398:1137–44

EXTRAHEPATIC BILE DUCT RESECTION





Choi SB, et al. Langenbecks Arch Surh 2013;398:1137–44

EXTRAHEPATIC BILE DUCT RESECTION

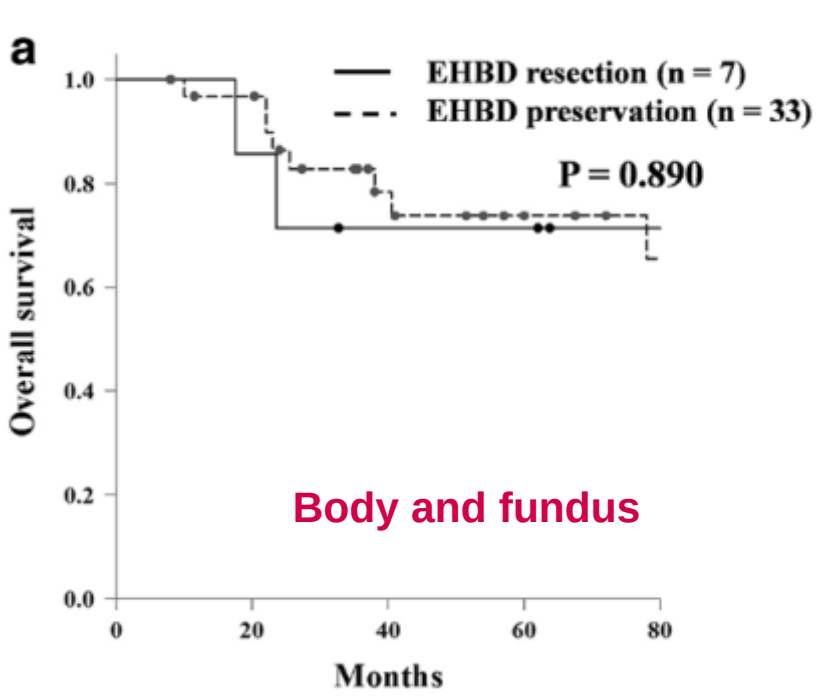
Langenbecks Arch Surg
DOI 10.1007/s00423-017-1620-7

ORIGINAL ARTICLE

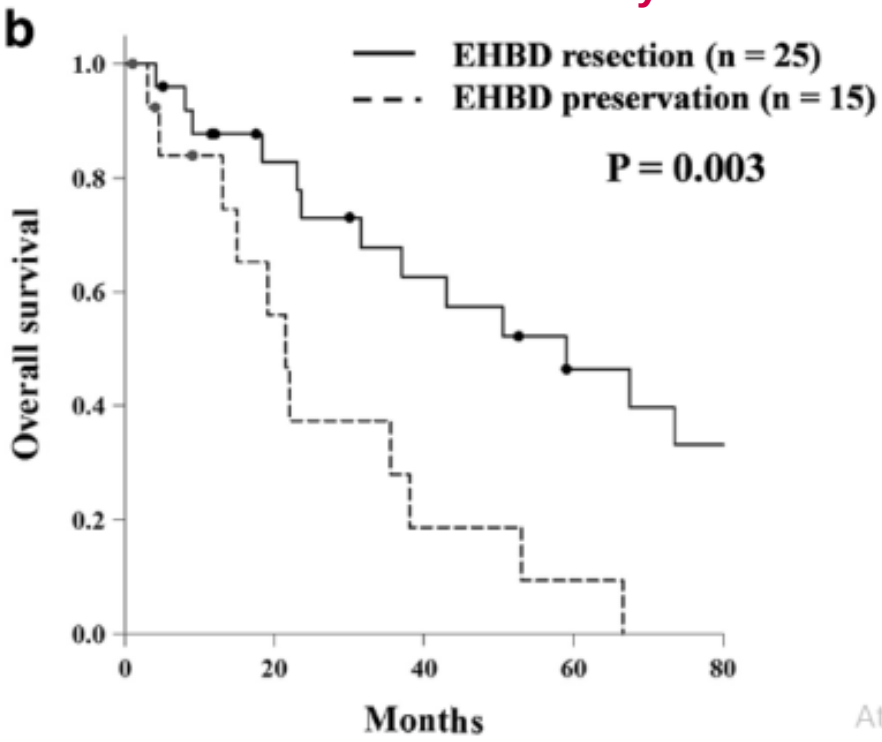
Indication of extrahepatic bile duct resection for gallbladder cancer

