Congresso do Setor II

Colégio Brasileiro de Cirurgiões

20 a 22 nov. 2014 - Unichristus - Fortaleza - CE

LESÕES IATROGÊNICAS DAS VIAS BILIARES

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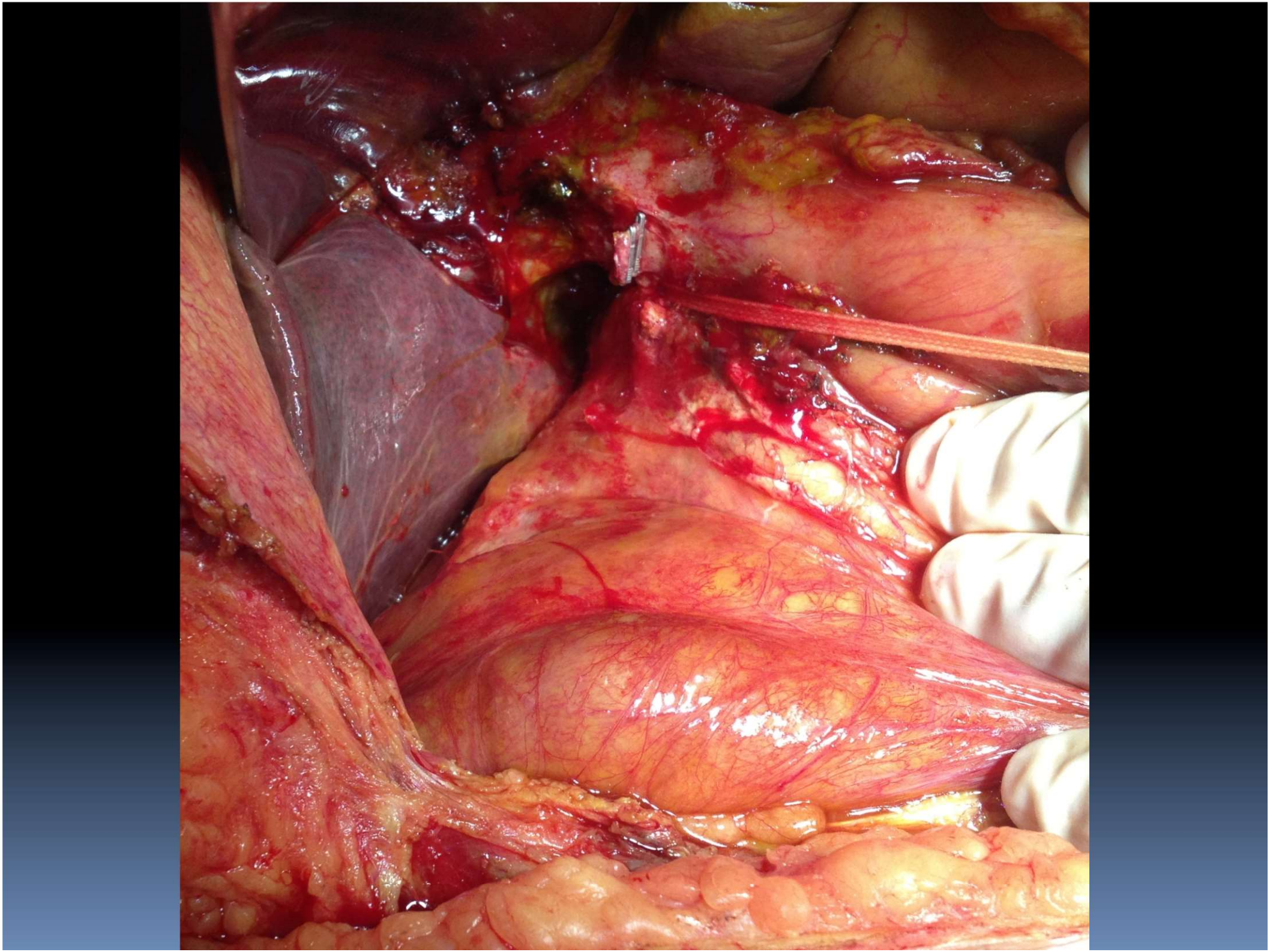
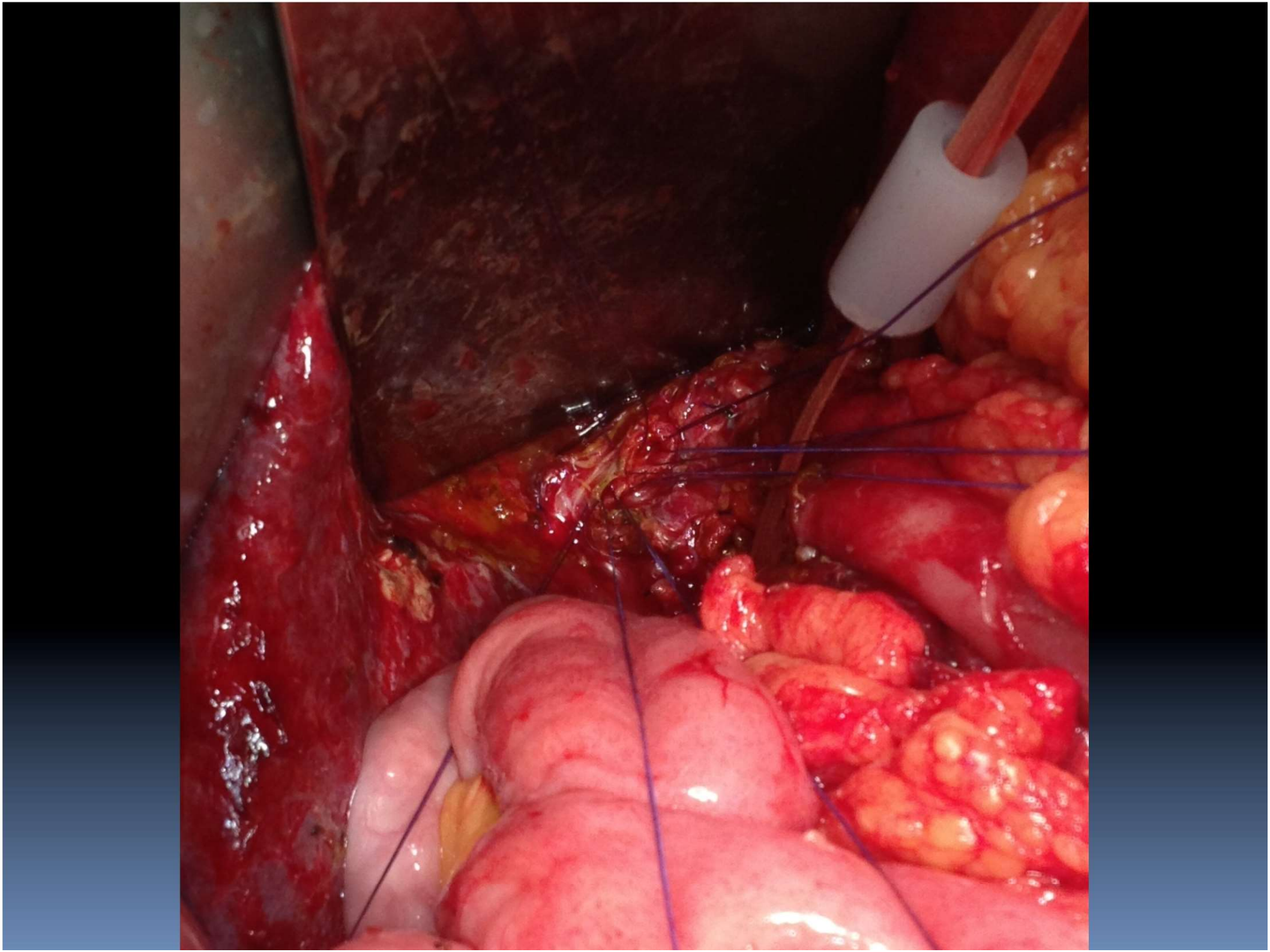
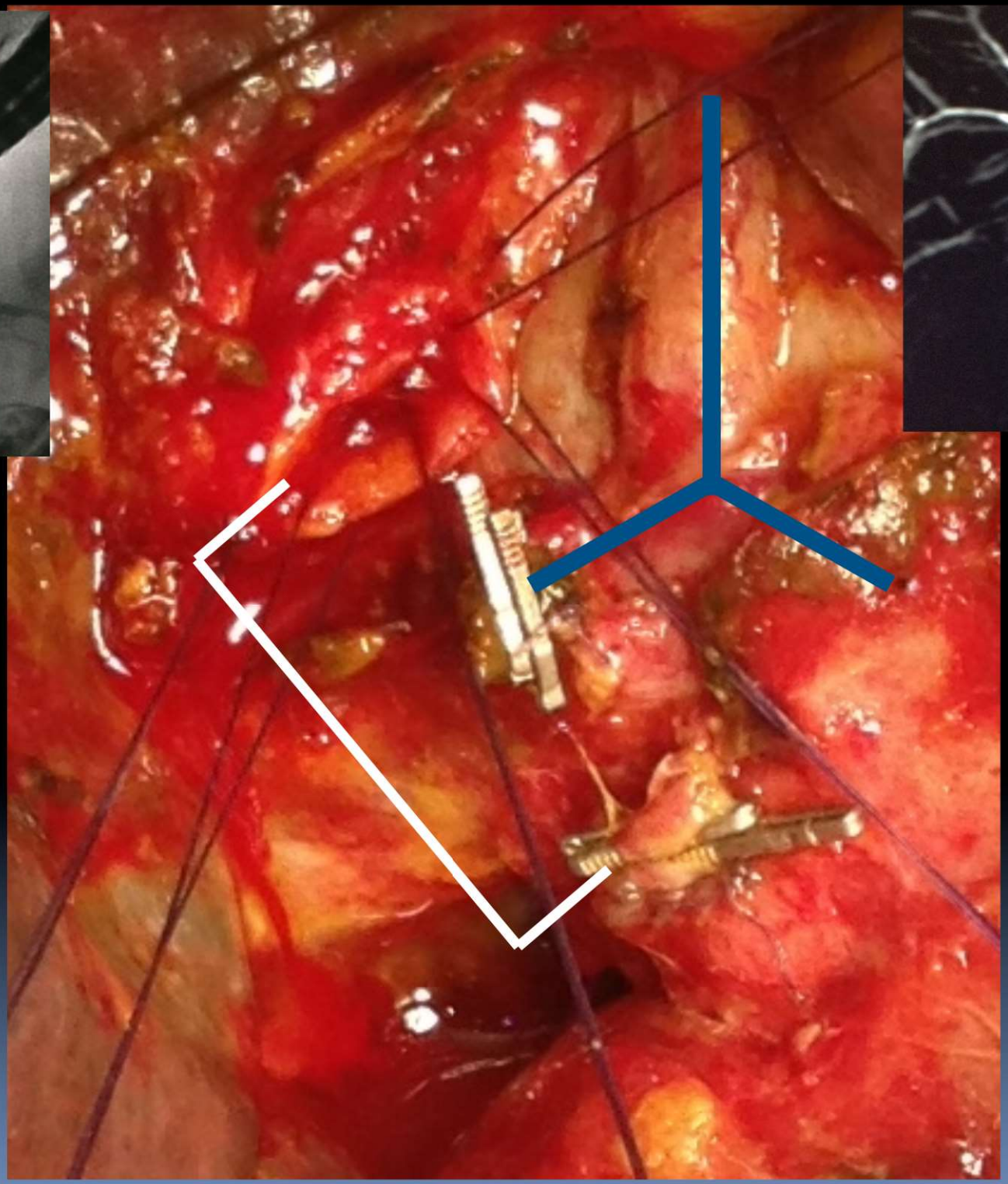
Núcleo de Estudos do Fígado - UFMA

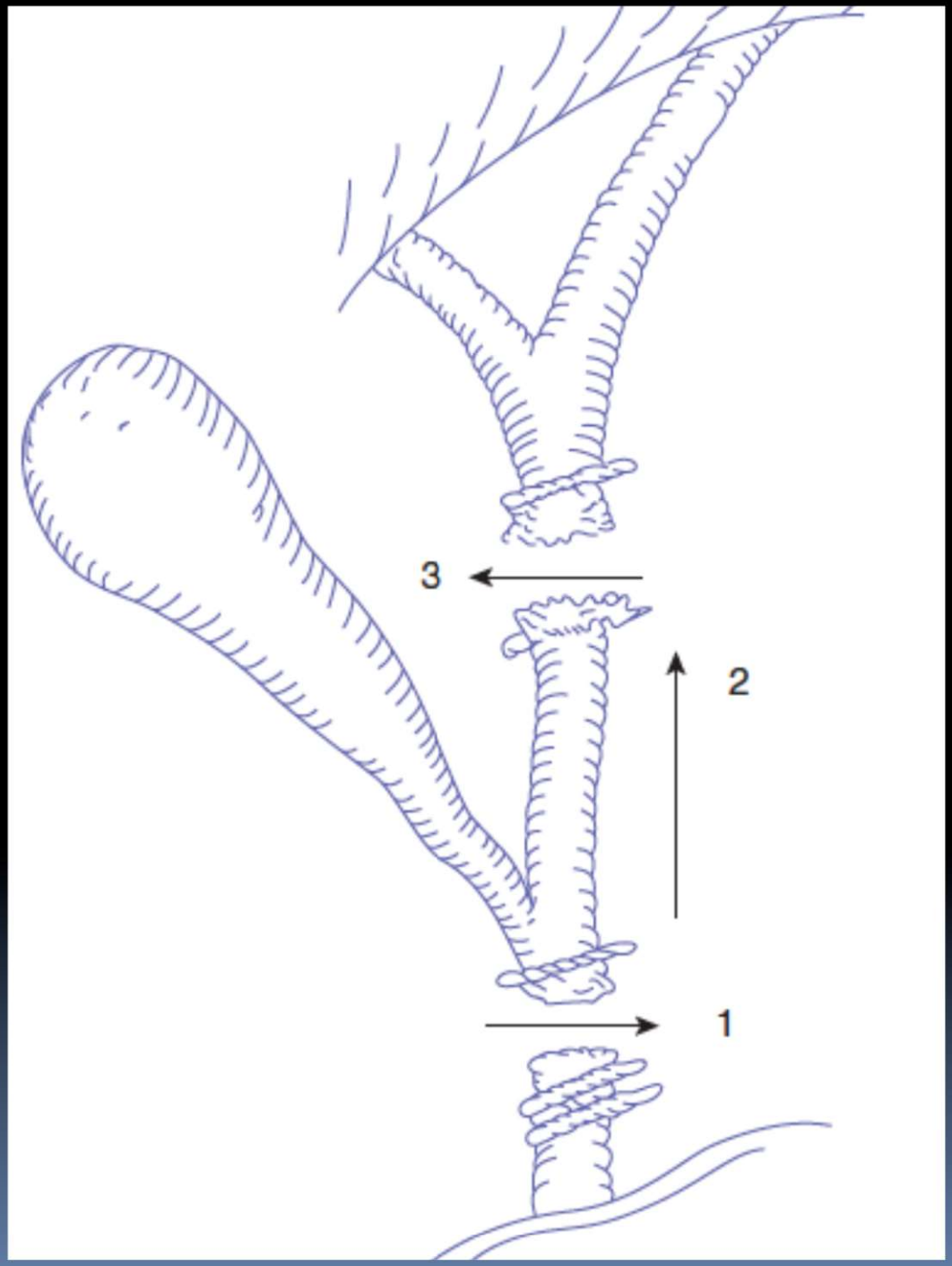
Caso clínico

AKLM,feminino,29 anos
Colelitíase
Colecistectomia VL
Icterícia no 2° DPO
Médico: cálculo residual
CPRE

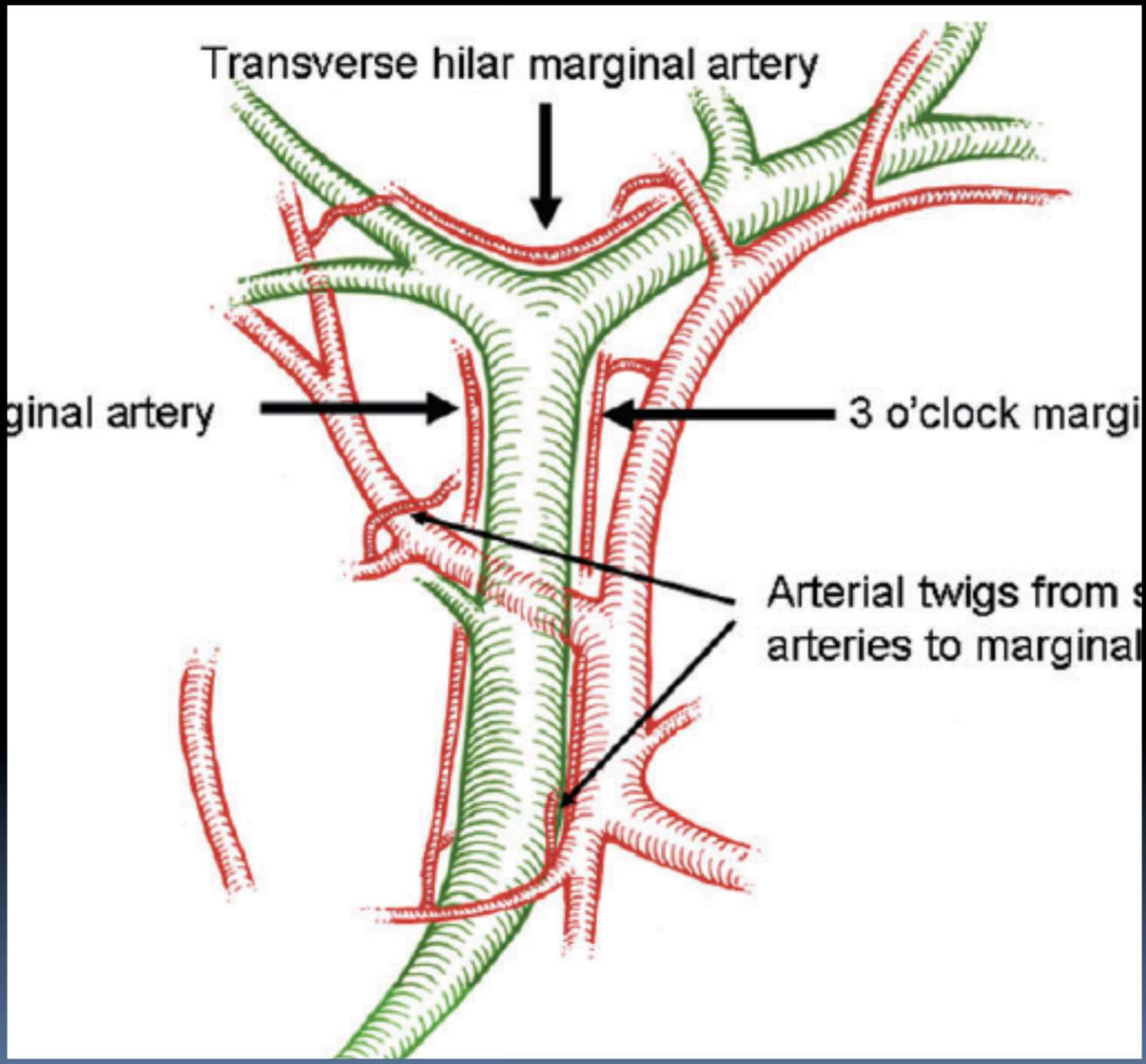


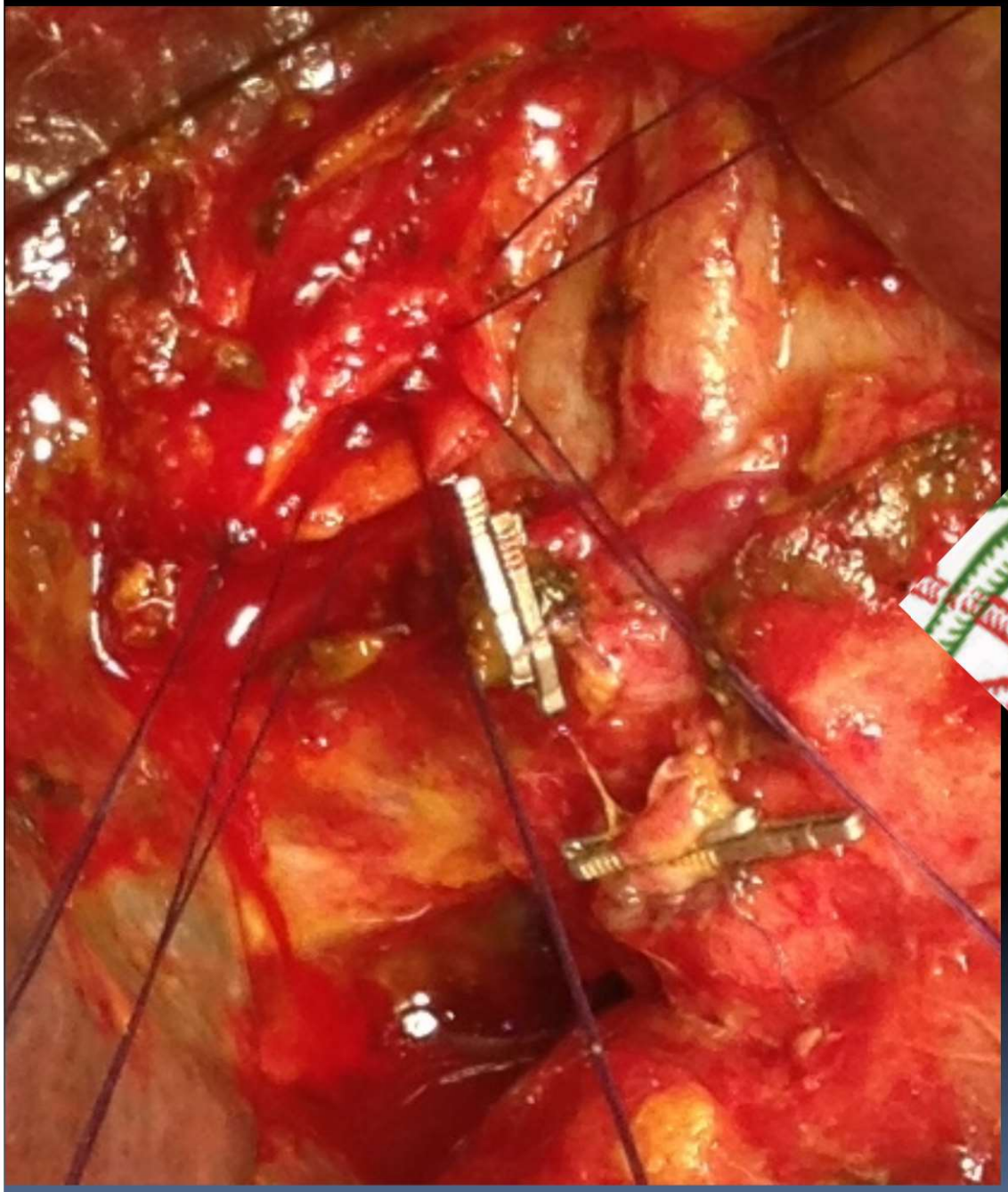


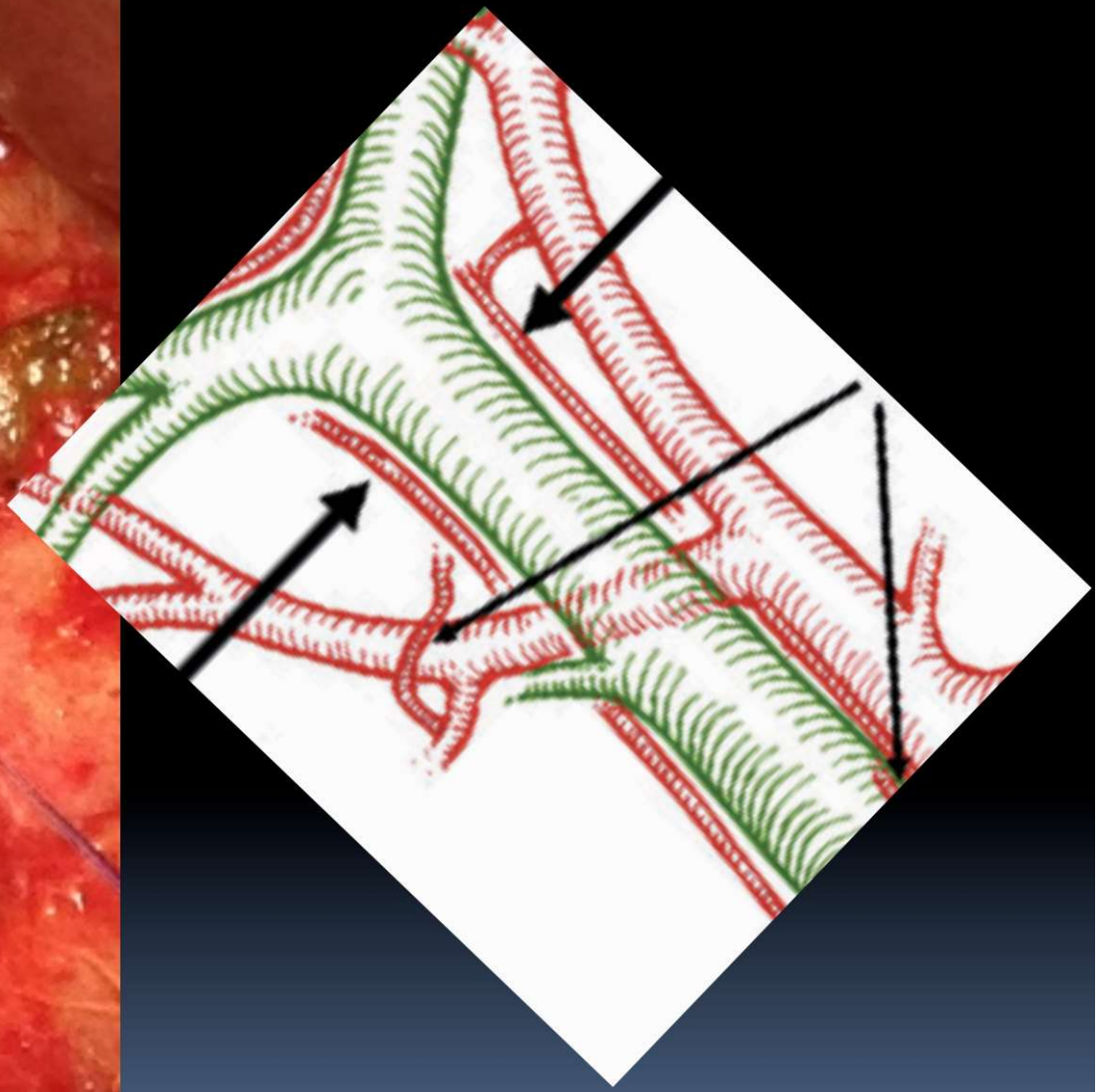




Strasberg SM, Helton WS. HPB 2011;13:1-14


Transverse hilar marginal artery
ginal artery
3 o'clock margi
Arterial twigs from s
arteries to marginal