Hiroshi Kurahara[1] · Kosei Maemura[1] · Yuko Mataki[1] · Masahiko Sakoda[1] · Satoshi Iino[1] · Yota Kawasaki[1] · Shinichiro Mori[1] · Takaaki Arigami[1] · Yuko Kijima[1] · Hiroyuki Shinchi[2] · Shoji Natsugoe[1]

Neck and cystic duct



Body and fundus



Kurahara H, et al. Langenbecks Arch Surg 2017

EXTRAHEPATIC BILE DUCT RESECTION

Langenbecks Arch Surg
DOI 10.1007/s00423-017-1620-7

CrossMark

ORIGINAL ARTICLE

Indication of extrahepatic bile duct resection for gallbladder cancer

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Conclusions Extended cholecystectomy with EHBD resection should be performed for patients with GB cancer involving the neck and cystic duct to reduce local and regional lymph node recurrence and achieve better prognosis.

15

Kurahara H, et al. Langenbecks Arch Surg 2017

PORT-SITE RESECTION

- Peritoneal disease
- No survival benefit
- Incisional hernia

Fuks D, et al. World J Surg 2011;35:1887–1897.

PORT-SITE RESECTION

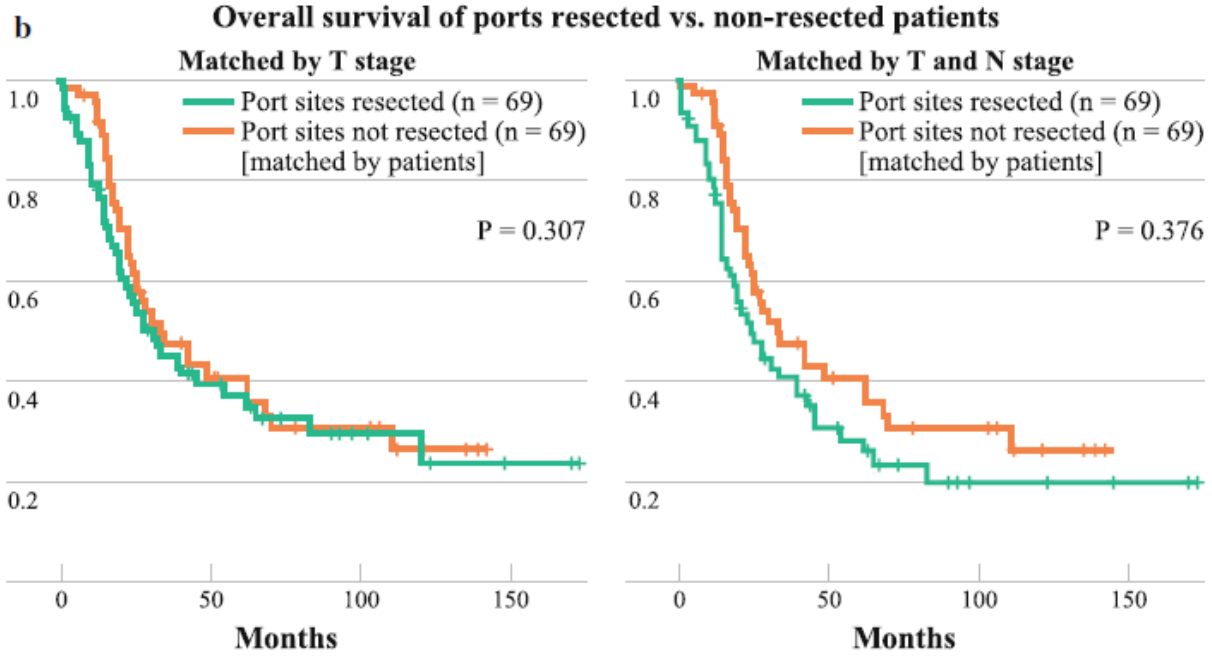
Ann Surg Oncol (2012) 19:409–417
DOI 10.1245/s10434-011-1850-9