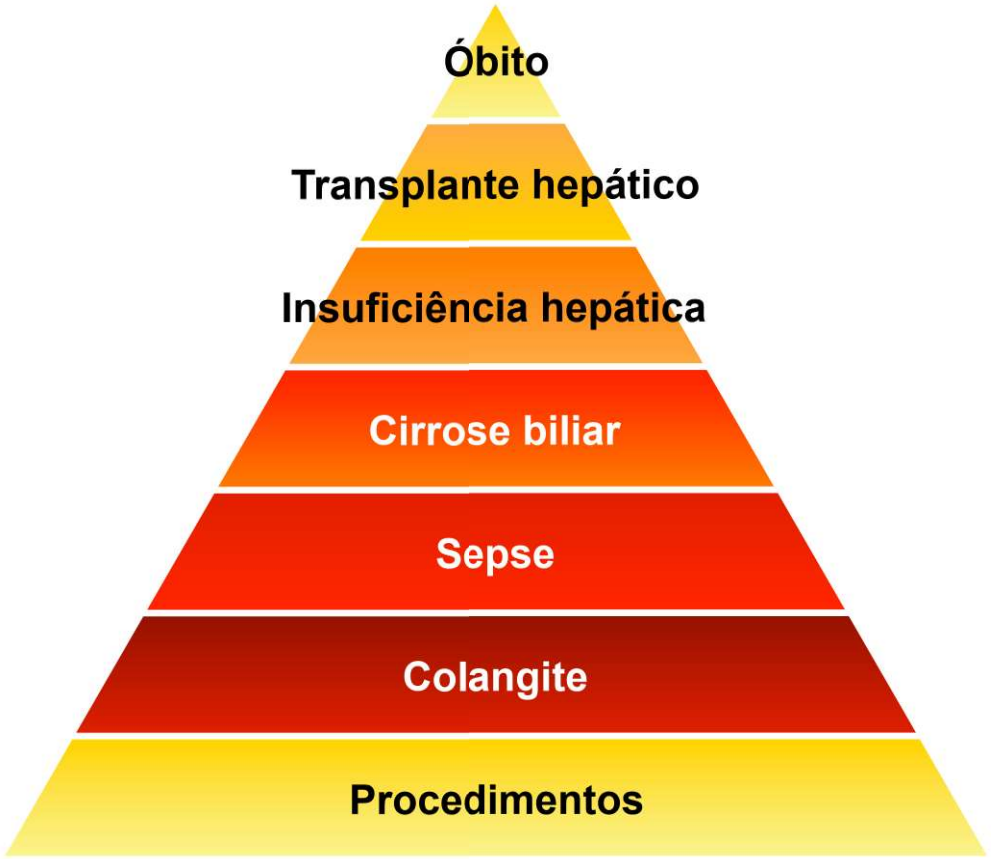


Lesão iatrogênica da via biliar

- Tragédia para o paciente
- Desastre para o cirurgião
- Prejuízo econômico
- Sério problema para seguros de saúde
- Estressante para a família do paciente
- Conseqüências de aspecto legal e jurídico

Kaman L et al – ANZ J Surg 76: 788-791, 2006

Lesão iatrogênica da via biliar



Kaman L et al – ANZ J Surg 76: 788-791, 2006

... e o doutor falou que seria uma cirurgia simples, de 20 minutos e que teria alta em menos de 24 horas, sem cortes na barriga, que poderia dirigir após 3 dias...

Melhor evitar!

Lesões biliares em colecistectomia

Table 1. Comparative analysis of the two groups of patients who underwent laparoscopic and open cholecystectomy

Clinical characteristics	LC (n = 2079)	OC (n = 1558)	P value
Sex			
Female	1539	1143	
Male	540	415	0.669
Age (years)			
(Median + IR)	54 (31–72)	58 (34–71)	0.418
Type of operation			
Elective	2010	1477	
Urgent	69	81	0.004
Operative time (min)			
Median (IR)	75 (45–85)	75 (30–75)	0.441
Postoperative hospital stay (days)			
Median (IR)	2 (2–3)	4 (3–5)	0.001
Bile leakages unrelated to bile duct injury	6	4	0.856
Bile duct injuries	13	6	0.317
Time of BDI recognition			
Intraoperative	9	1	
Postoperative	4	5	0.033
Bismuth's classification of BDI			
Type 1	1	1	0.578
Type 2	4	3	0.157
Type 3	6	2	0.622
Type 4	2	0	0.337

LC, laparoscopic cholecystectomy; OC, open cholecystectomy; BDI, bile duct injury; IR, interquartile range

Diamantis T et al – Surg Today 35: 841-845, 2005

Lesões biliares em colecistectomia

		Lesões maiores		Fístula biliar		Total		
Pacientes		N	%	N	%	N	%	Var.(%)
Convencional	25.544	81	0,32	106	0,41	187	0,70	(0,00-2,46)
Laparoscópica	124.433	650	0,52	415	0,33	1.060	0,85	(0,20-3,40)

Strasberg et al - J Am Coll Surg 180:101-125,1995

Table 7. Incidence of biliary tract injury during laparoscopic cholecystectomy in various multicenter European surveys

Country	Reference	Year of publication	No. of operations	Incidence of injury (%)
Belgium	37	1992	3,244	0.50
France	34	1992	3,606	0.78
France	11	1992	6,512	0.44
Holland	14	1993	6,076	0.86
France	7	1993	3,673	0.60
Austria	39	1993	7,351	0.50
Holland	15	1994	2,932	1.1
Switzerland	31	1994	3,722	0.60
Italy	9	1994	6,865	0.26
Spain	38	1994	2,342	0.28
Norway	32	1995	2,612	0.61

Gigot JF, et al - Surg Endosc 1997;11:1171-8

Table 1. Annual rate of laparoscopic bile duct injury (BDI) in Japan

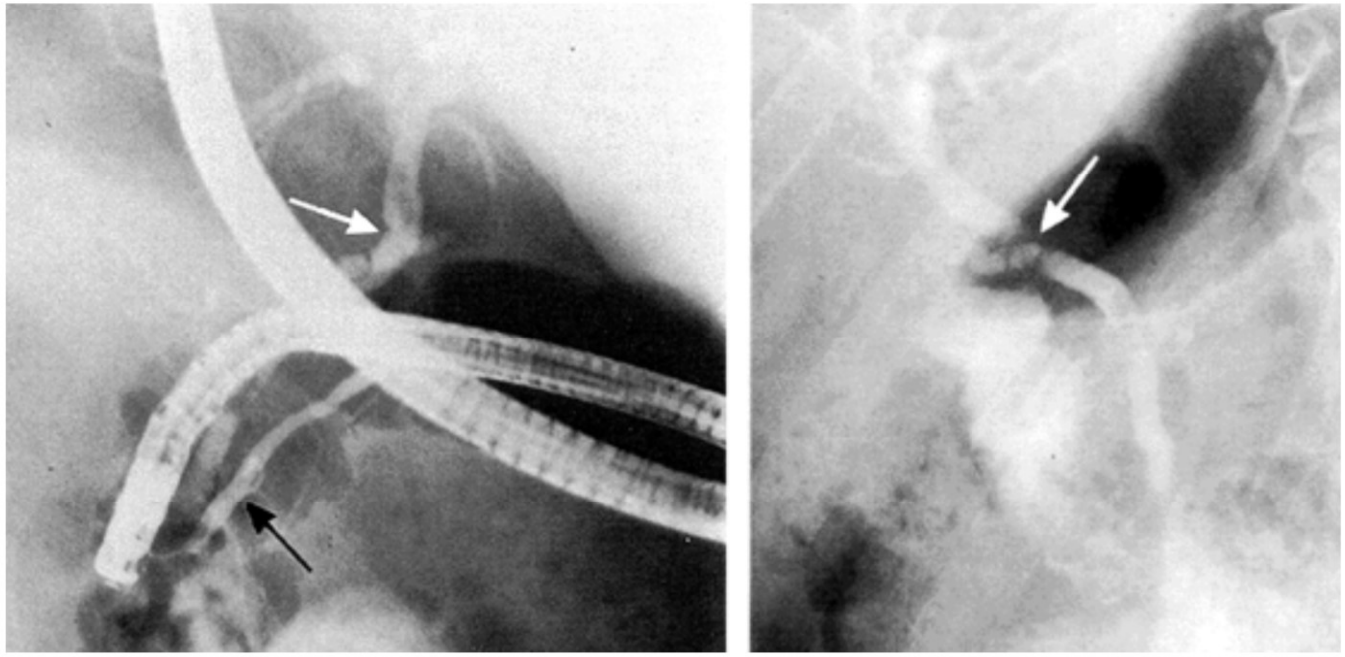
Year	1990–2001	2002	2003	2004	2005	2006	2007
BDI rate (%)	0.66 (mean)	0.79	0.77	0.66	0.77	0.65	0.58

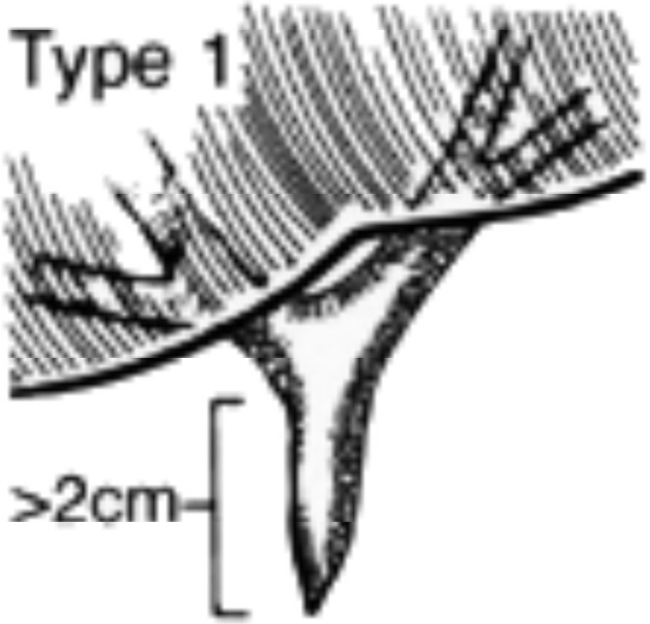
Yamashita Y, et al – Surg Today 2010;40:501-13

Em termos numéricos, as consequências da lesão da via biliar após colecistectomia, são mais prevalentes que aquelas decorrentes da hepatectomia por neoplasia de fígado.

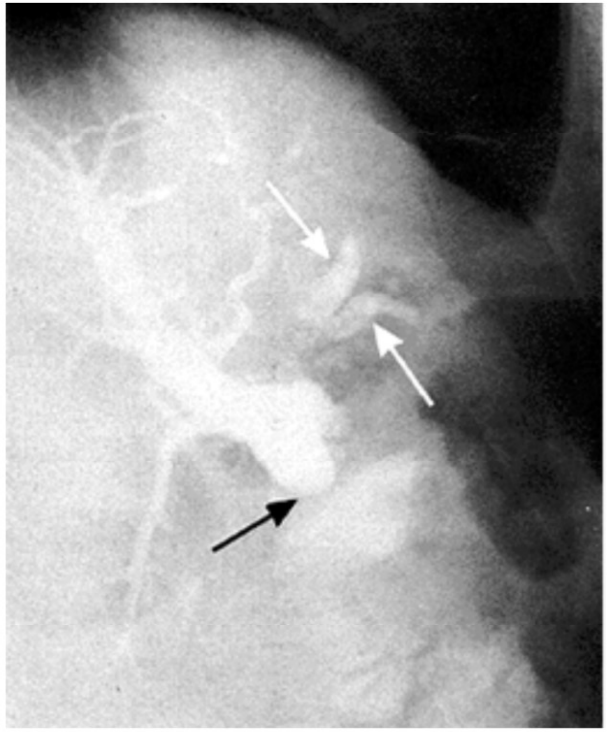
Classificação de Bismuth

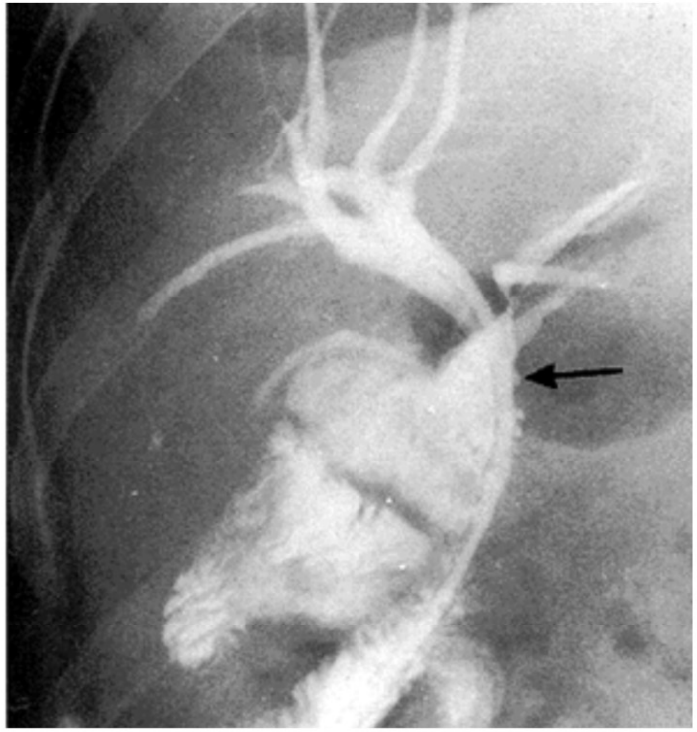
- Tipo I – Lesão de ducto hepático comum baixo com ducto hepático remanescente > 2 cm

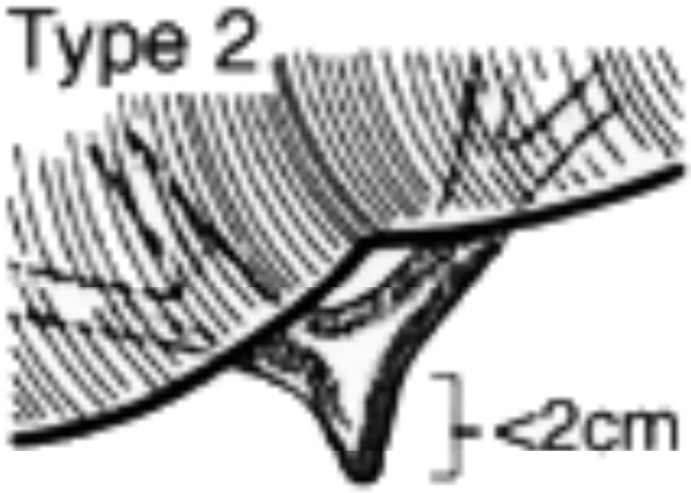




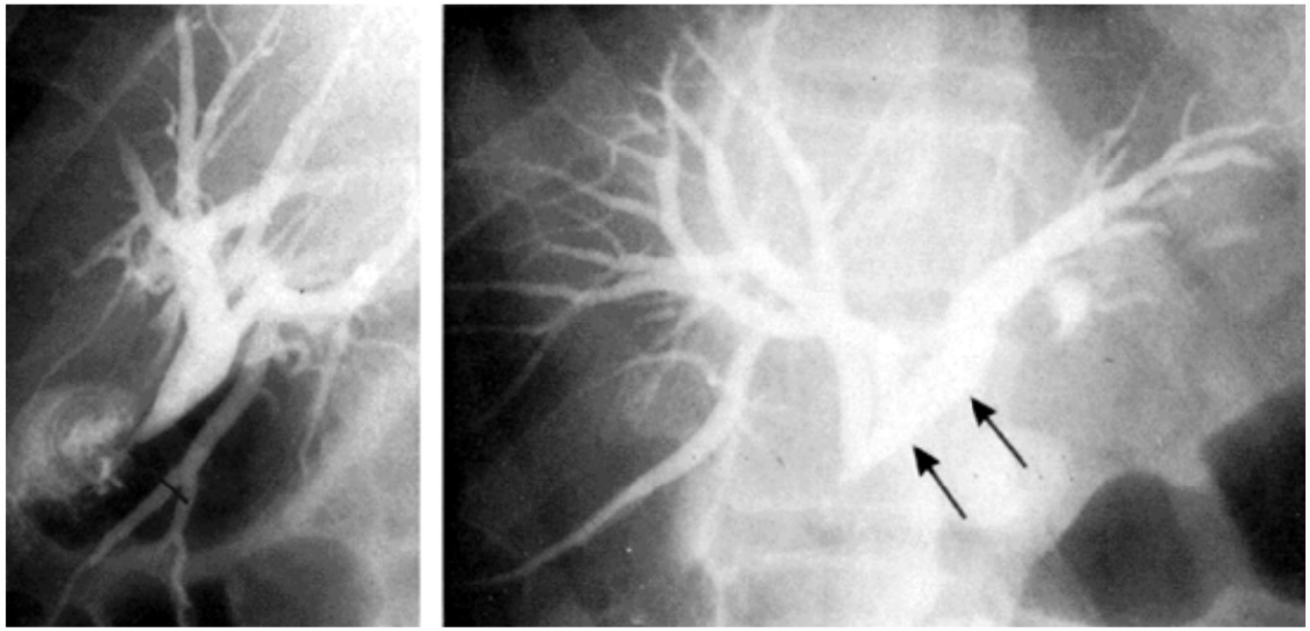
- Tipo II – Lesão de ducto hepático comum médio com ducto hepático remanescente < 2 cm



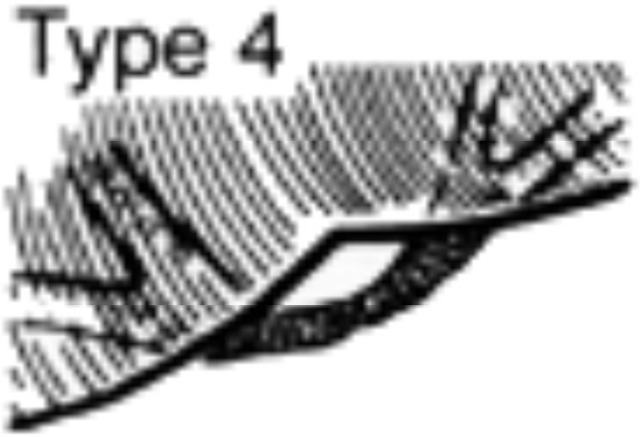




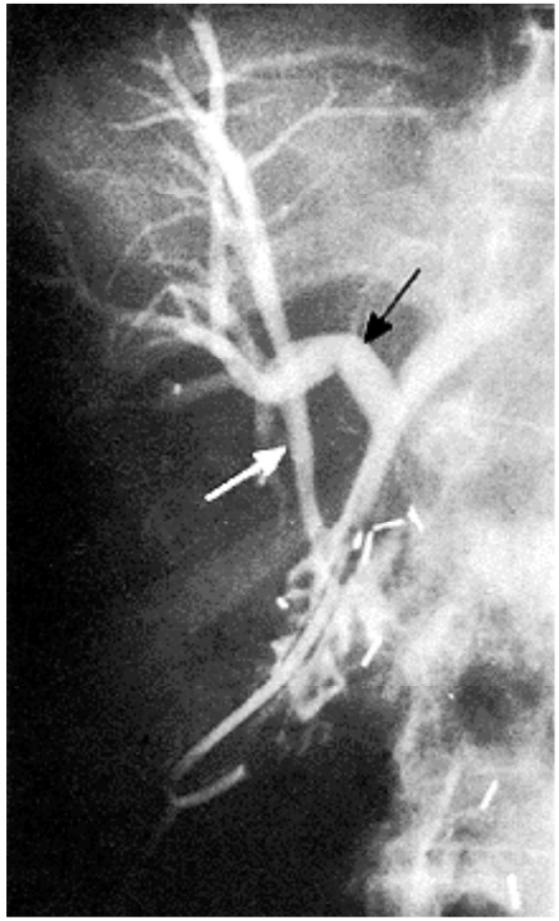
- Tipo III – Lesão hilar sem ducto hepático comum residual. Confluência hilar intacta.



- Tipo IV – Destruição da confluência hilar. Ductos direito e esquerdo separados.



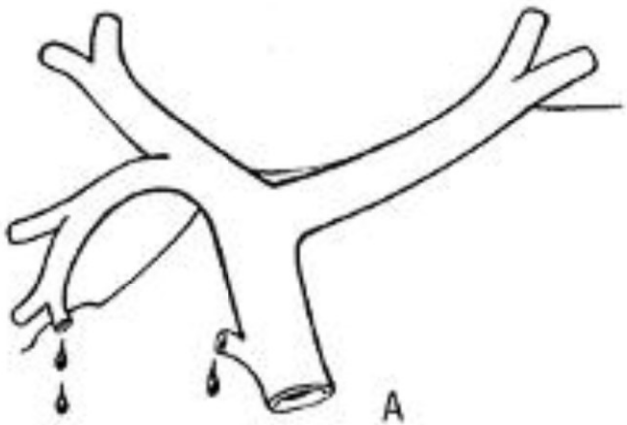
- Tipo V – Envolvimento de ducto sectorial direito aberrante isolado ou incluindo o ducto comum.

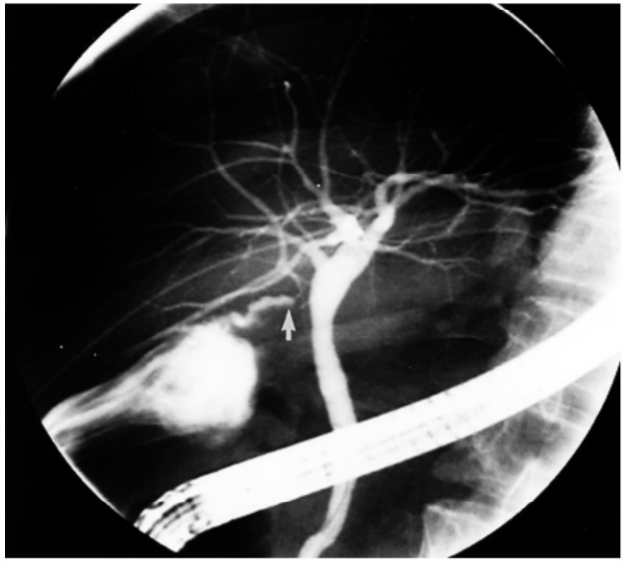


Classificação de Strasberg

Tipo A

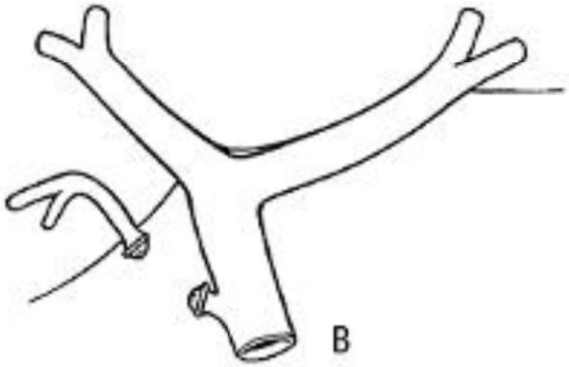
Vazamento biliar de um ducto menor, ainda em continuidade com o ducto biliar comum

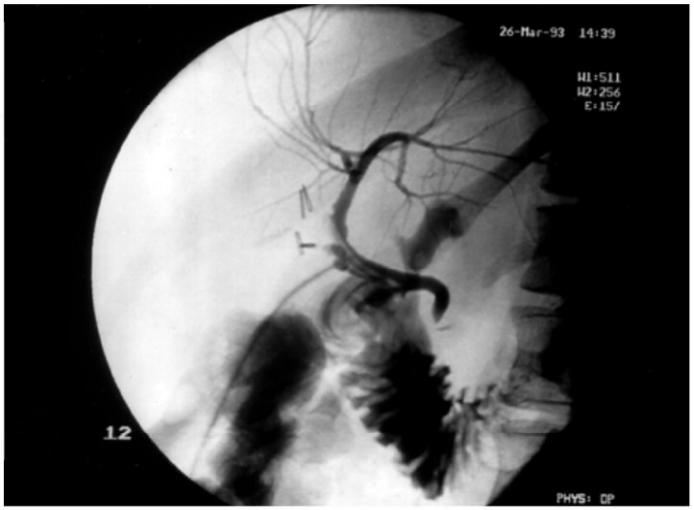




Tipo B

Oclusão de parte da árvore biliar

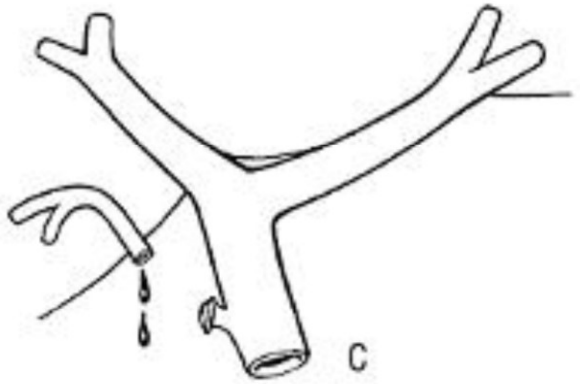


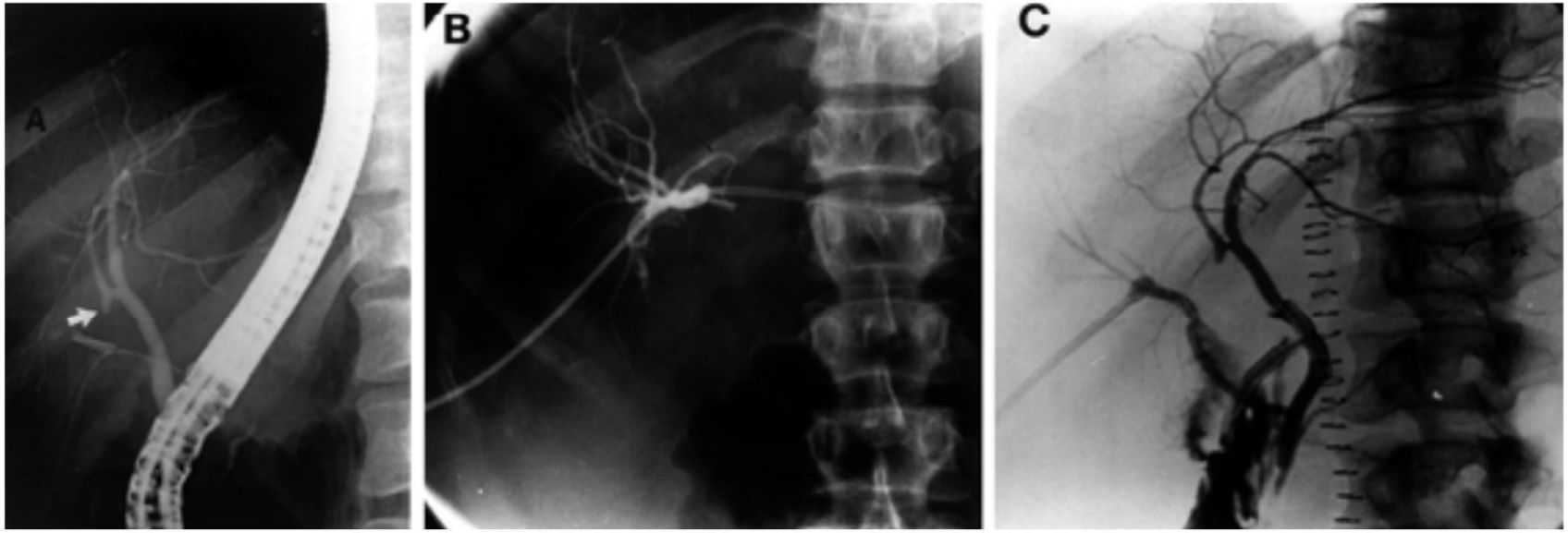


Strasberg et al - J Am Coll Surg 180:101-125,1995

Tipo C

Vazamento biliar de ducto que não está em comunicação com o ducto biliar comum.