Annals of
SURGICAL ONCOLOGY
OFFICIAL JOURNAL OF THE SOCIETY OF SURGICAL ONCOLOGY

ORIGINAL ARTICLE – HEPATOBILIARY TUMORS

Is Port Site Resection Necessary in the Surgical Management of Gallbladder Cancer?

Ajay V. Maker, MD[1,2], Jean M. Butte, MD[2], Jacqueline Oxenberg, DO[2], Deborah Kuk, MS[3], Mithat Gonen, PhD[3], Yuman Fong, MD[2], Ronald P. DeMatteo, MD[2], Michael I. D'Angelica, MD[2], Peter J. Allen, MD[2], and William R. Jarnagin, MD[2]



Maker AV, et al. Ann Surg Oncol 2012;19:409-17.

PORT-SITE RESECTION

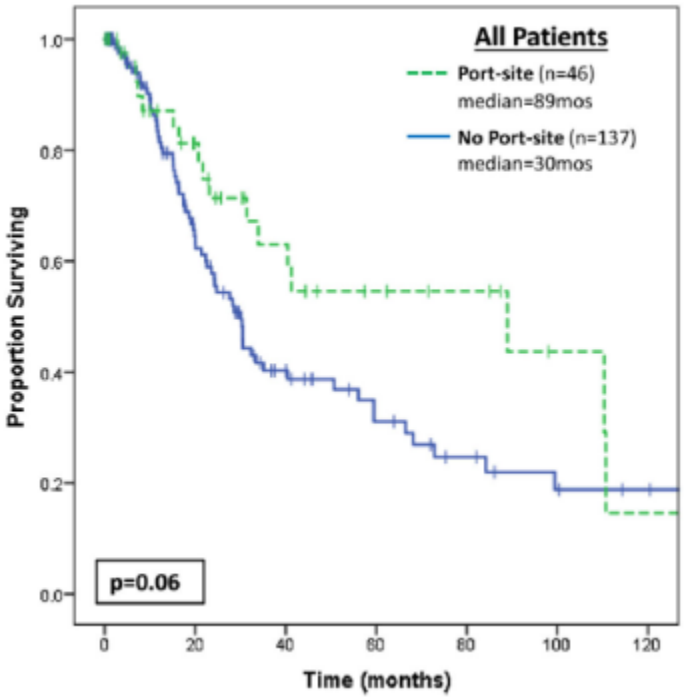
Received: 12 January 2017 | Revised: 30 January 2017 | Accepted: 1 February 2017