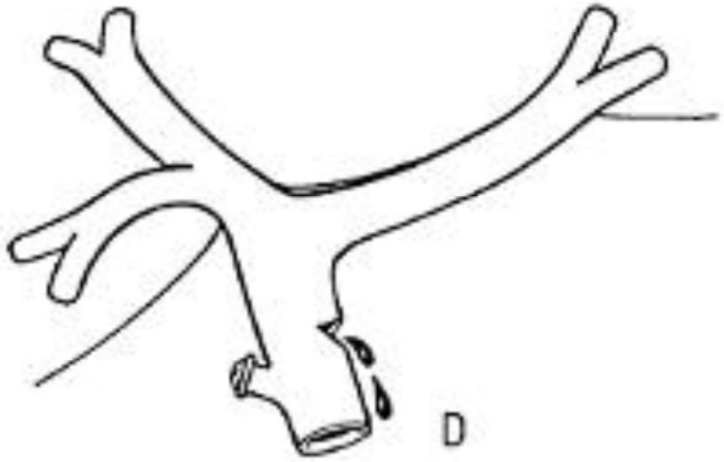


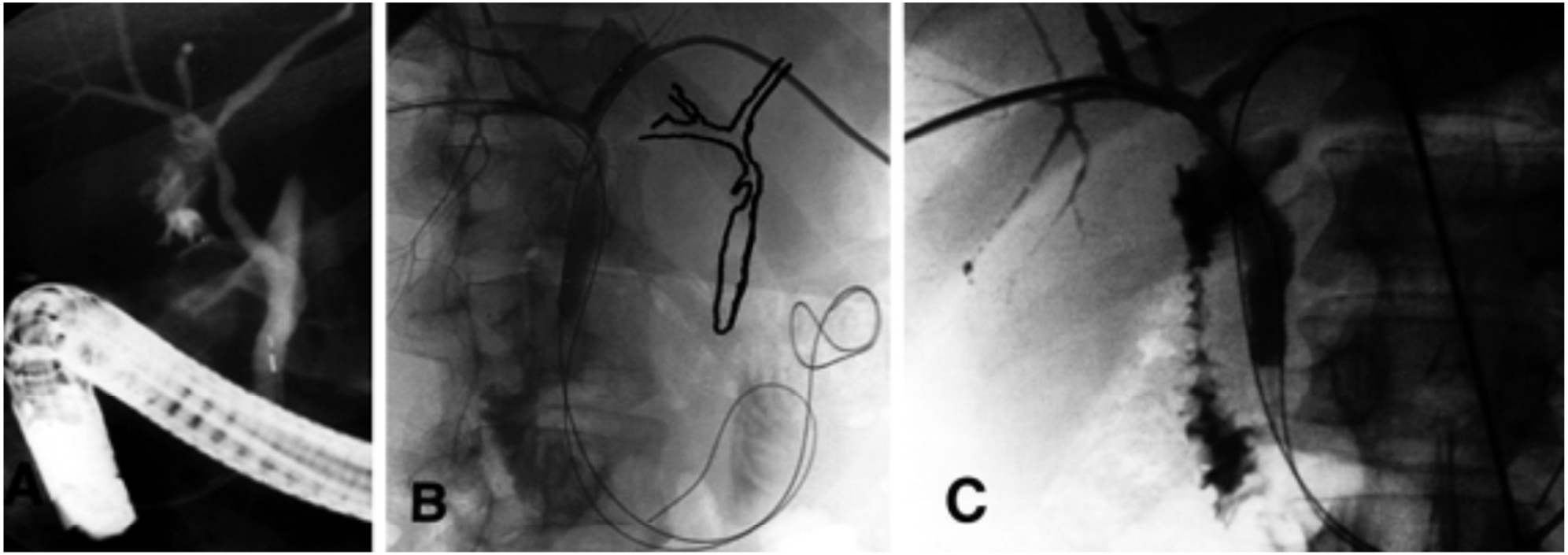


Strasberg et al - J Am Coll Surg 180:101-125,1995

Tipo D

Lesão lateral do ducto biliar extra-hepático.





Tipo E

Semelhante à de Bismuth (E1 – E5)

Fatores de risco para lesão

- Treinamento e experiência
- Fatores de risco locais
  - Colecistite aguda
  - Colecistite crônica
  - Sangramento (tentativa de controle)
  - Gordura na região portal
  - Obesidade
- Variações anatômicas
- Técnica imprópria
- Equipamento

Strasberg SM - J Hepatobiliary Pancreat Surg 2002;9:543-7

DOI:10.1111/j.1477-2574.2010.00225.x HPB

REVIEW ARTICLE

An analytical review of vasculobiliary injury in laparoscopic and open cholecystectomy

Steven M. Strasberg[1] and W. Scott Helton[2]

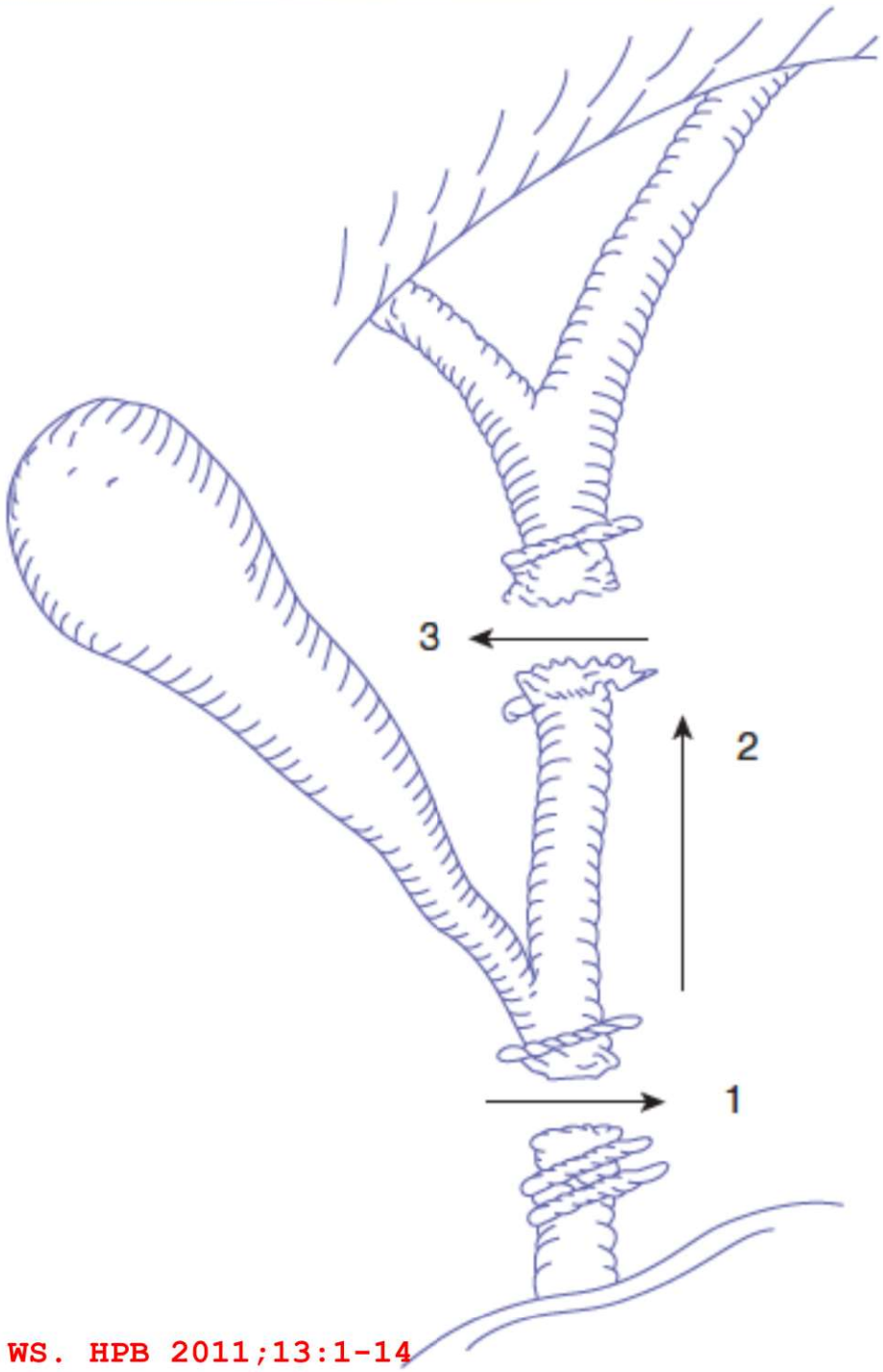
[1]Section of Hepato-Pancreato-Biliary Surgery, Department of Surgery, Washington University in Saint Louis, St Louis, MO, USA and [2]Department of Surgery, Hospital of St Raphael, New Haven, CT, USA

Abstract

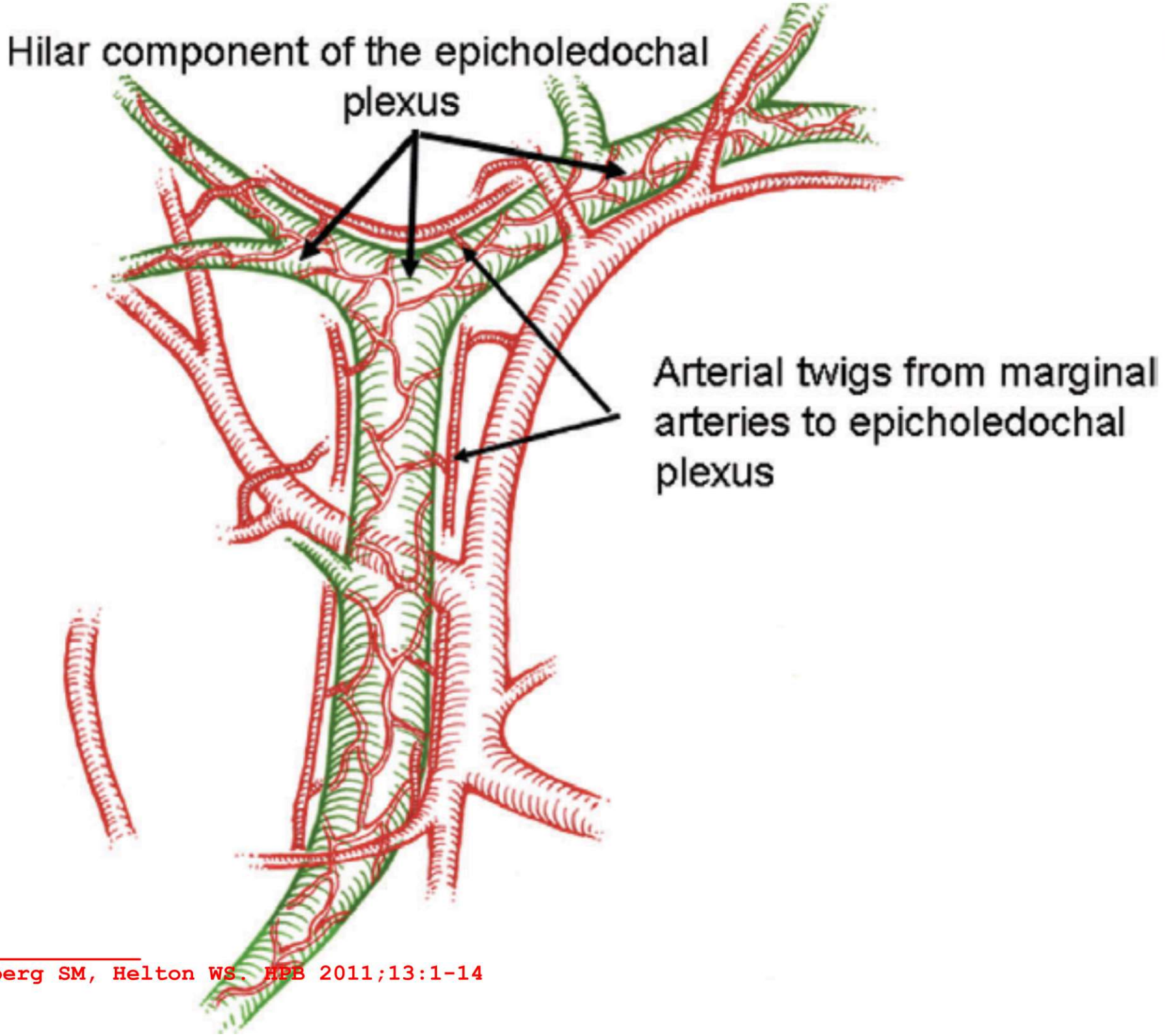
Objectives: Biliary injuries are frequently accompanied by vascular injuries, which may worsen the bile duct injury and cause liver ischemia. We performed an analytical review with the aim of defining vasculobiliary injury and setting out the important issues in this area.

Methods: A literature search of relevant terms was peformed using OvidSP. Bibliographies of papers were also searched to obtain older literature.

Strasberg SM, Helton WS. HPB 2011;13:1-14



Strasberg SM, Helton WS. HPB 2011;13:1-14



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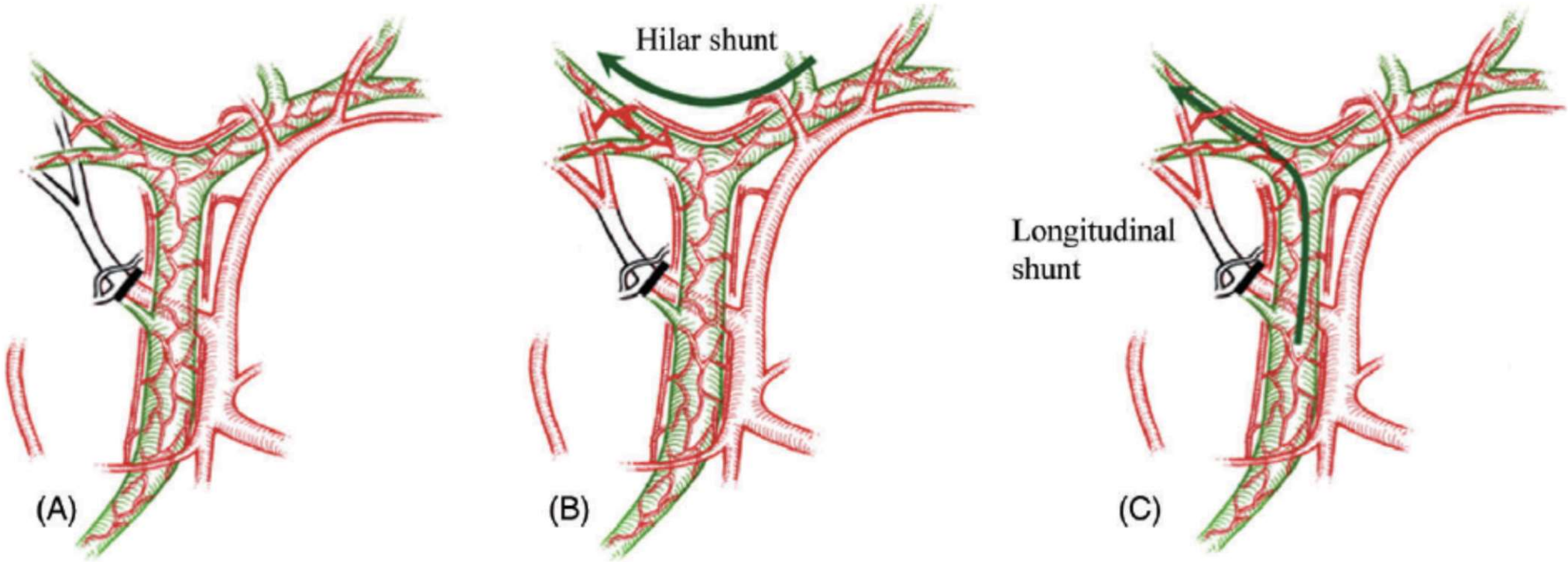
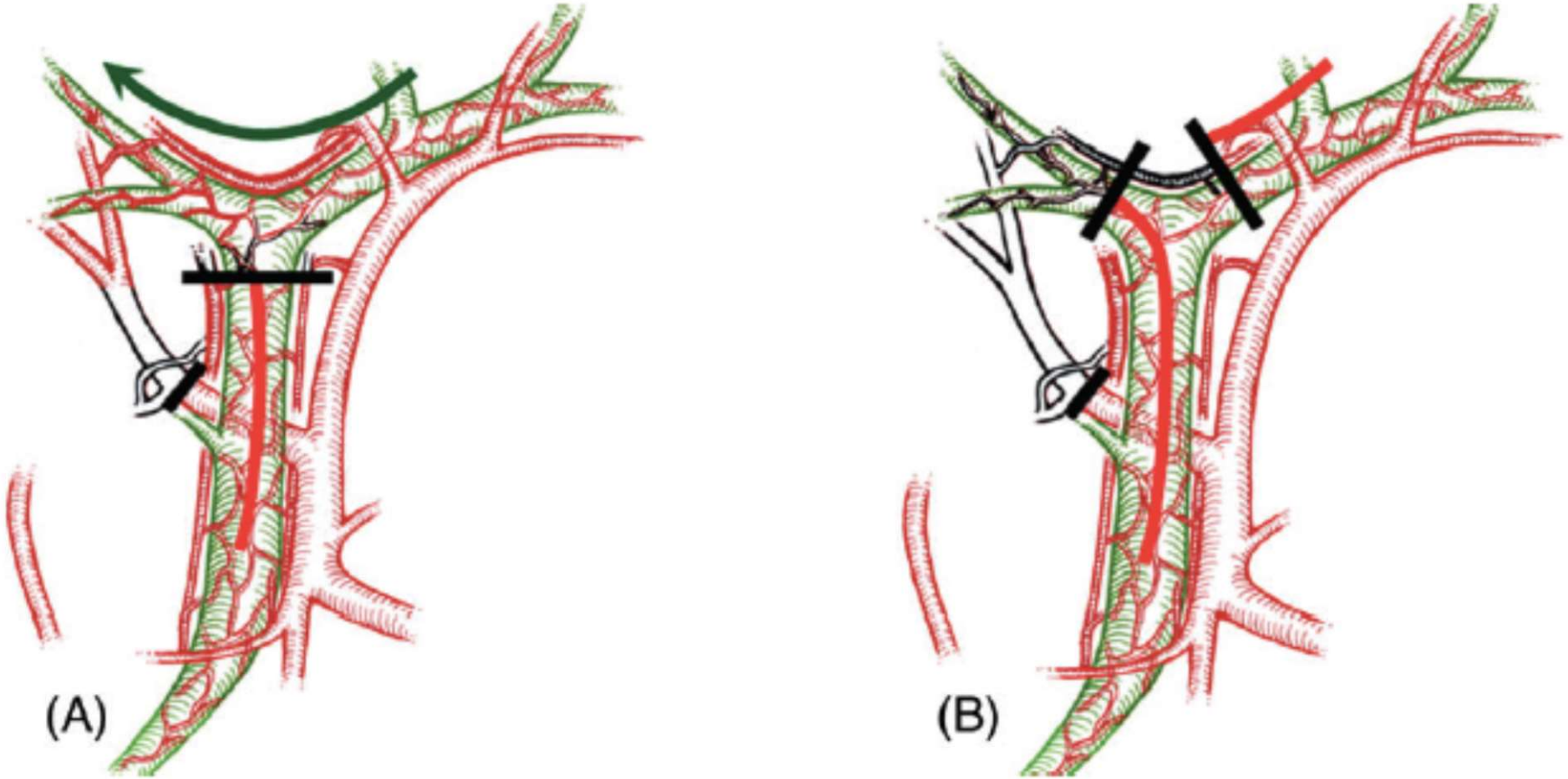
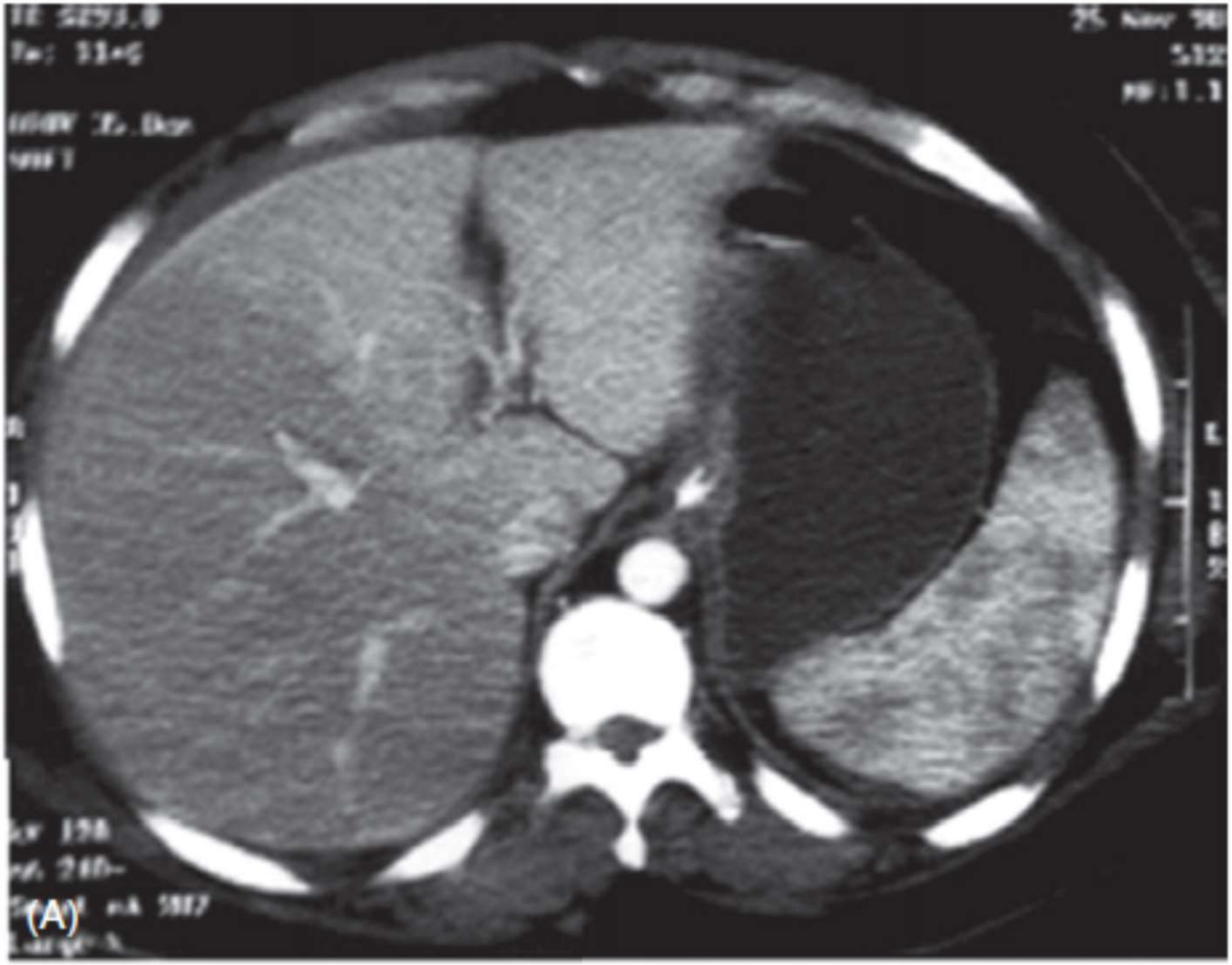


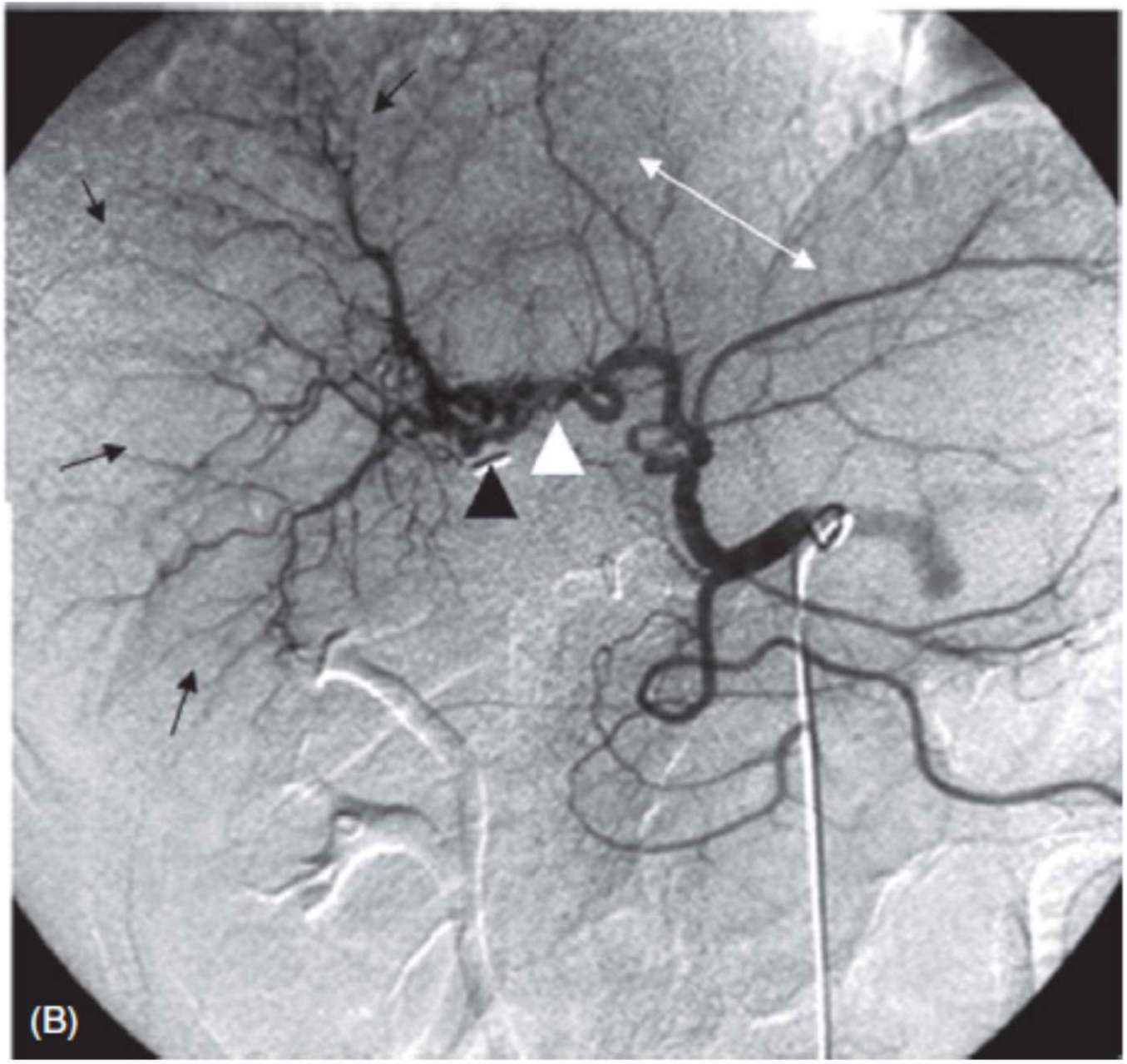
Strasberg SM, Helton WS. HPB 2011;13:1-14



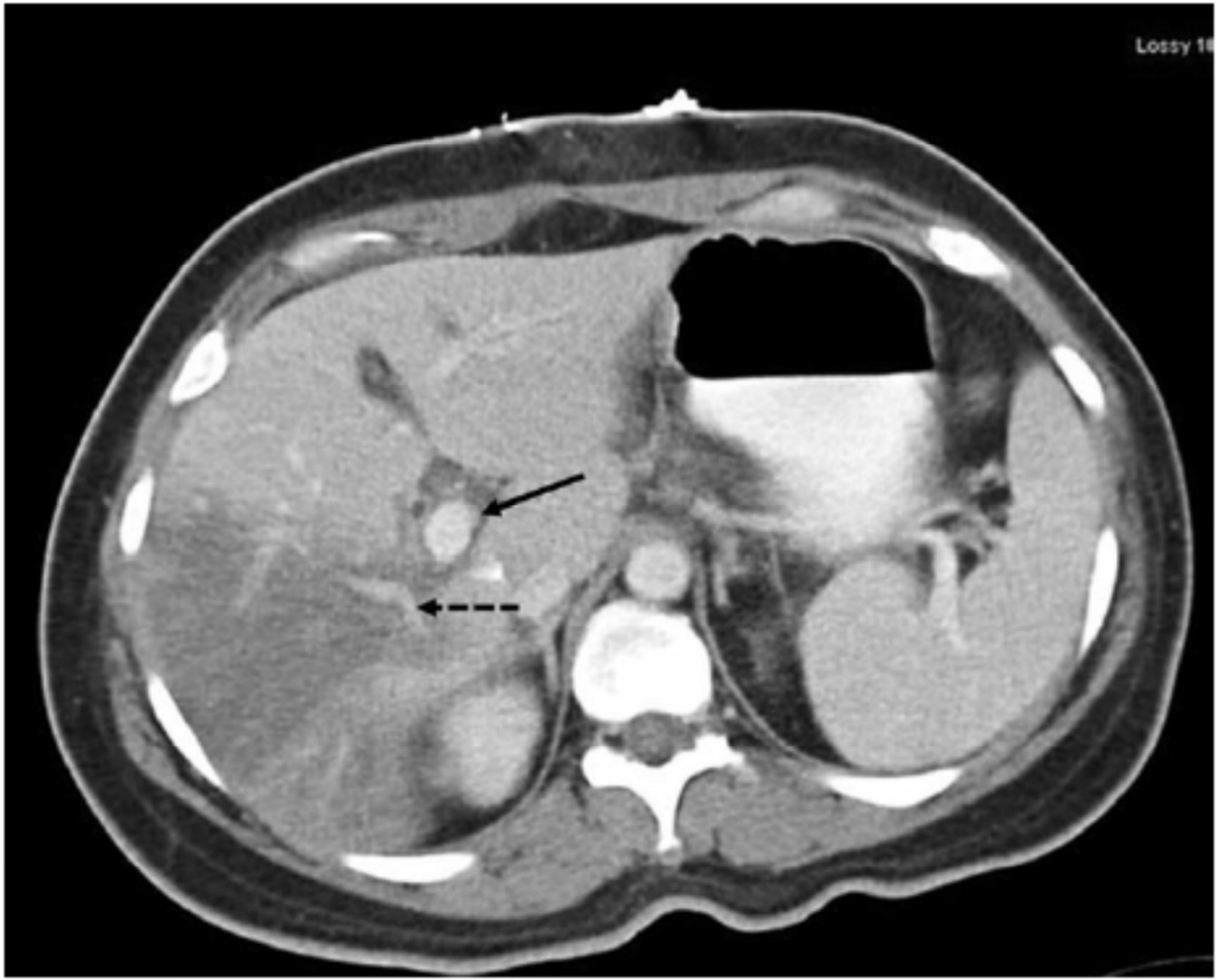
Strasberg SM, Helton WS. HPB 2011;13:1-14



Strasberg SM, Helton WS. HPB 2011;13:1-14



Strasberg SM, Helton WS. HPB 2011;13:1-14



Strasberg SM, Helton WS. HPB 2011;13:1-14

Table 3 Risk factors for BDIs

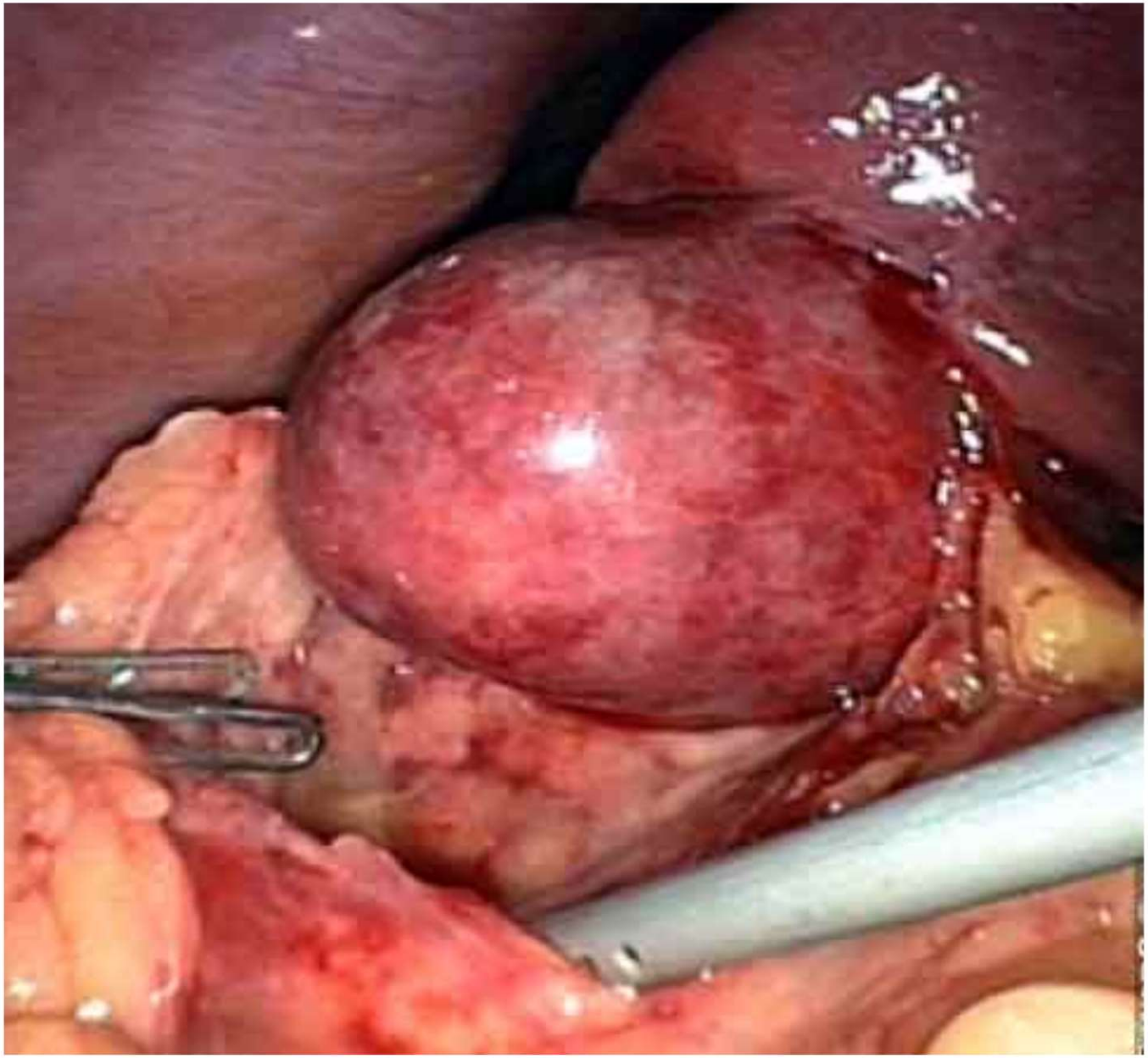
Characteristics	With BDI ($n = 15$)	Without BDI ($n = 2{,}169$)	p-value
Gender (male)	7 (47%)	750 (35%)	0.327
Age (years)	56 ± 16.8	57 ± 14.6	0.860
Inflammation	6 (40%)	338 (16%)	0.01
Laparoscopic experience[a]			0.408
<50	3 (20%)	447 (21%)	
51–100	1 (7%)	431 (20%)	
>100	11 (73%)	1,291 (59%)	
LC performed by residents	3 (20%)	639 (29%)	0.423

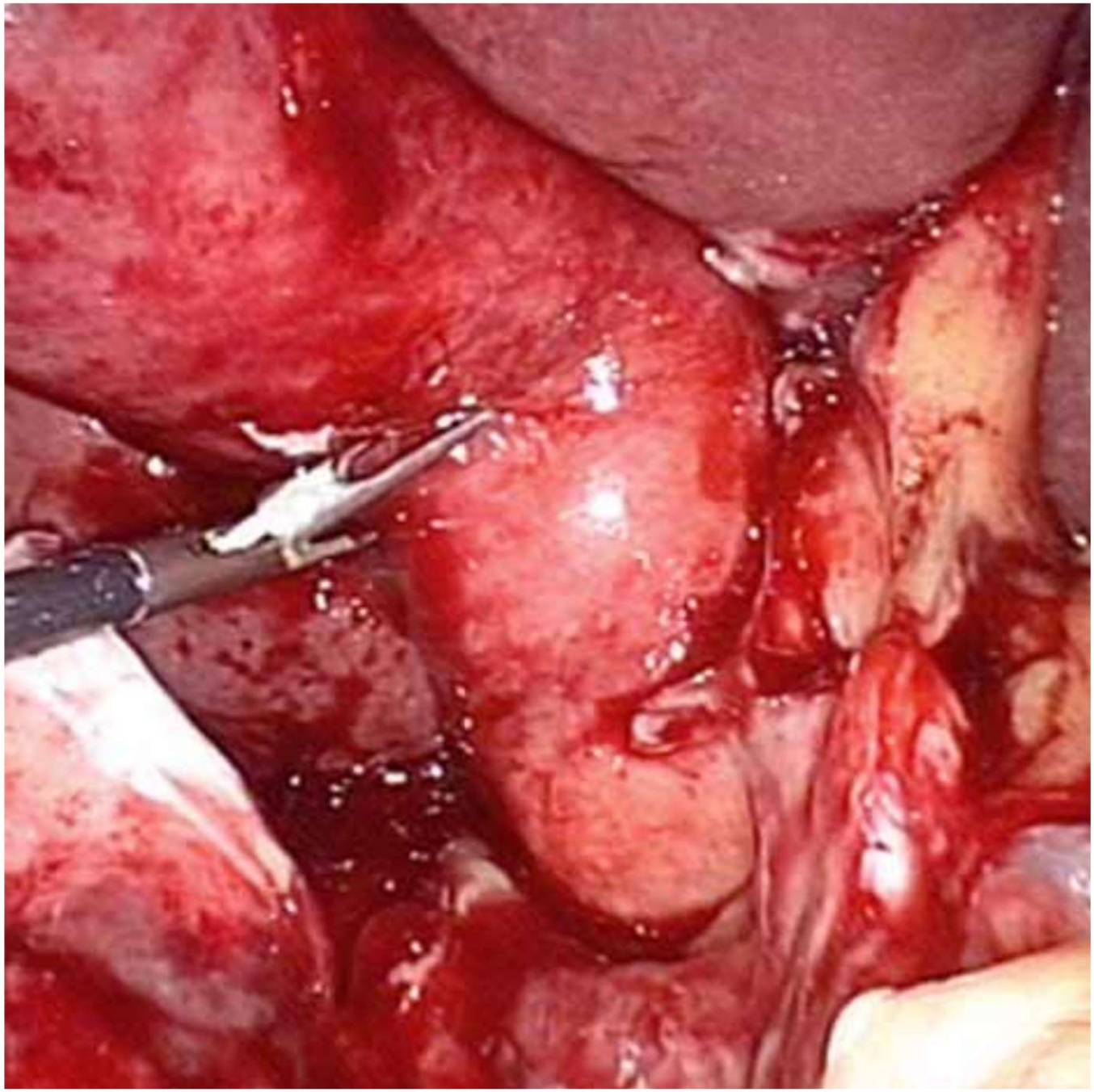
[a] Experience of the surgeon in numbers of laparoscopic operations performed

Table 2. Details of 51 local risk factors for biliary tract injury present during laparoscopic cholecystectomy in 40 patients (62%)

Risk factors	No. of patients
Acute inflammation in the triangle of Calot	19
Scleroatrophic cholecystitis with a short cystic duct	14
Huge impacted gallstone in the gallbladder neck	8
Biliary anomaly (aberrant right posterior hepatic duct)	5
Instrumental endobiliary maneuver during transcystic laparoscopic common bile duct exploration	3
Mirizzi syndrome: gangrenous cholecystitis	1
Gallbladder cancer	1

Gigot JF, et al - Surg Endosc 1997;11:1171-8





Fatores de risco para lesão

- **Variações anatômicas**
  - Ducto cístico curto ou ausente
  - Ducto cístico originando do hepático D
  - Ducto hepático D acessório ou aberrante
- **Técnica imprópria**
  - Tenda no ducto hepático comum
  - Colocação imprópria do clip no cístico
  - Lesão do ducto cístico/hepático comum durante dissecção

Strasberg SM - J Hepatobiliary Pancreat Surg 2002;9:543-7

Variações anatômicas

Variações anatômicas

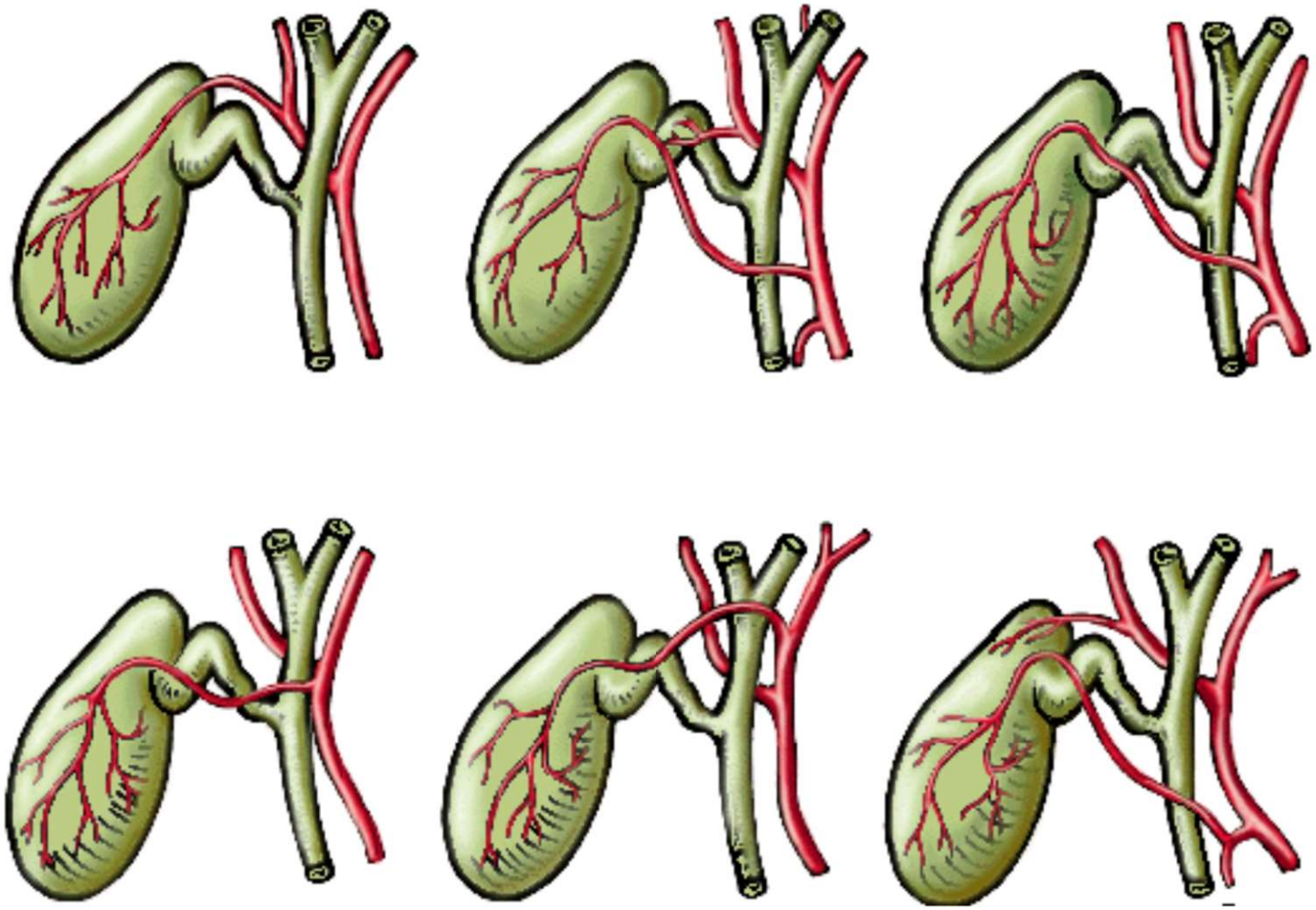


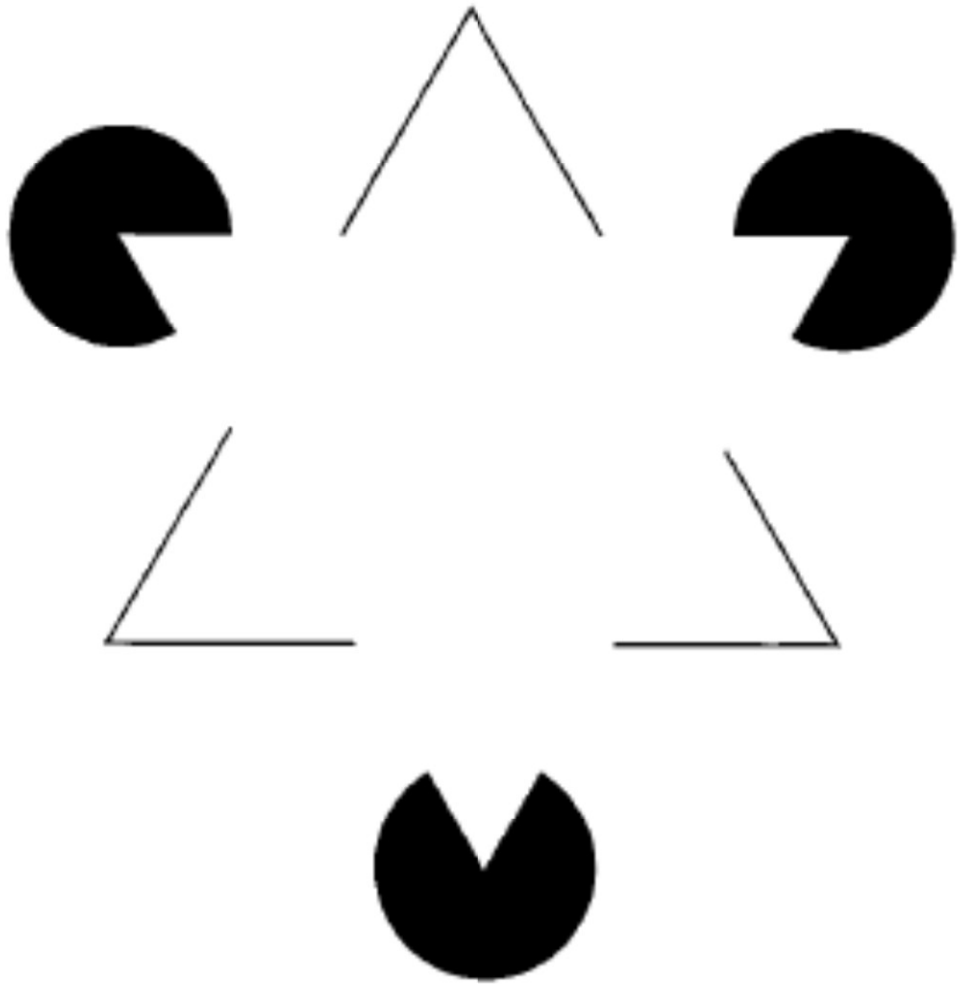
Table 3. Mechanism of biliary tract injury during laparoscopic cholecystectomy in 63 patients in whom the mechanism was identified (97%)

Mechanism of injury	No. of patients
During dissection of the triangle of Calot	
Anatomic confusion between common bile duct	
and cystic duct: During cholangiography	4
During surgical dissection	22
and the cystic artery:	1
Instrumental injury	13
Coagulation	8
Cystic duct avulsion	2
Common bile duct tenting	2
During urgent hemostasis	1
Lateral clipping	1
Adhesiolysis in front of common bile duct	1
During the phase of cholecystectomy	
Gallbladder neck adherent to common bile duct	3
Biliary anomaly	1
Coagulation	1
During laparoscopic common bile duct exploration	
Transcystic balloon dilatation	2
Instrumental Dormia basket injury	1

Gigot JF, et al - Surg Endosc 1997;11:1171-8

Heuristica visual

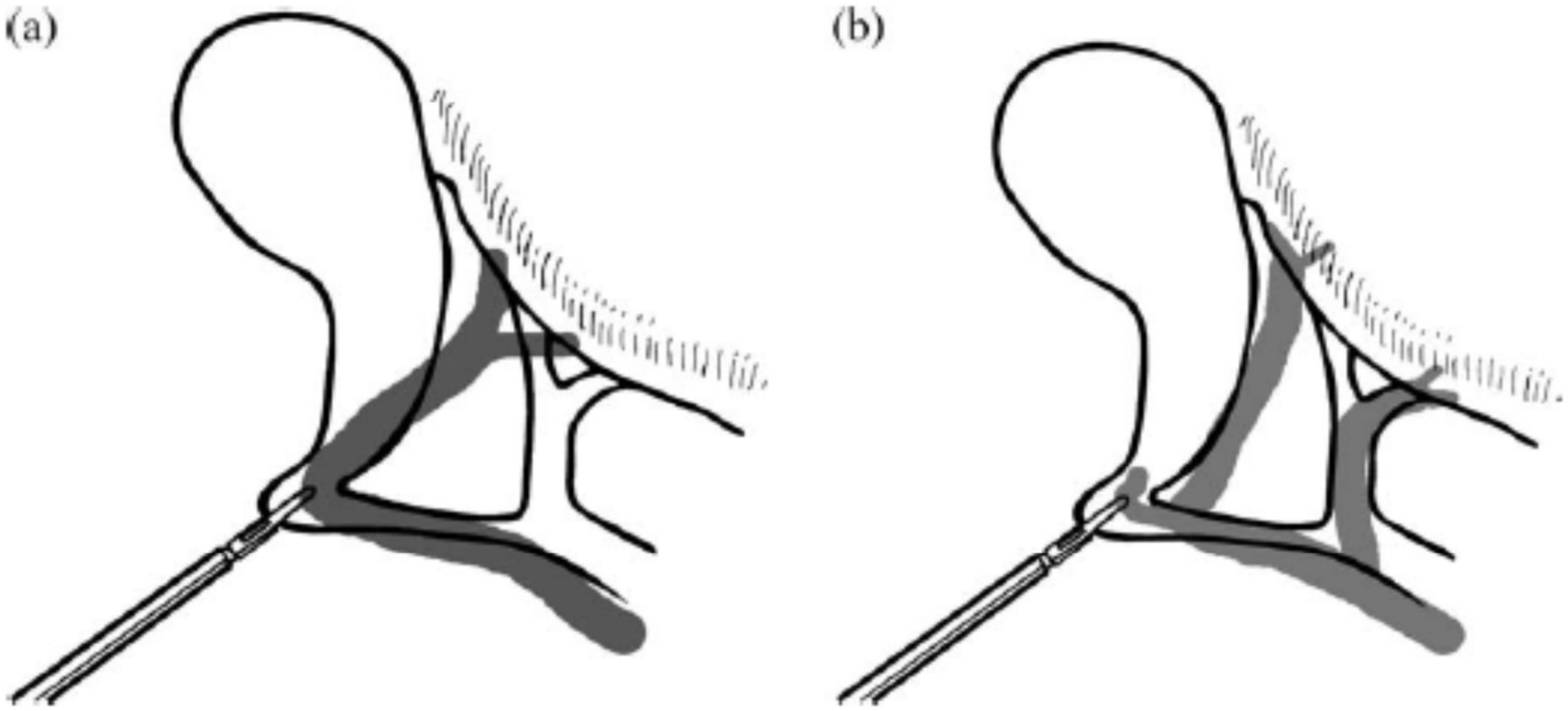
Ver o que você acredita



Way LW, et al - Ann Surg 2003;237:460-9

Dekker SWA, et al - ANZ J Surg 2008;78:1109-14

Way LW, et al - Ann Surg 2003;237:460-9



Dekker SWA, et al – ANZ J Surg 2008;78:1109-14

Como operar?