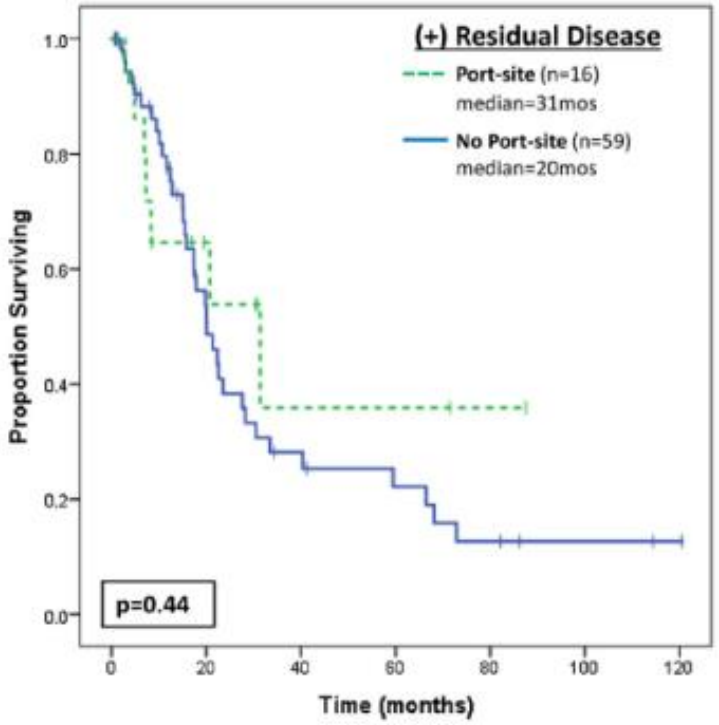
DOI 10.1002/jso.24591

RESEARCH ARTICLE

WILEY Journal of SURGICAL ONCOLOGY

Routine port-site excision in incidentally discovered gallbladder cancer is not associated with improved survival: A multi-institution analysis from the US Extrahepatic Biliary Malignancy Consortium





Ethun CG, et al. J Surg Oncol 2017;115:805-11.

PORT-SITE RESECTION

Received: 12 January 2017 | Revised: 30 January 2017 | Accepted: 1 February 2017

DOI 10.1002/jso.24591

RESEARCH ARTICLE

WILEY Journal of SURGICAL ONCOLOGY

Routine port-site excision in incidentally discovered gallbladder cancer is not associated with improved survival: A multi-institution analysis from the US Extrahepatic Biliary Malignancy Consortium

- Port-site excision
  - Peritoneal disease
  - No survival benefit
  - Recurrence similar to no excision
  - Not recommended routinely

Ethun CG, et al. J Surg Oncol 2017;115:805-11.

MINIMALLY INVASIVE APPROACH

DOI:10.1111/hpb.12406 HPB

ORIGINAL ARTICLE

Minimally invasive versus the conventional open surgical approach of a radical cholecystectomy for gallbladder cancer: a retrospective comparative study

Anil K. Agarwal[1], Amit Javed[1], Raja Kalayarasan[1] & Puja Sakhuja[2]

[1]Department of Gastrointestinal Surgery, and [2]Department of Pathology, GB Pant Hospital & MAM College, Delhi University, New Delhi, India

Table 1 Comparison of clinicopathological features of patients who underwent a laparoscopic (Group A) and open (Group B) radical cholecystectomy

Parameter	Group A (n = 24)	Group B (n = 46)	P value
Demography			
Age, median (range)	44 (21–61)	49 (23–70)	0.281
Sex ratio, female: male	2.6:1	3:1	0.848
Operative data			
Duration of surgery in min, median (range)	270 (180–340)	240 (180–360)	0.021
Blood loss in ml, median (range)	200 (100–850)	275 (100–800)	0.034
Post-operative data			
Hospital stay in days, median (range)	5 (3–16)	5 (3–17)	0.111
Morbidity, n (%)	3 (12.5)	8 (17.4)	0.737
Histopathology			
Lymph node yield, median (range) [mean (± SD)]			
Overall	10 (4–31) [12.5 (± 5.4)]	11 (5–26) [12.9 (± 5.4)]	0.642
Primary GBC	12 (6–31) [13.6 (± 4.8)]	12.5 (5–26) [13.9 (±5.6)]	0.781
IGBC	5 (4–10) [5.5 (± 1.7)]	6 (5–10) [7.4 (± 1.9)]	0.146

Agarwal AK, et al. HPB 2015;17: 536-41

MINIMALLY INVASIVE APPROACH

Especialized centers

- Adequate nodal evaluation (aortocaval)
- Achieve R0 resection
- Hepatectomy and biliary reconstrution
- No difference

Gumbs AA, Jarufe N, Gayet B. (2013). Surg Endosc 2013;27:406–414.

Agarwal AK, et al. HPB 2015;17: 536-41

Obrigado!