Aspectos técnicos:

- Visão crítica de segurança
- Checklist

Strasberg SM, et al. HPB 2011;13:1-14.
Connor SJ, et al. HPB 2013

Equipamento

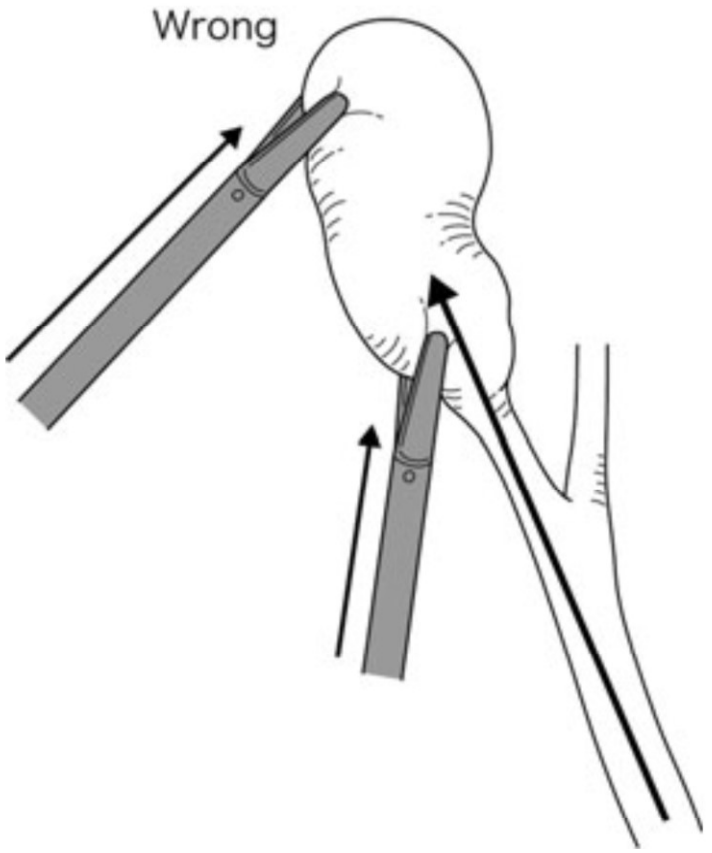
- Visibilidade do Monitor (iluminação)
- Eletrocautério
- Tesouras e pinças
- Clipador
- Pneumoperitôneo (vazamentos)
- Auxiliares


RADIANCE
NDS

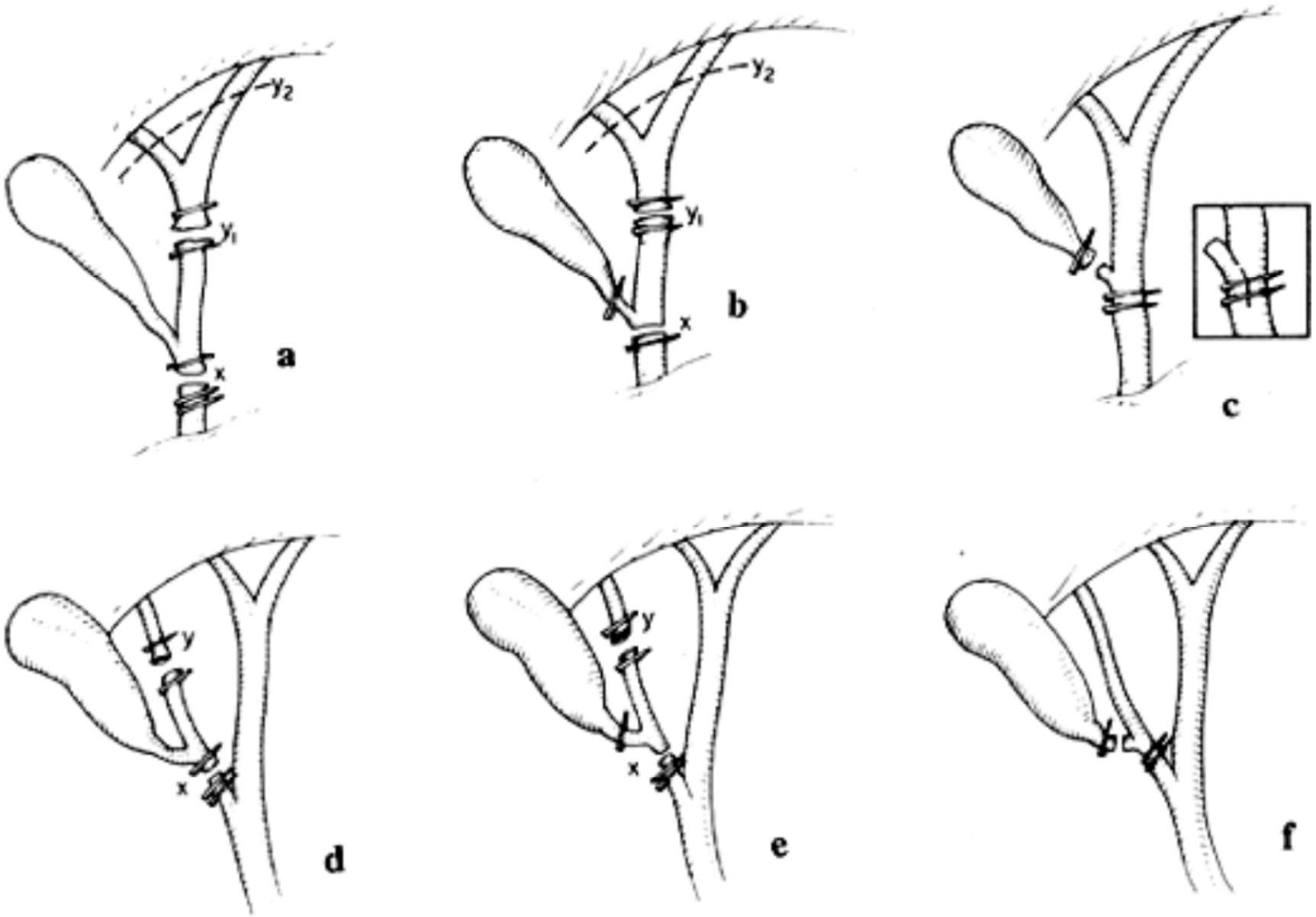
Visão crítica de segurança

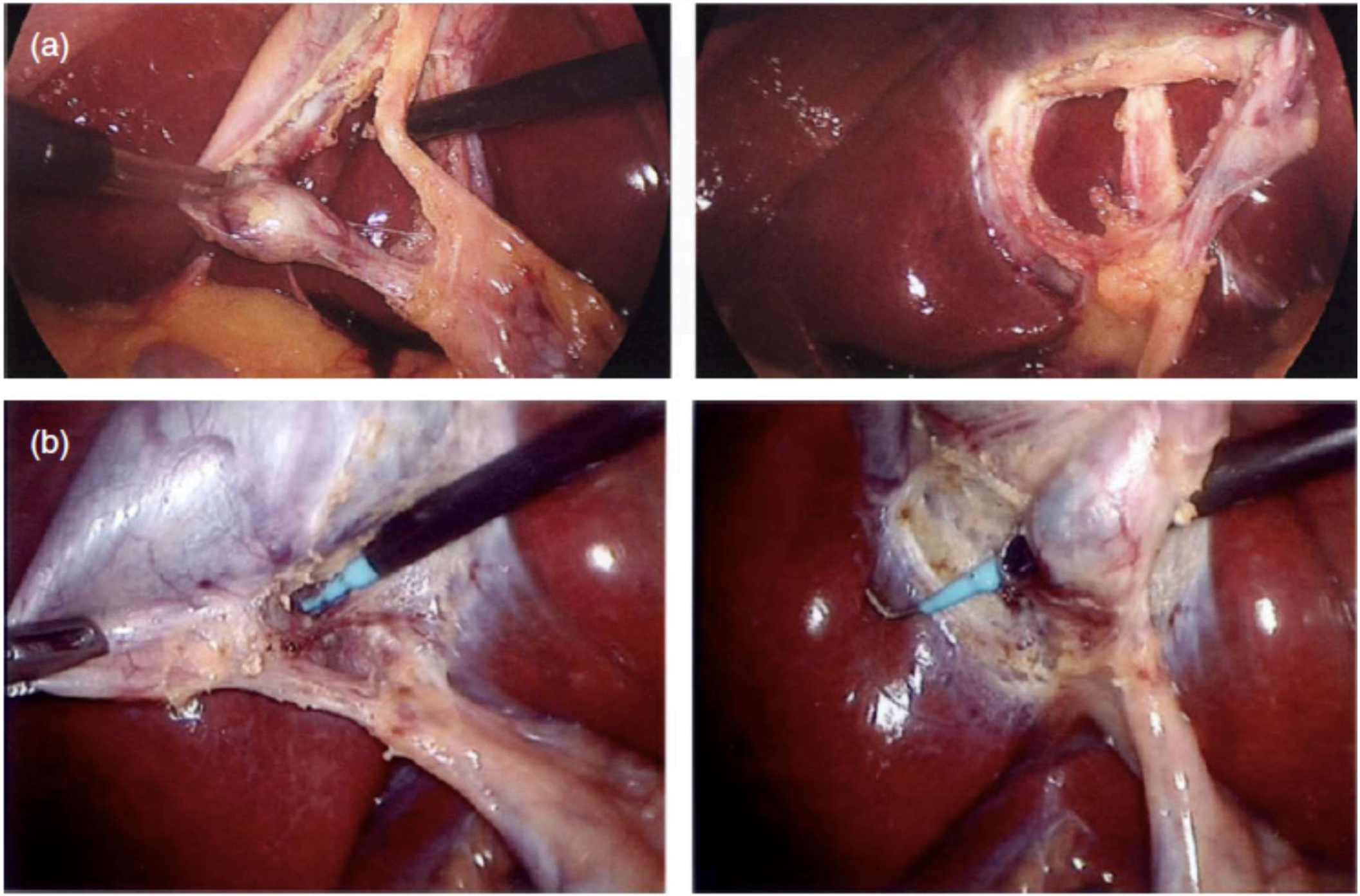
A má identificação do ducto cístico causa as principais lesões da via biliar e resulta de uma dissecção incompleta ou errada do triangulo de Calot.

Técnica imprópria



Técnica imprópria




(a)
(b)

Colangiografia intra-operatória

- O uso freqüente deste recurso permite ao cirurgião visualizar um maior número de vezes a diversidade da anatomia da via biliar, passando a conhecê-la profundamente.
- o fato da CIO permitir a observação adequada da anatomia faz com que o cirurgião saiba quais pacientes estão sob maior risco de sofrer iatrogenias (pacientes com um ducto aberrante, por exemplo).
- Se a lesão já tiver ocorrido, a sua identificação precoce pode ser feita com maior facilidade.

Traverso W, et al - Surg Endosc 2006, 20:1659-61.

Colangiografia intra-operatória

- Ajudou na identificação imediata da lesão.
- Contribuiu para a instituição da terapia apropriada.
- Não evitou lesão da via biliar.

Debru E, et al - Surg Endosc 2005, 19:589-93.

Colangiografia intra-operatória

Table 1. Characterization of patients (n = 12.111).

	LC total	CCL	AC	BDI
Patients (n)	12,111	9338	2207	36
	100.0%	77.1%	18.2%	0.3%
Mean age (range) in years	54.7 (3–98)	53.3 (3–98)	58.6 (16–98)	
Surgical procedure				
Elective	88.6%	96.8%	54.6%	86.1%
Emergency	11.4%	3.2%	45.4%*	13.9%
Therapy				
CE with IOC	37.3%	37.7%	35.6%	54.3%*
CE without IOC	62.7%	62.3%	64.4%	45.7%
Conversion rate	7.3%	3.6%	19.5%*	63.9%*

LC: laparoscopic cholecystectomy; CCL: chronic cholecystitis/cholecystolithiasis; AC: acute cholecystitis; BDI: bile duct injury; CE: cholecystectomy; IOC: intraoperative cholangiography.

*$p < 0.05$ AC/BDI vs. LC total.

Krahenbuhl L, et al - World J Surg 2001;25:1325-30

Causas diretas e como evitar

- **Geral**
  - Somente cirurgião treinado
  - Colecistite aguda
  - Homens
  - Idosos
  - Crises de dor
  - História prévia de colecistite aguda
- **Causas diretas específicas**
  - Uso do cautério
  - Identificação do ducto cístico

Strasberg SM - J Hepatobiliary Pancreat Surg 2002;9:543-7

Causas diretas e como evitar

- **Problemas técnicos**
  - Incapacidade de ocluir o ducto cístico
  - Plano de dissecção muito profunda
  - Lesões térmicas
  - Lesão em tenda
  - Problemas de identificação

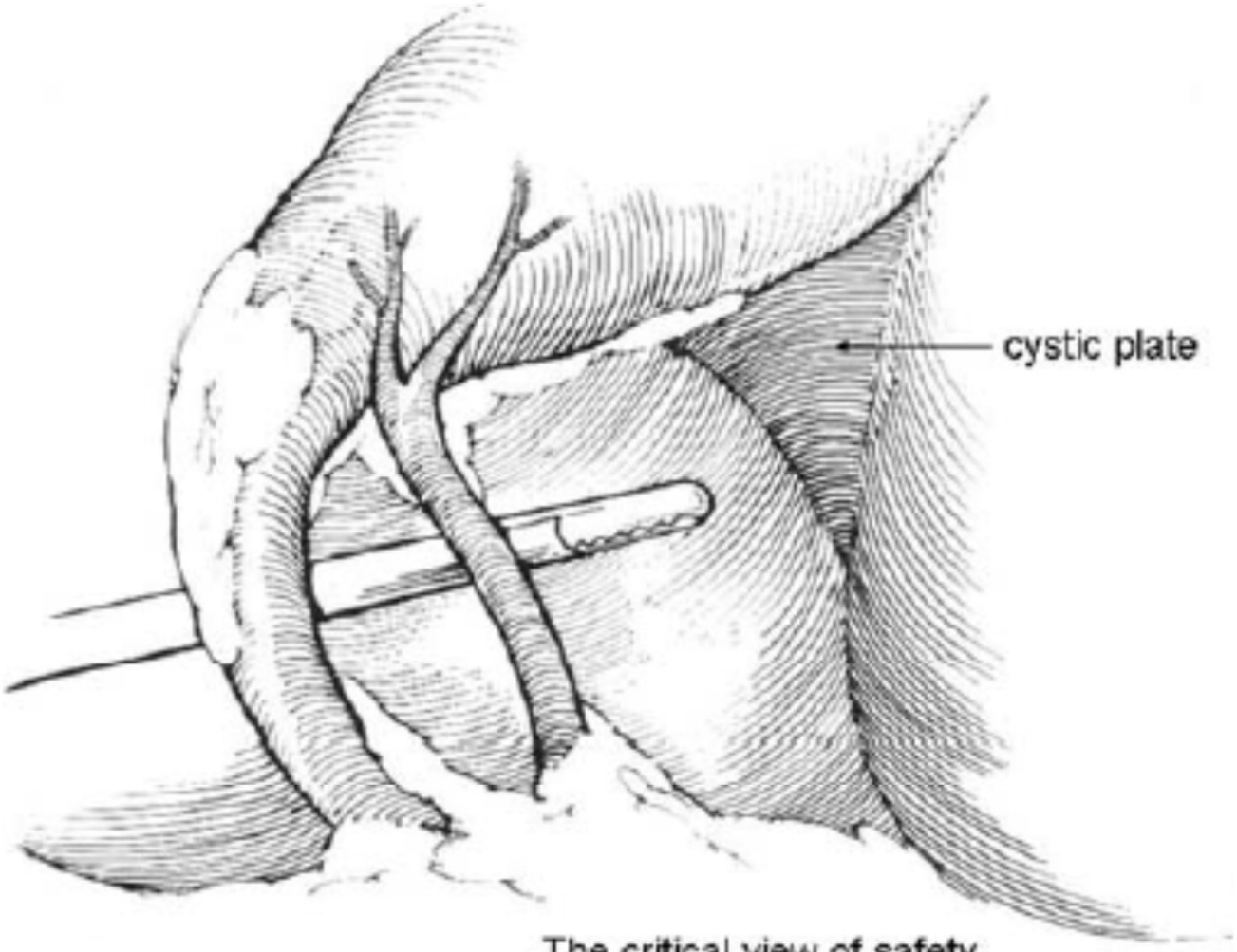
Strasberg SM - J Hepatobiliary Pancreat Surg 2002;9:543-7

Visão crítica de segurança

- **Equipe Cirúrgica**
  - Cirurgião recebeu treinamento adequado
  - Equipamento apropriado
  - Técnica segura
  - Familiarizado com as anomalias da via biliar
  - Aceita sugestões
  - Interpreta bem colangiografia intra-operatória
  - Realiza o procedimento com frequência

Yamashita Y, et al – Surg Today 2010;40:501-13

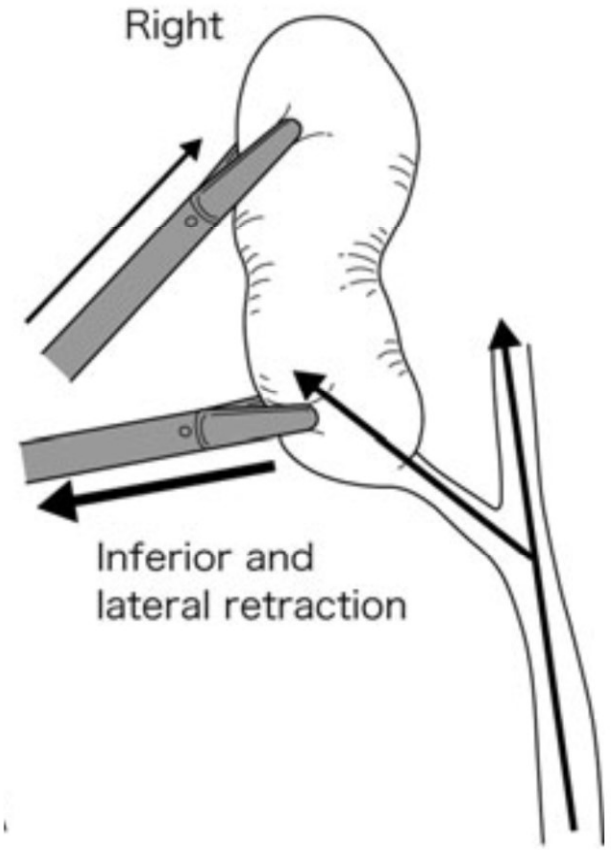
Visão crítica de segurança



The critical view of safety

Strasberg SM - J Hepatobiliary Pancreat Surg 2002;9:543-7

Visão crítica de segurança



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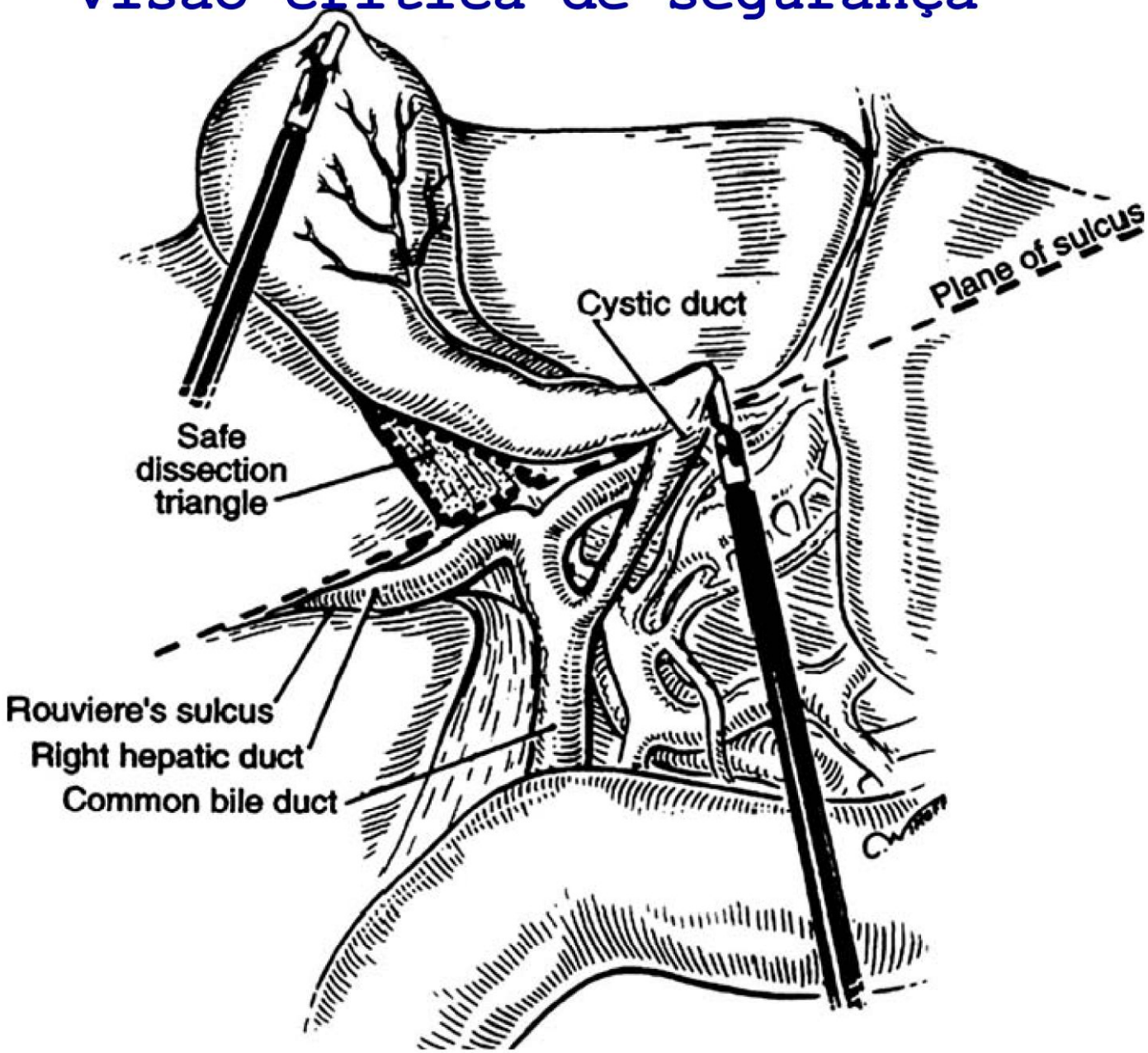
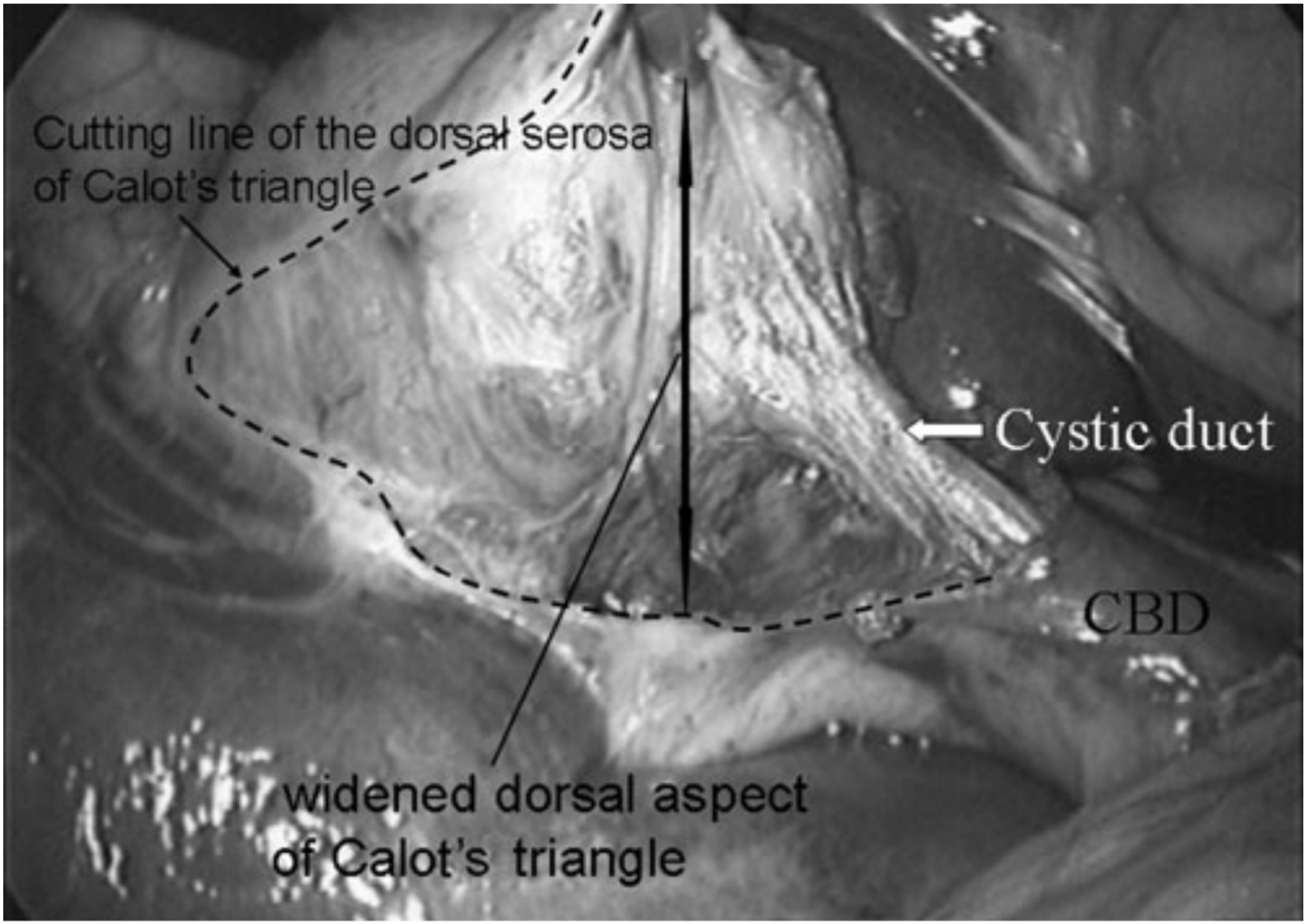


Dekker SWA, et al – ANZ J Surg 2008;78:1109-14

Visão crítica de segurança



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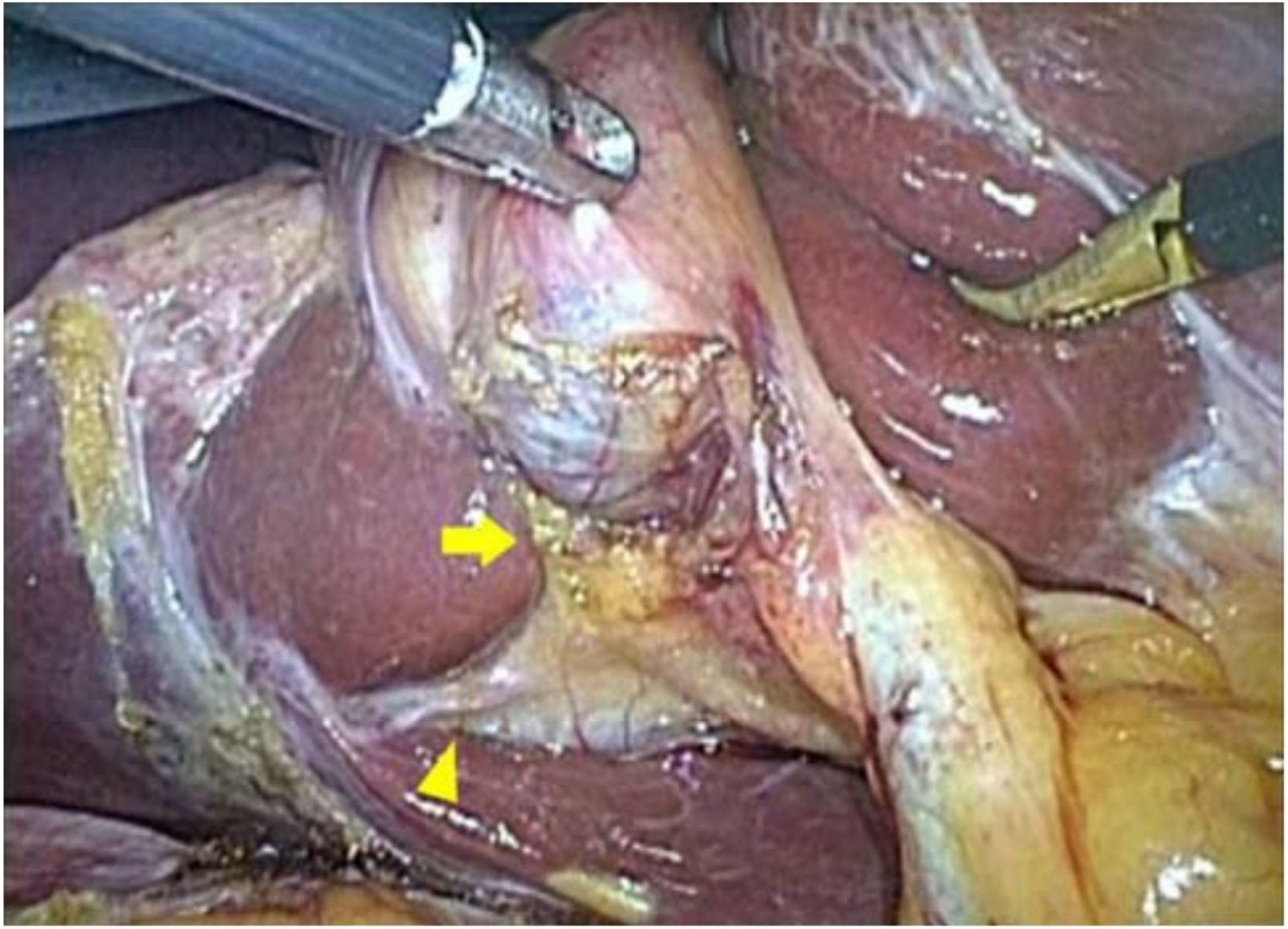
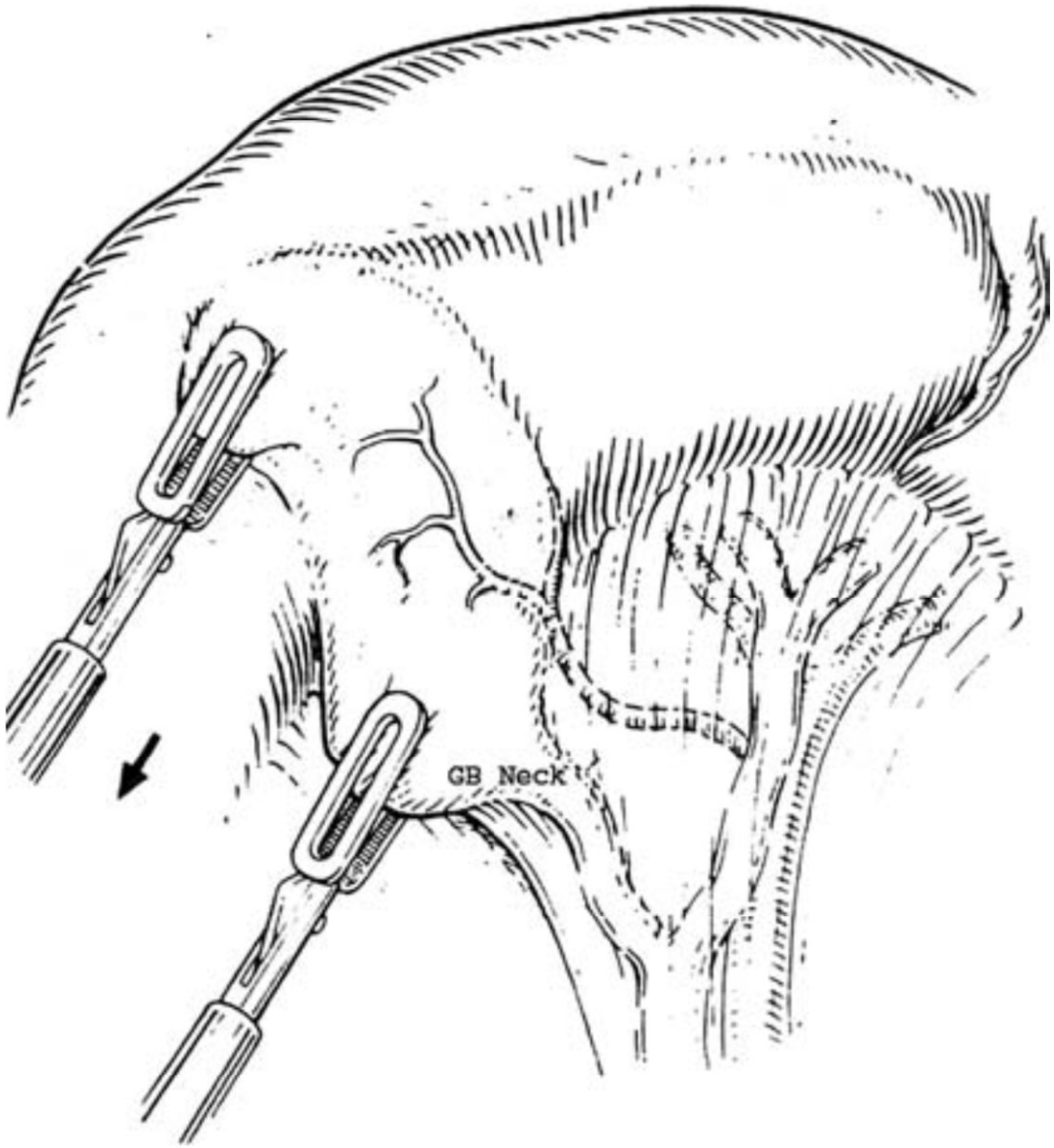


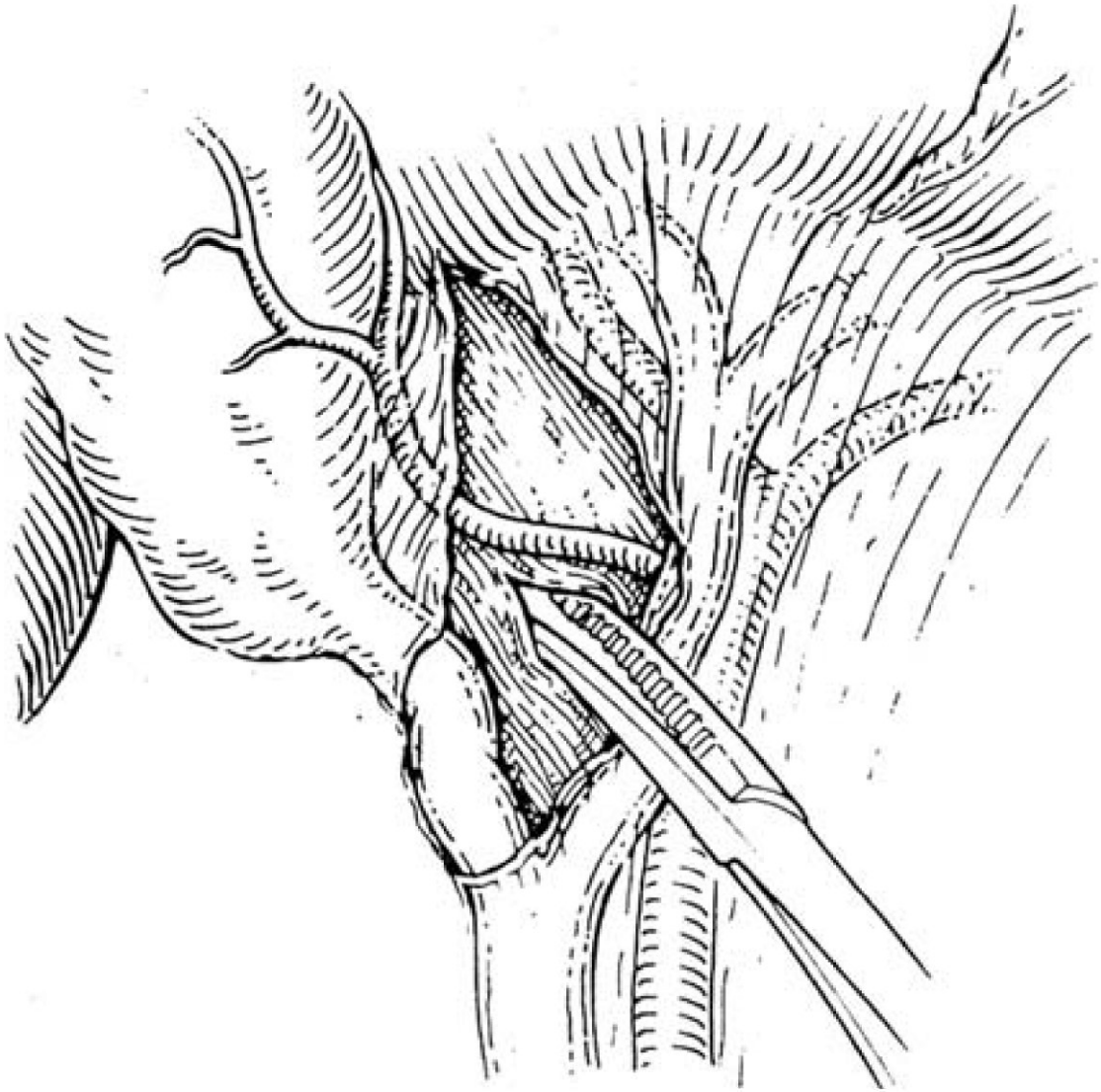
Honda G, et al - J Hepatobiliary Pancreat Surg 2009;16:445-9

Faz devagar para terminar rápido.

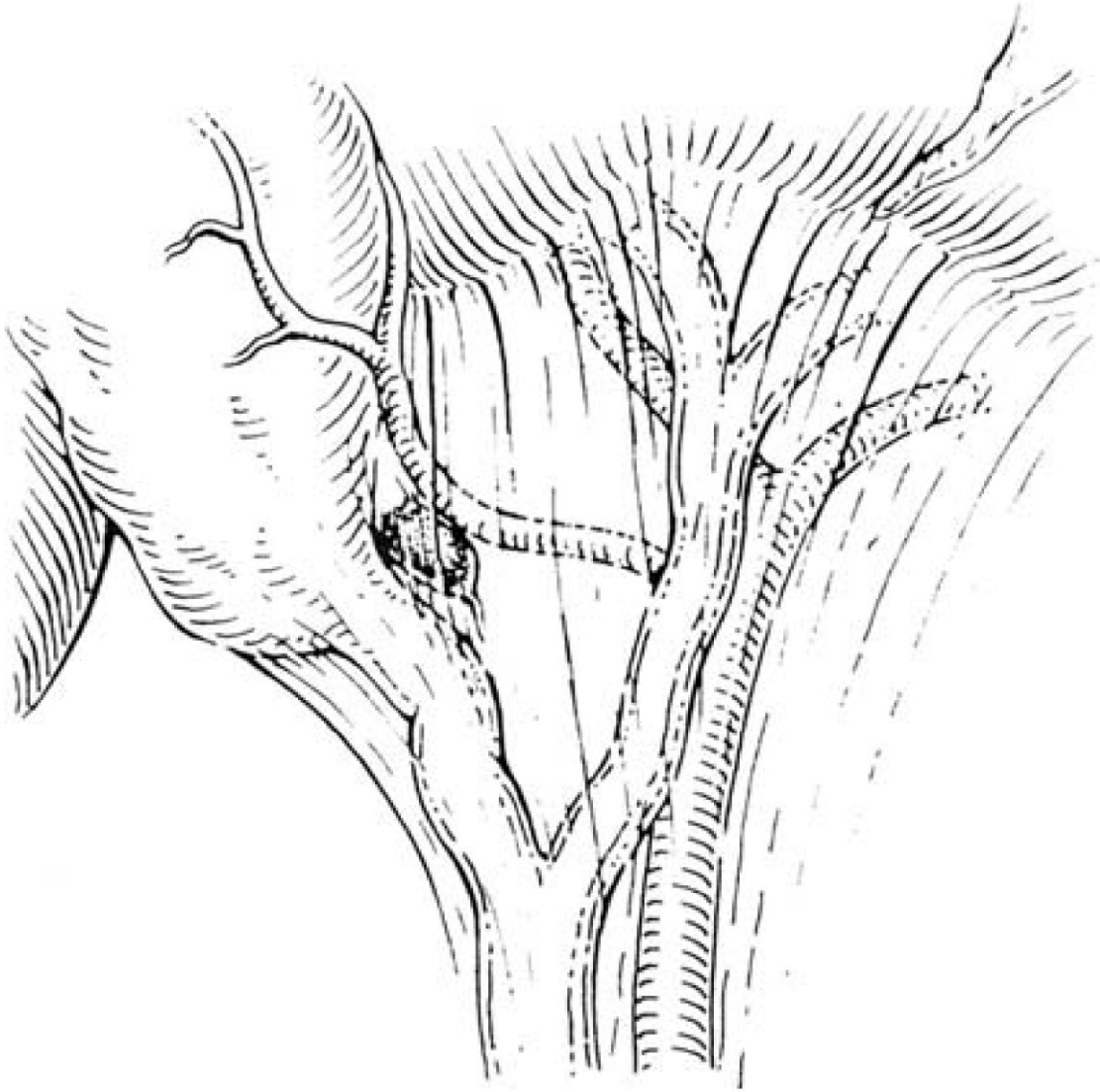
Dr. Eduardo Carone Filho



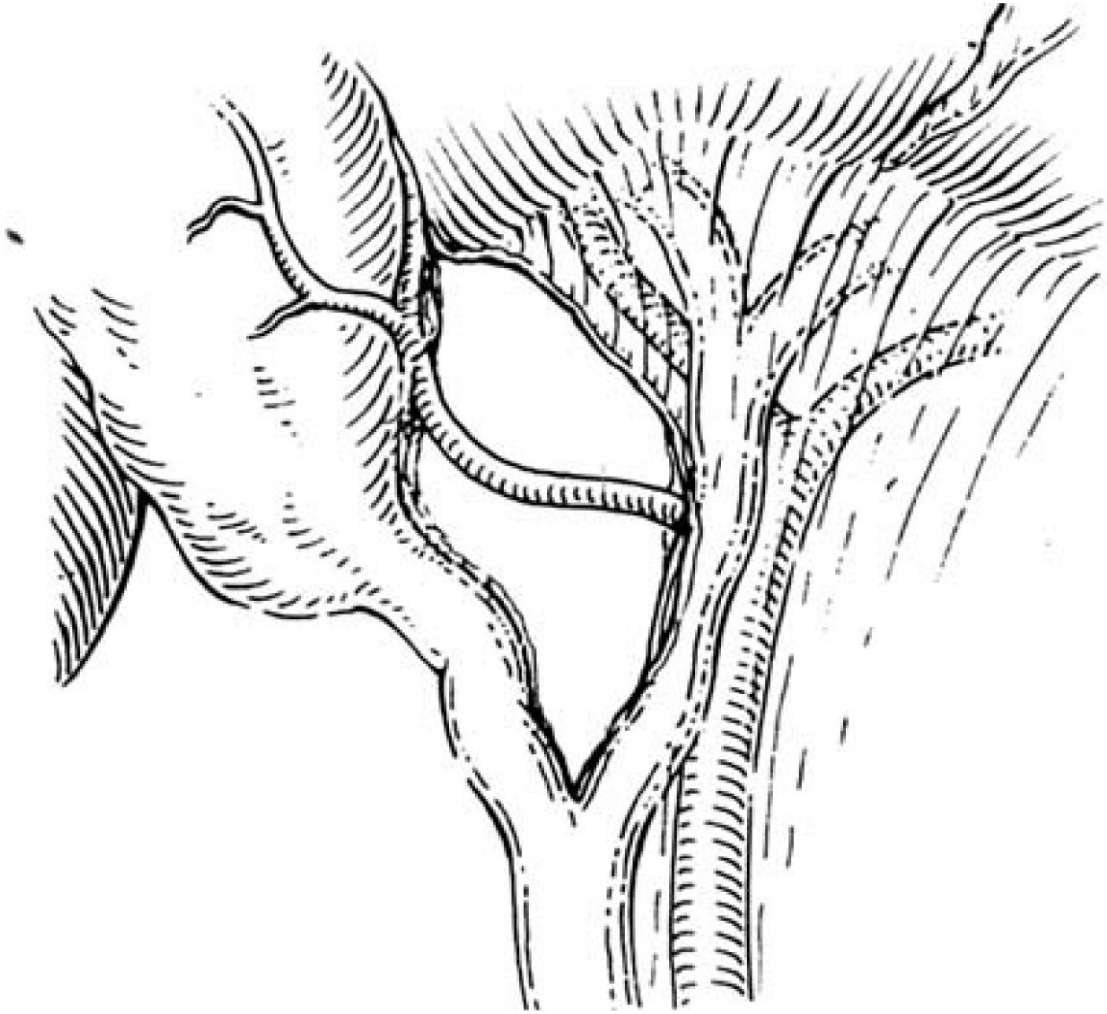
Singh K, et al – Surg Endosc 2006;20:1754-8



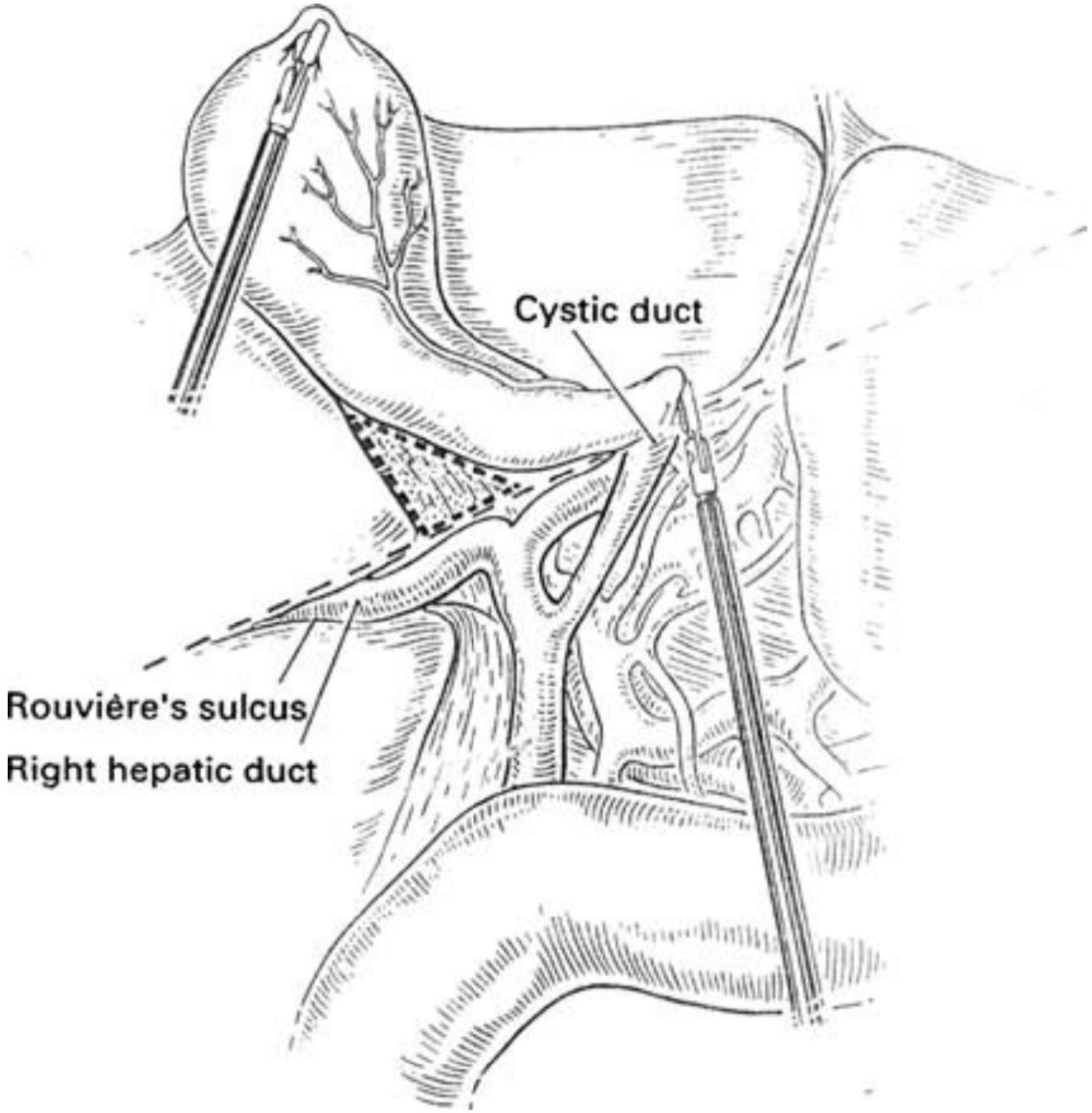
Singh K, et al - Surg Endosc 2006;20:1754-8



Singh K, et al – Surg Endosc 2006;20:1754-8



Singh K, et al – Surg Endosc 2006;20:1754-8



Singh K, et al – Surg Endosc 2006;20:1754-8

Visão crítica de segurança

- Pode não ser o ducto cístico
  - Clip padrão não completa o ducto cístico
  - Presença de outra estrutura ductal
  - Estrutura vascular e extra-linfática na dissecção
  - Ducto segue posterior no sentido do duodeno
  - Artéria maior passando atrás do ducto
  - Falta opacificação proximal na colangiografia

Dekker SWA, et al - ANZ J Surg 2008;78:1109-14

Como operar?

Aspectos técnicos:
- Checklist

Strasberg SM, et al. HPB 2011;13:1-14.
Connor SJ, et al. HPB 2013

Table 1 Steps recommended to reduce risk for bile duct injury in laparoscopic cholecystectomy (LC)

Step	Reference(s)
Use a 30-degree scope	12
Use an experienced assistant	11
Ensure the lateral retraction of the fundus of the gallbladder	12,13,15
Ensure dissection is lateral to the cystic node	12,15
Stay on the border of the gallbladder within the window between the cystic artery and the cystic duct	13,15
Dissect the cholecysto–cystic duct junction toward the common bile duct	12,13,15
Avoid the use of diathermy	13
Release the anterior and posterior peritoneum	11,15
Use Rouvière's sulcus and the base of segment IV as fixed landmarks to aid orientation	11,16,33
Avoid dissection on the left side of the hepatoduodenal ligament	13,22
Ensure the routine use of intraoperative cholangiography	1,12,19
Perform subtotal cholecystectomy rather than fundus-first cholecystectomy in the event of a hostile hepatobiliary triangle	17,18
Develop a culture of safety when performing LC	20–22

Risco de conversão

Table 3
Comparison of preoperative clinical & laboratory factors in patients undergoing successful versus failed early laparoscopic cholecystectomy.

	Early laparoscopic cholecystectomy		*p*-Value
	Successful	Failed	
Mean age (years)	33.5	35.7	0.292
Sex			
Male	1	3	**0.022**
Female	39	7	
Mean preoperative duration of symptoms (days)[a]	2.7	2.8	0.971
Mean WBC count (×1000/ml)[a]	13.55	14.03	0.422
Mean serum alkaline phosphatase (kA/ml)[a]	8.8	10	0.113
Mean serum amylase (IU/ml)[a]	96.97	118.5	0.086
Mean serum CRP (mg/dl)[a]	2.38	5.04	**0.002**

Bold values signify statistically significant values.
[a] At the time of admission.

Teckchandani N, et al. Int J Surg 2010;8:623-7.

Laparoscopic Cholecystectomy Checklist

to accompany the WHO Surgical Safety Checklist

PRE-INCISION

After WHO Surgical Safety Checklist

Surgeon to:

- ☐ Review liver function tests
- ☐ Review radiological imaging
- ☐ Confirm whether gallbladder is likely to be contracted

Connor SJ, et al. HPB 2013

PRE-DISSECTION

Surgeon to confirm with **assistant**:

- ☐ Fundus retracted to 10 o'clock
- ☐ Hartmann's pouch lifted up and across to origin of segment IV pedicle
- ☐ Line between Rouviere's sulcus and base of segment IV identified
- ☐ Safe level of dissection identified
- ☐ Posterior leaf of peritoneum covering hepatobiliary triangle can be released

Connor SJ, et al. HPB 2013

PRIOR TO CLIPPING CYSTIC DUCT

Surgeon to:

- ☐ Confirm critical view with **assistant:**

Surgeon to consider:

- ☐ Performing intraoperative cholangiogram (IOC) and confirm with **assistant**:
    1. Flow into duodenum
    2. Proximal hepatic duct visualized
    3. Three hepatic ducts are seen proximally, including right posterior sectoral
    4. No filling defects within common bile duct
    5. Presence of spiral valves within cystic duct

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Colecistectomia segura

1. Utilize ótica de 30°
2. Assistente experiente

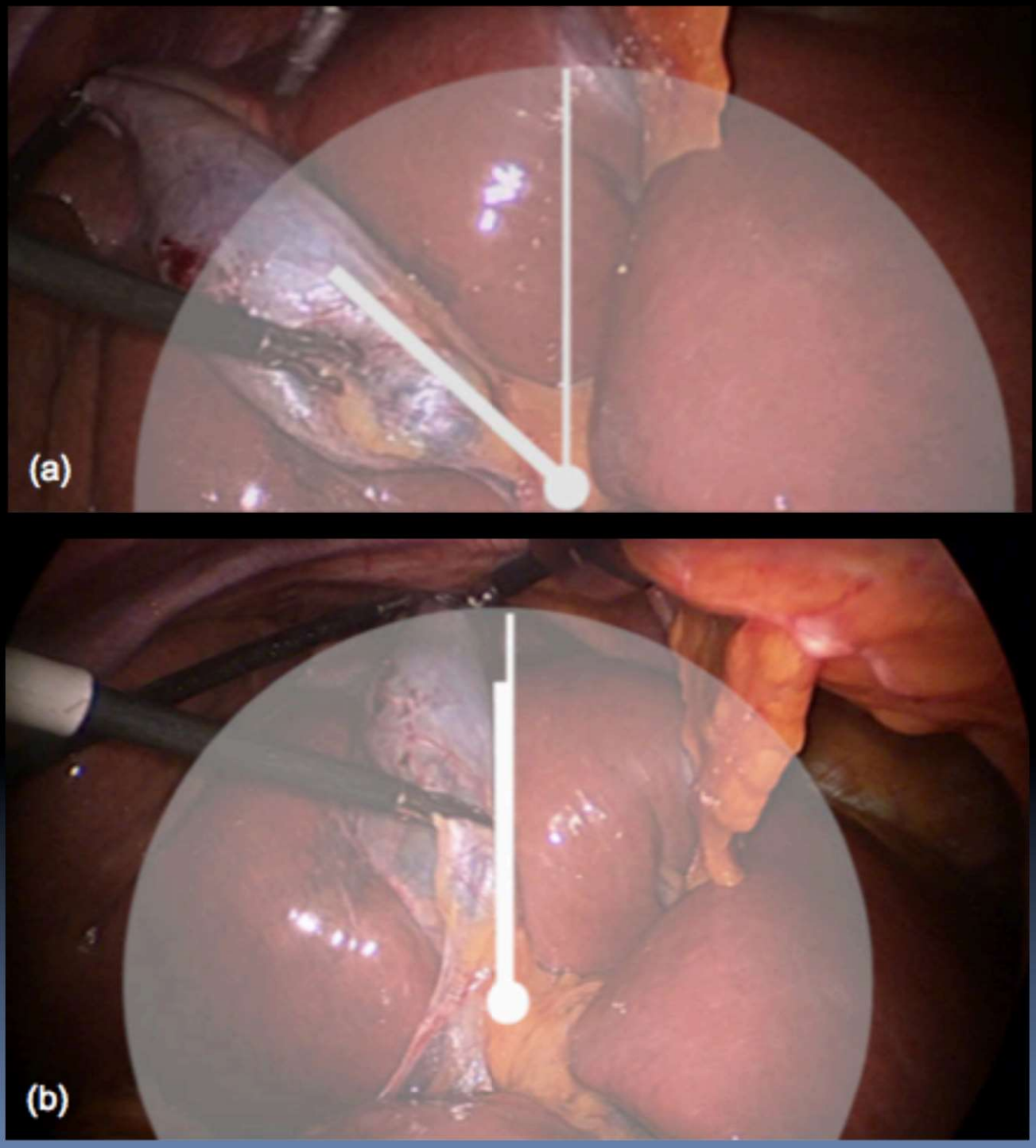
Colecistectomia segura

3.Promova retração lateral do fundo da vesícula (posição de 10 horas).

4.Dissecção lateral ao linfonodo cístico.

5. Liberar o folheto posterior do peritôneo que cobre o triângulo hepatobiliar.

6. Dissecção na borda da vesícula na janela entre a artéria cística e o ducto cístico.


(a)
(b)

Colecistectomia segura

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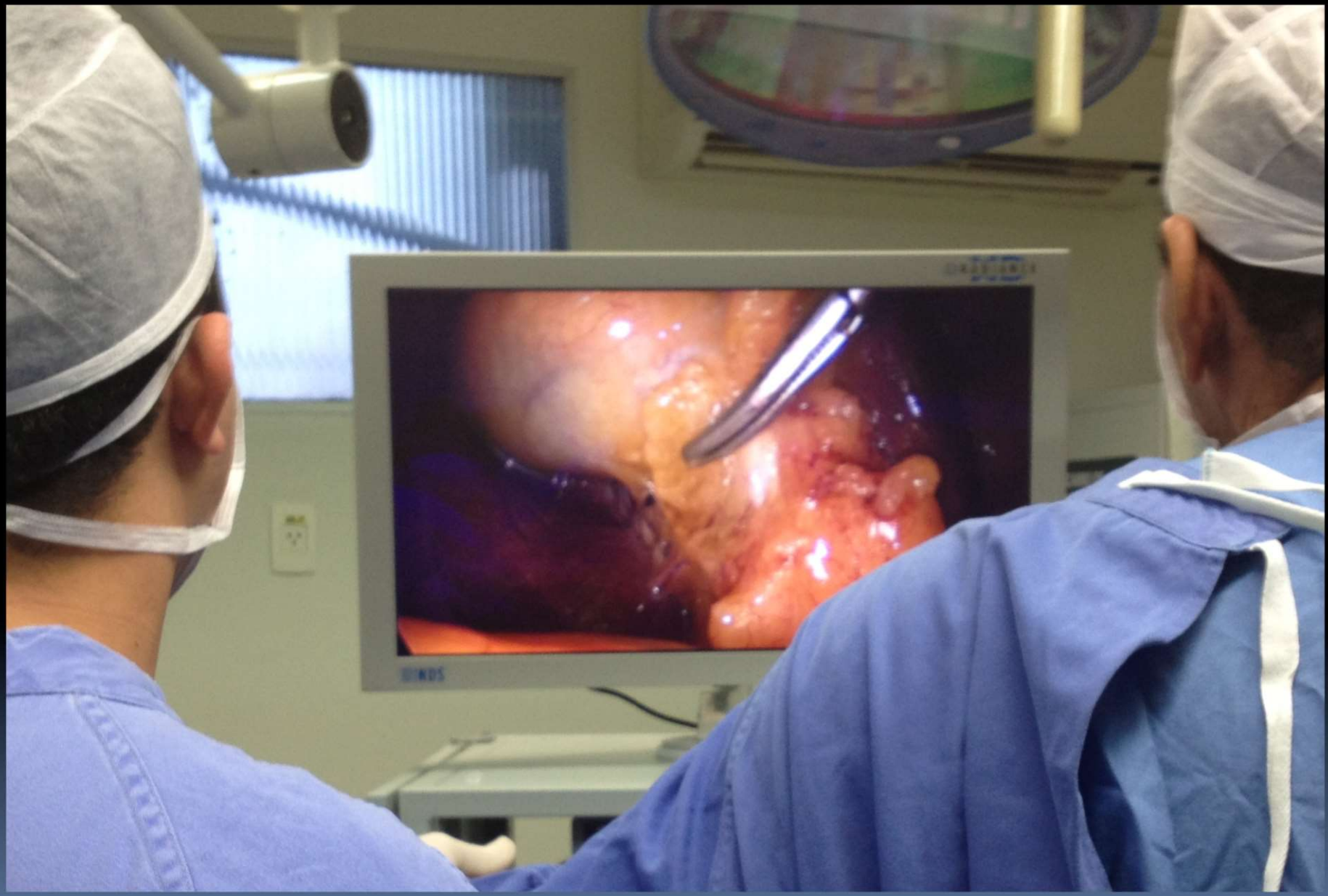

Colecistectomia segura

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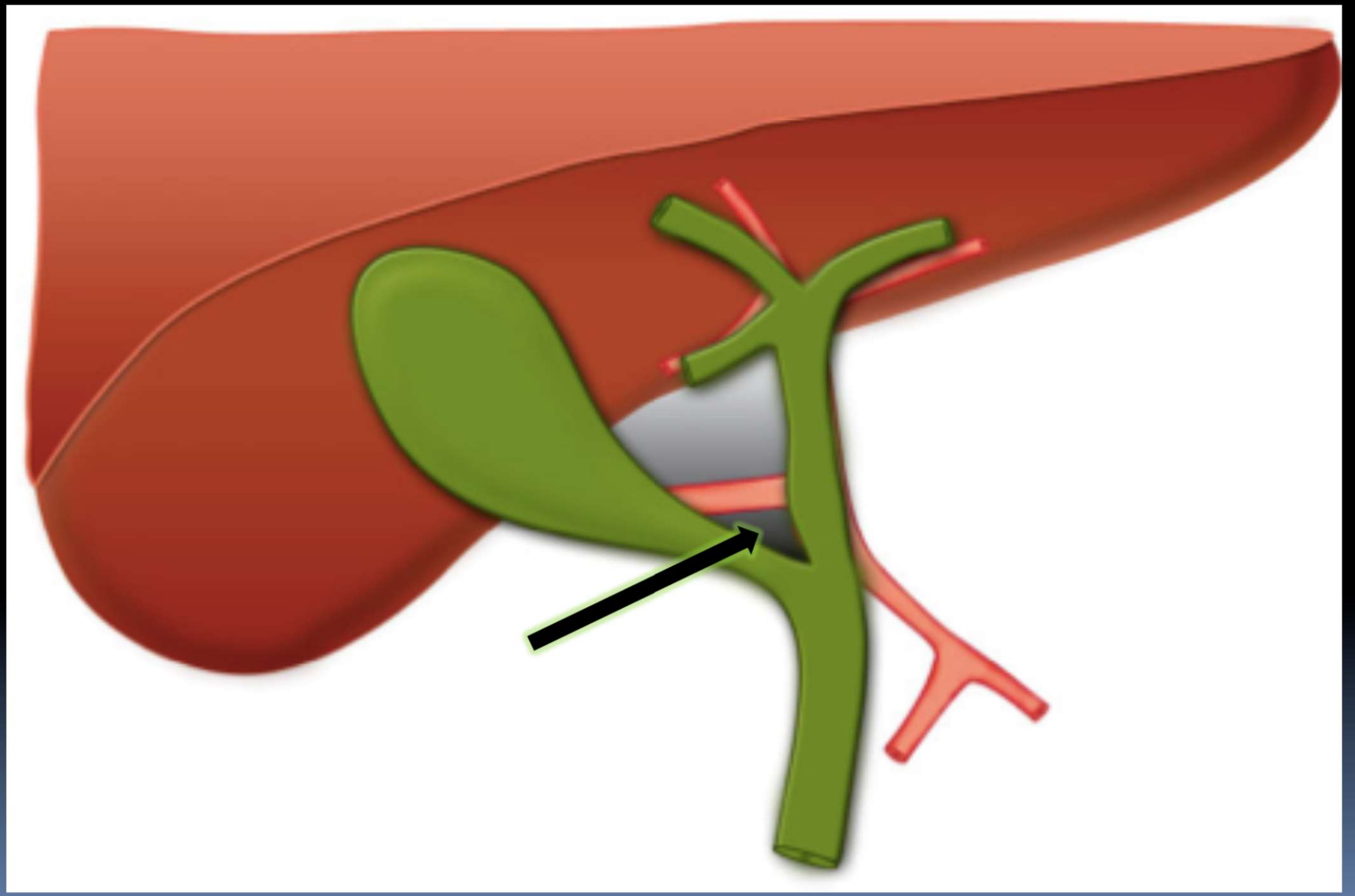

Colecistectomia segura

7. Dissecção colecisto-ducto cístico em direção à via biliar.
8. Evitar uso de bisturi elétrico
9. Liberar o peritôneo anterior e posterior.
10. Identificar a linha entre o sulco de Rouviere e a base do segmento IV.

Colecistectomia segura

7. Dissecção colecisto-ducto cístico em direção à via biliar.
8. **Evitar uso de bisturi elétrico**
9. Liberar o peritôneo anterior e posterior.
10. Identificar a linha entre o sulco de Rouviere e a base do segmento IV.

Colecistectomia segura

7. Dissecção colecisto-ducto cístico em direção à via biliar.
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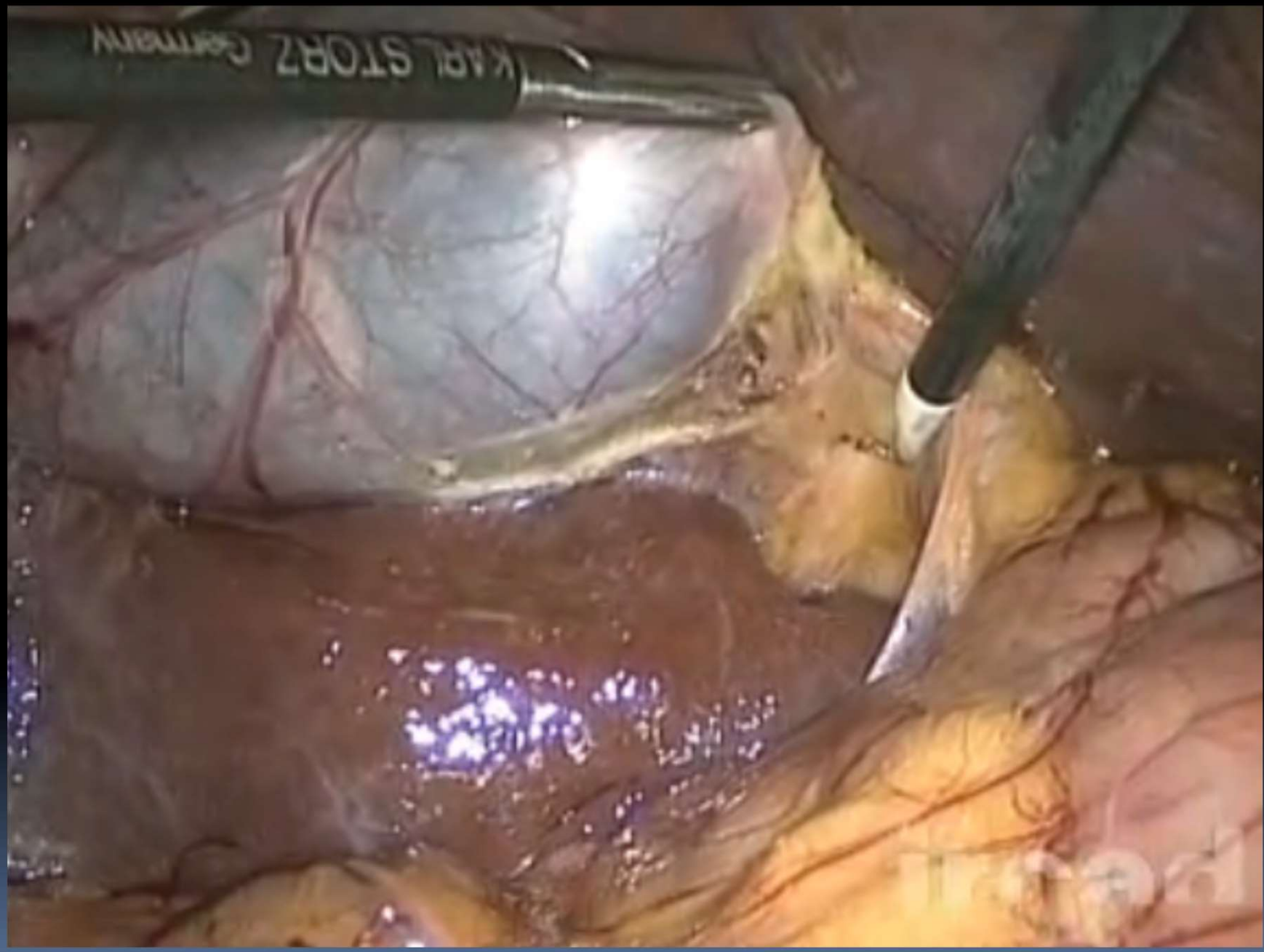
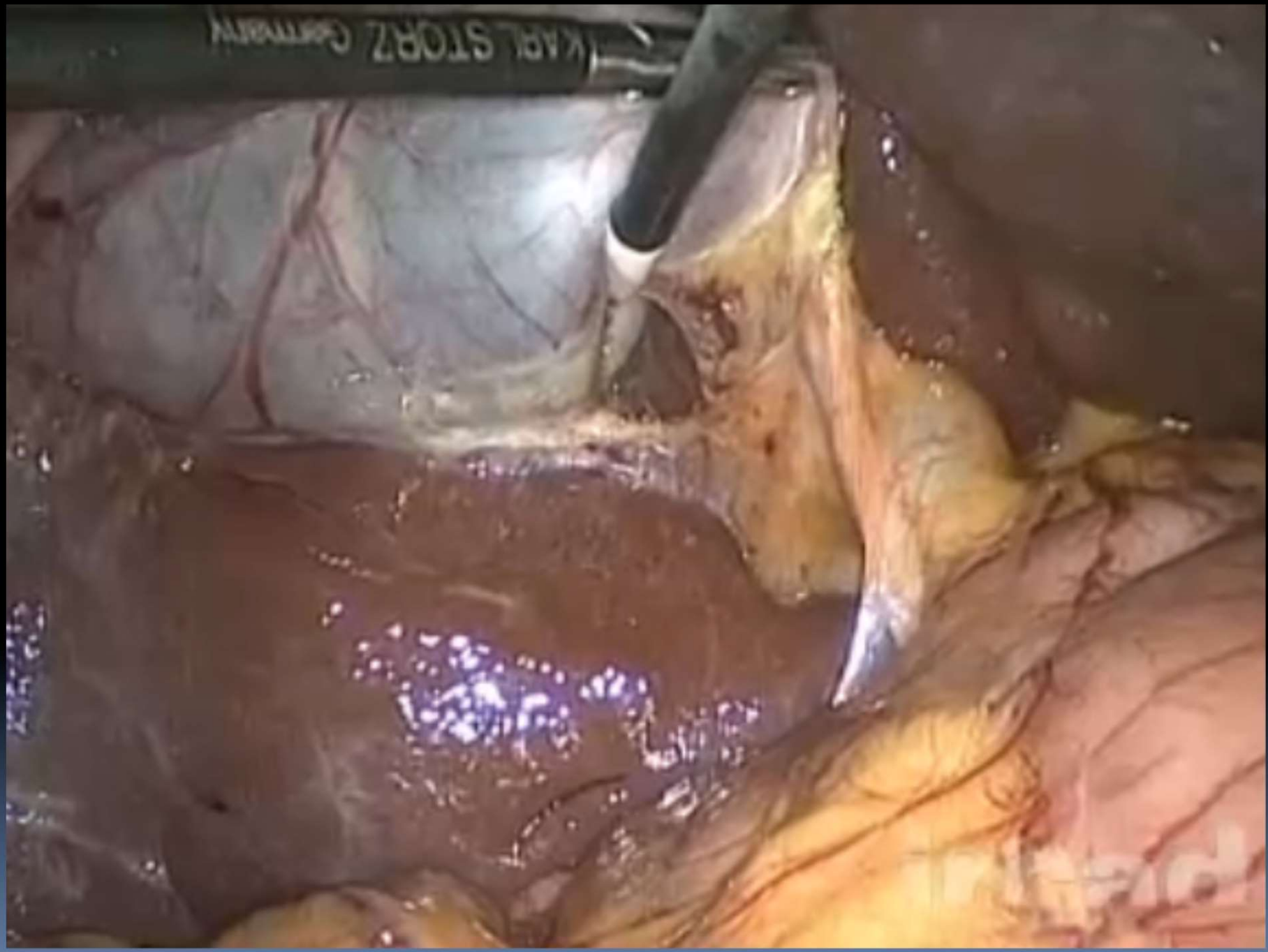

KARL STORZ Germany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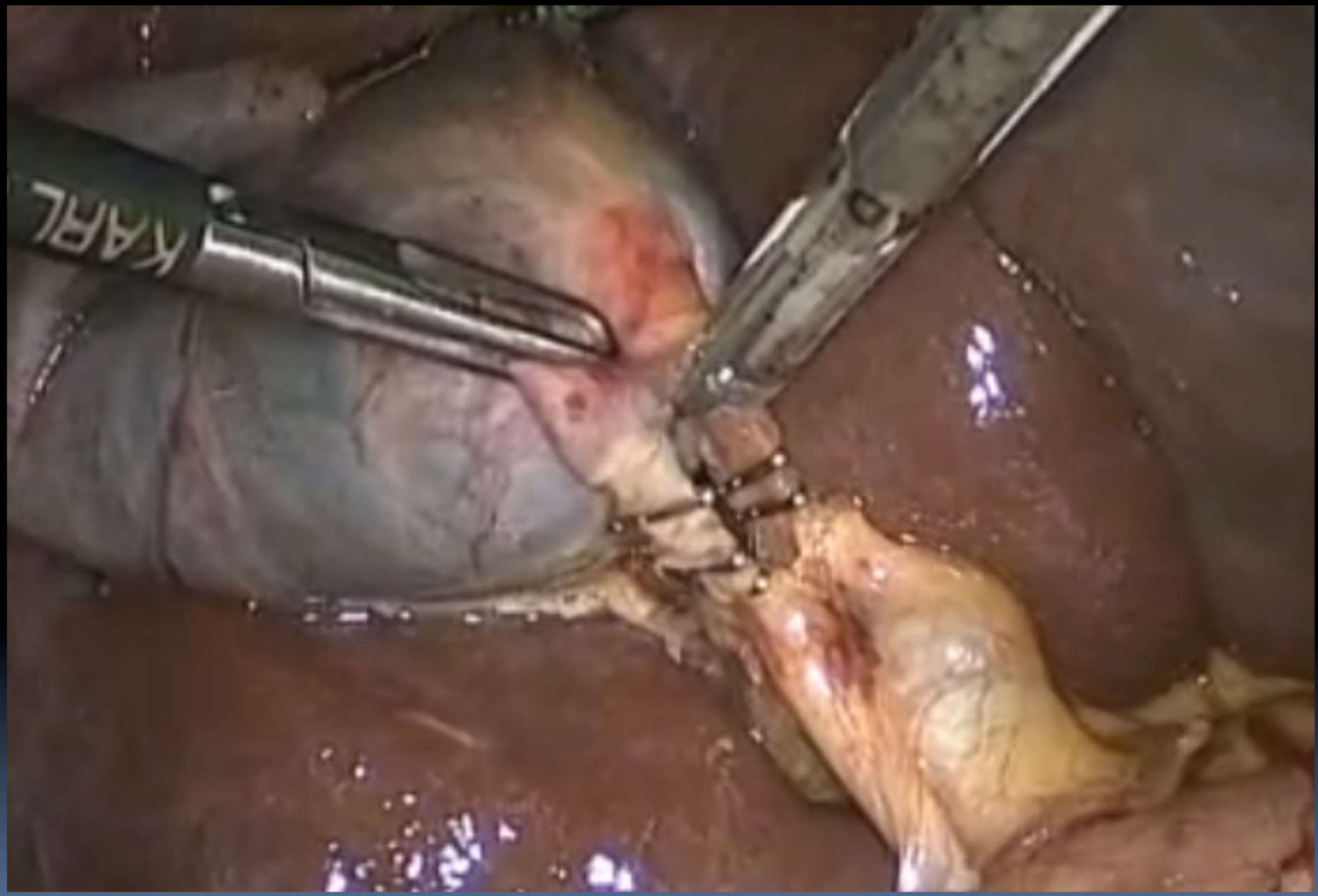
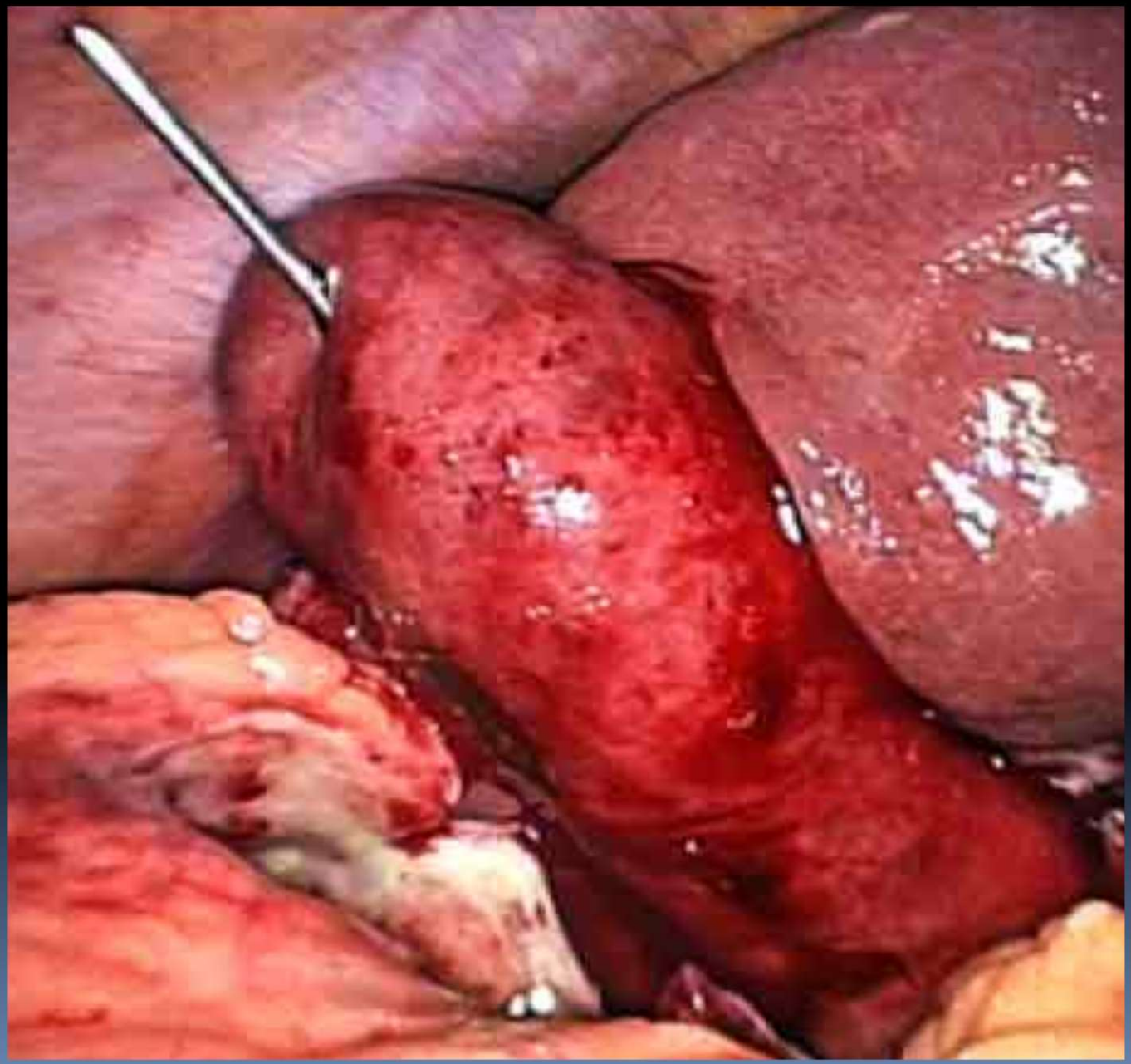


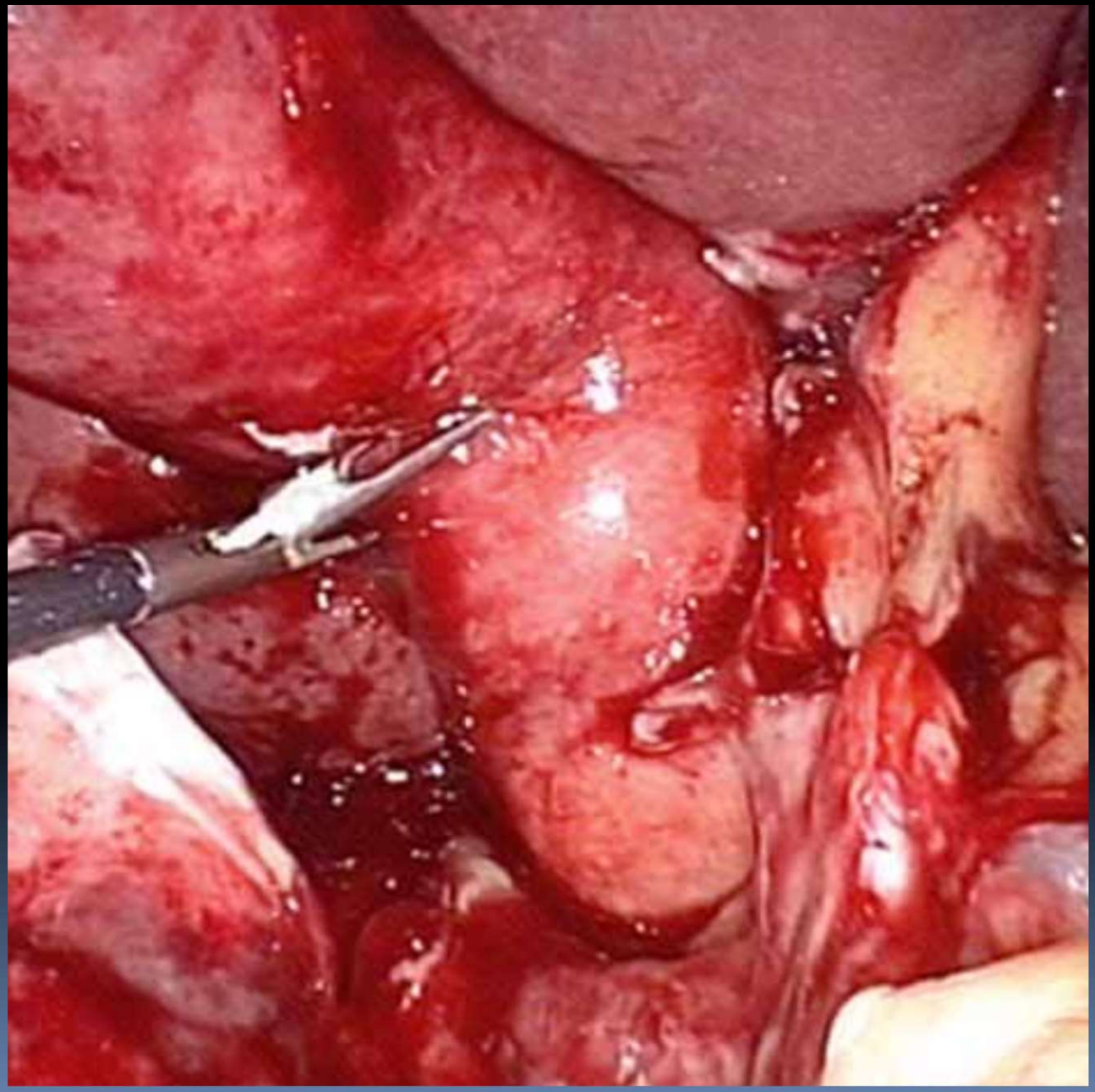
Colecistectomia segura

7. Dissecção colecisto-ducto cístico em direção à via biliar.
8. Evitar uso de bisturi elétrico
9. Liberar o peritôneo anterior e posterior.
10. Identificar a linha entre o sulco de Rouviere e a base do segmento IV.

Esvaziar a vesícula



Cálculo impactado na bolsa de Hartmann



Colecistectomia segura

11. Evite dissecção do lado esquerdo do ligamento hepatoduodenal.
12. Utilize colangiografia de rotina.

Surgeon to consider:

- ☐ Performing intraoperative cholangiogram (IOC) and confirm with **assistant**:
    1. Flow into duodenum
    2. Proximal hepatic duct visualized
    3. Three hepatic ducts are seen proximally, including right posterior sectoral
    4. No filling defects within common bile duct
    5. Presence of spiral valves within cystic duct

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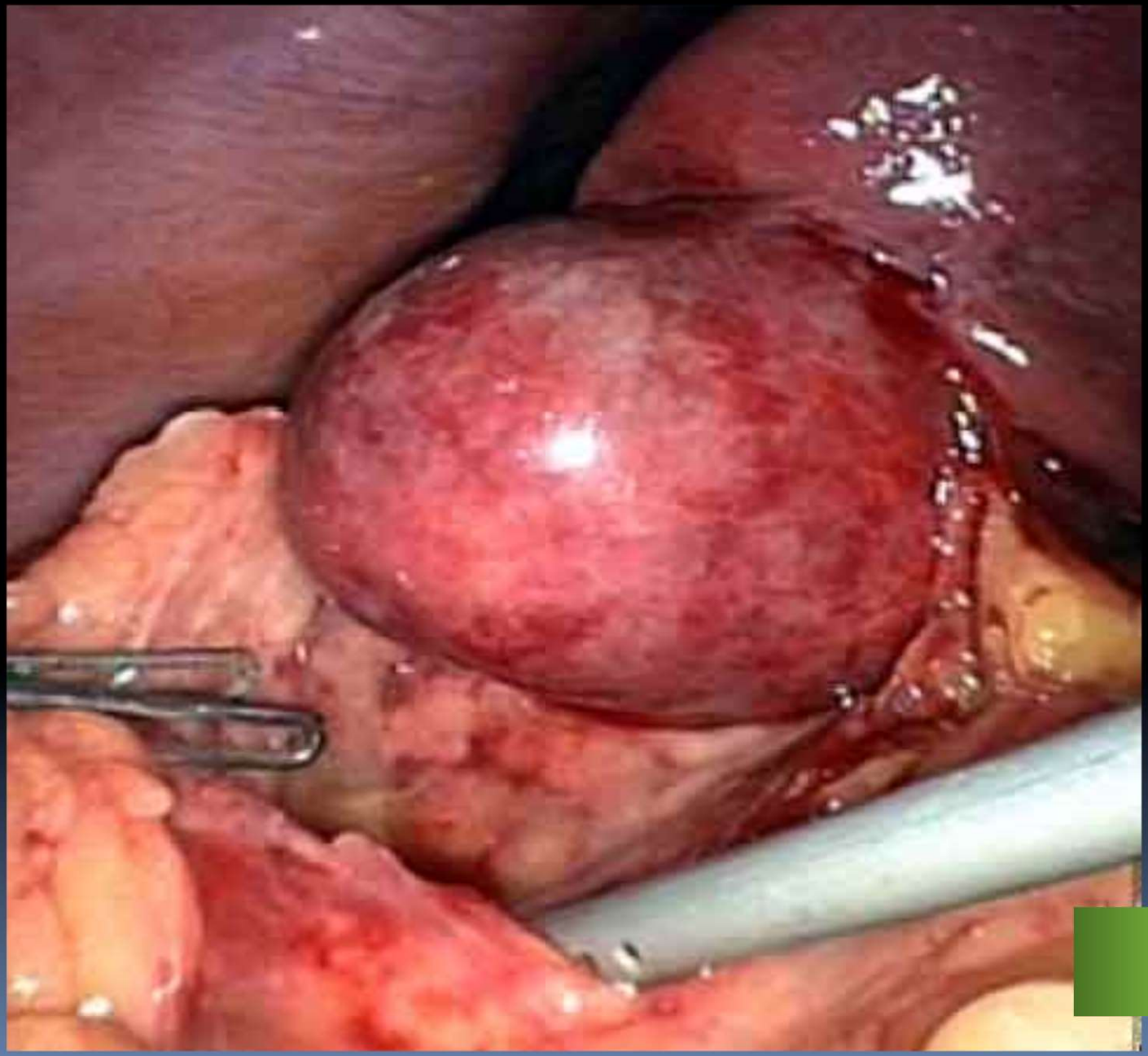
Colecistectomia segura

Utilize hidrodissecção

13. Prefira colecistectomia subtotal a colecistectomia fundo-cística

Colecistectomia fundo-cística



Não

DOI:10.1111/j.1477-2574.2011.00393.x HPB

ORIGINAL ARTICLE

'Extreme' vasculobiliary injuries: association with fundus-down cholecystectomy in severely inflamed gallbladders

Steven M. Strasberg[1] & Dirk J. Gouma[2]

[1]Section of Hepatopancreatobiliary Surgery, Washington University in St Louis, Saint Louis, MO, USA and [2]Department of Surgery, Academic Medical Centre, University of Amsterdam, Amsterdam, the Netherlands

Conclusions: Extreme vasculobiliary injuries tend to occur when fundus-down cholecystectomy is performed in the presence of severe inflammation. Contractive inflammation thickens and shortens the cystic plate, making separation of the gallbladder from the liver hazardous.

Strasberg SM, Gouma DJ. HPB 2012;14: 1-8

Colecistectomia subtotal

Biliary

Role of laparoscopic subtotal cholecystectomy in the treatment of complicated cholecystitis

Wu Ji, Ling-Tang Li and Jie-Shou Li

Nanjing, China

BACKGROUND: **Laparoscopic cholecystectomy (LC) has become the "gold standard" in treating benign had acute calculic cholecystitis, 47 had chronic calculic atrophy cholecystitis, and 71 had polypus. Seventeen**

Ji W, et al. Hepatobiliary Pancreat Dis Int 2006;5:584-9

14. Desenvolva cultura de segurança

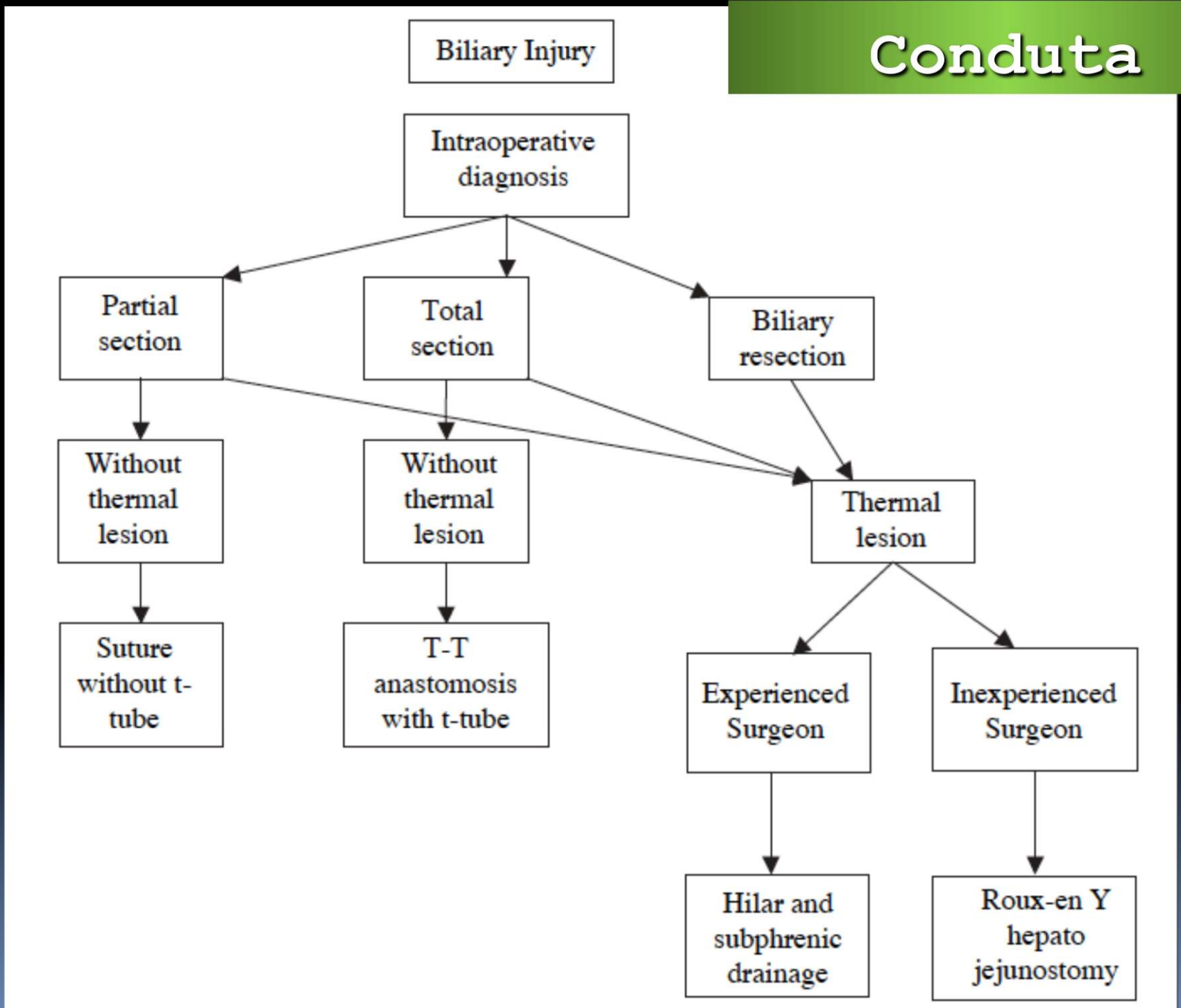
Antes de clipar o ducto cístico

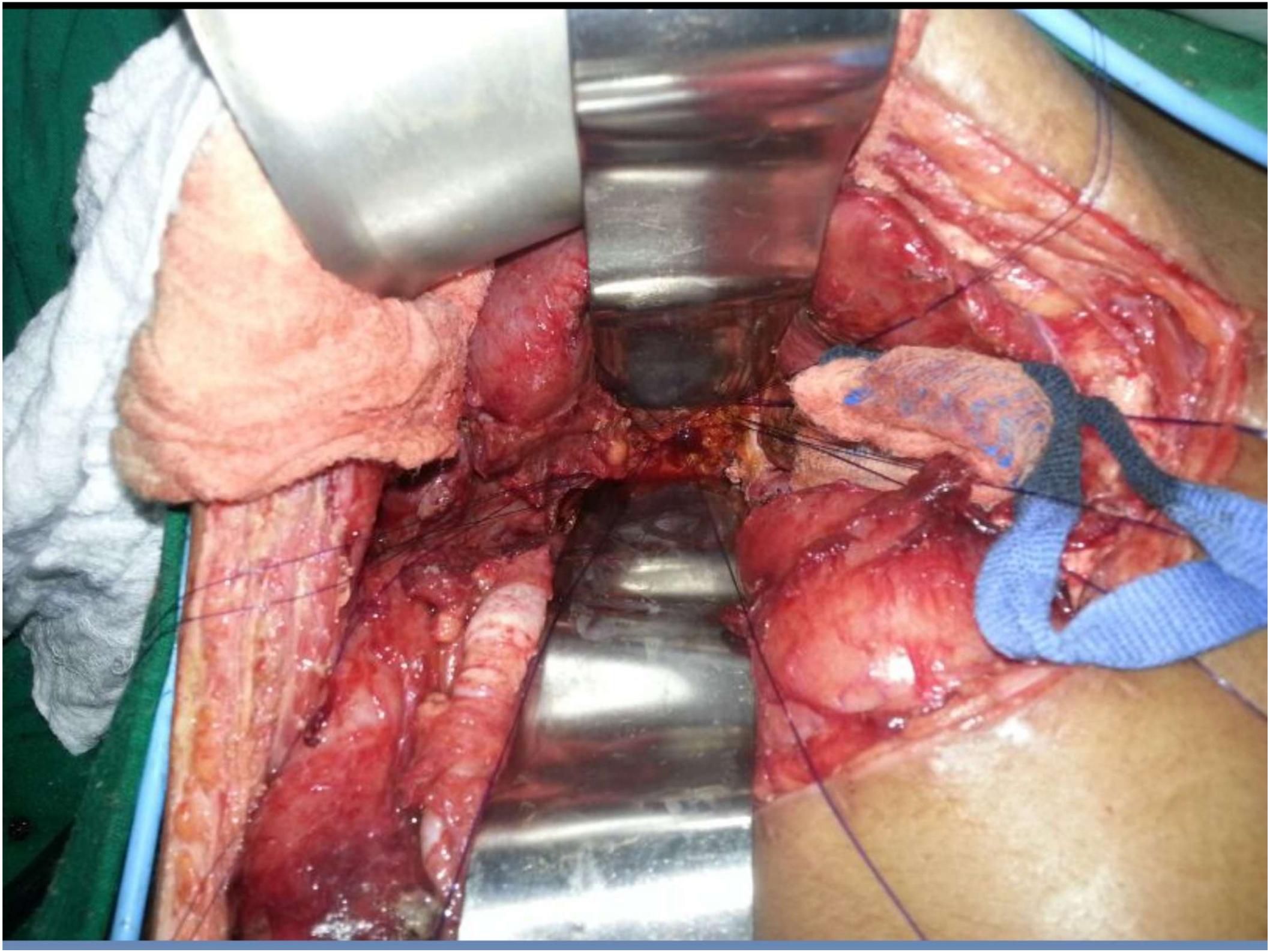
Confirmar visão crítica com o assistente

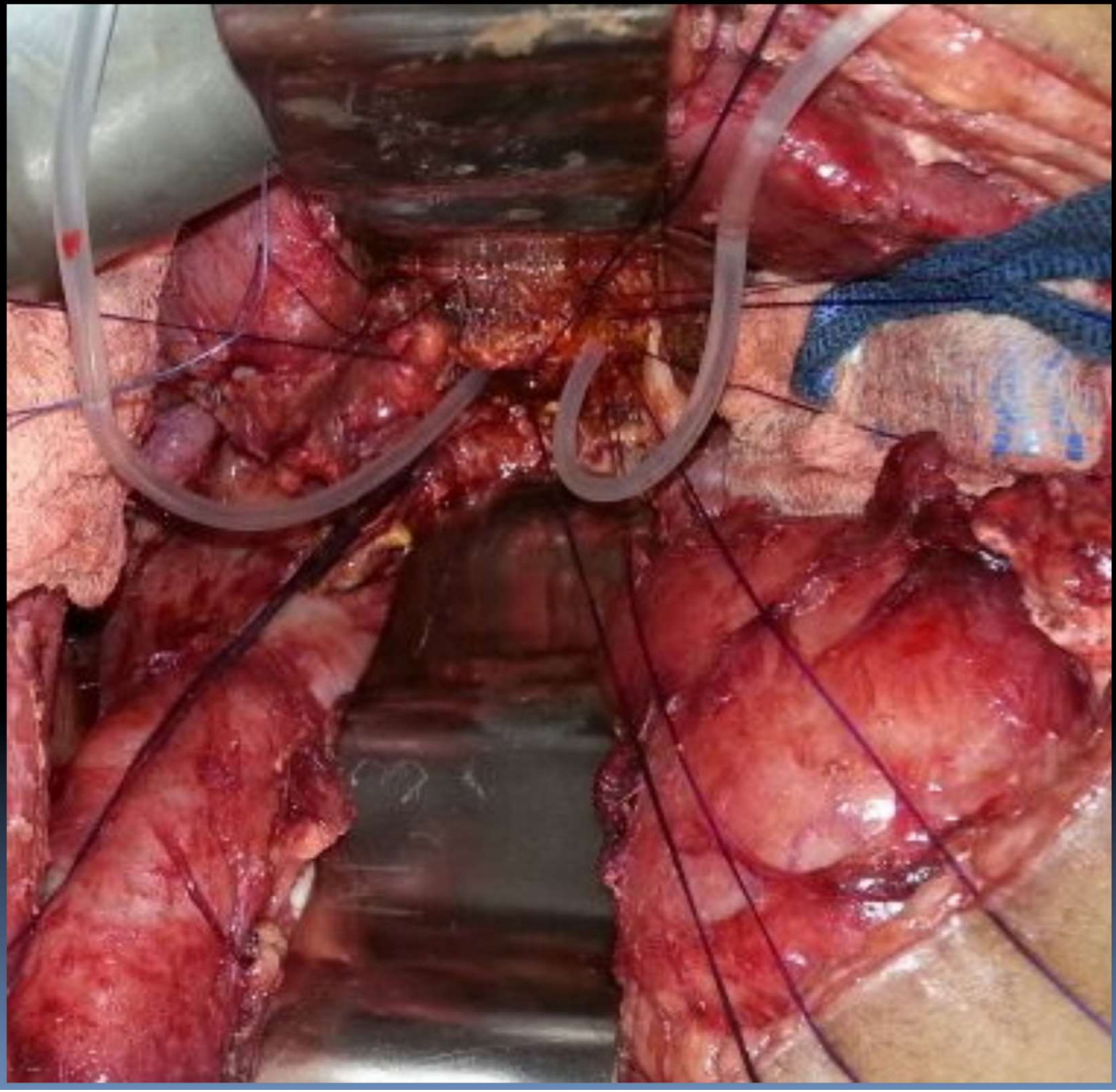
Connor SJ, et al. HPB 2013

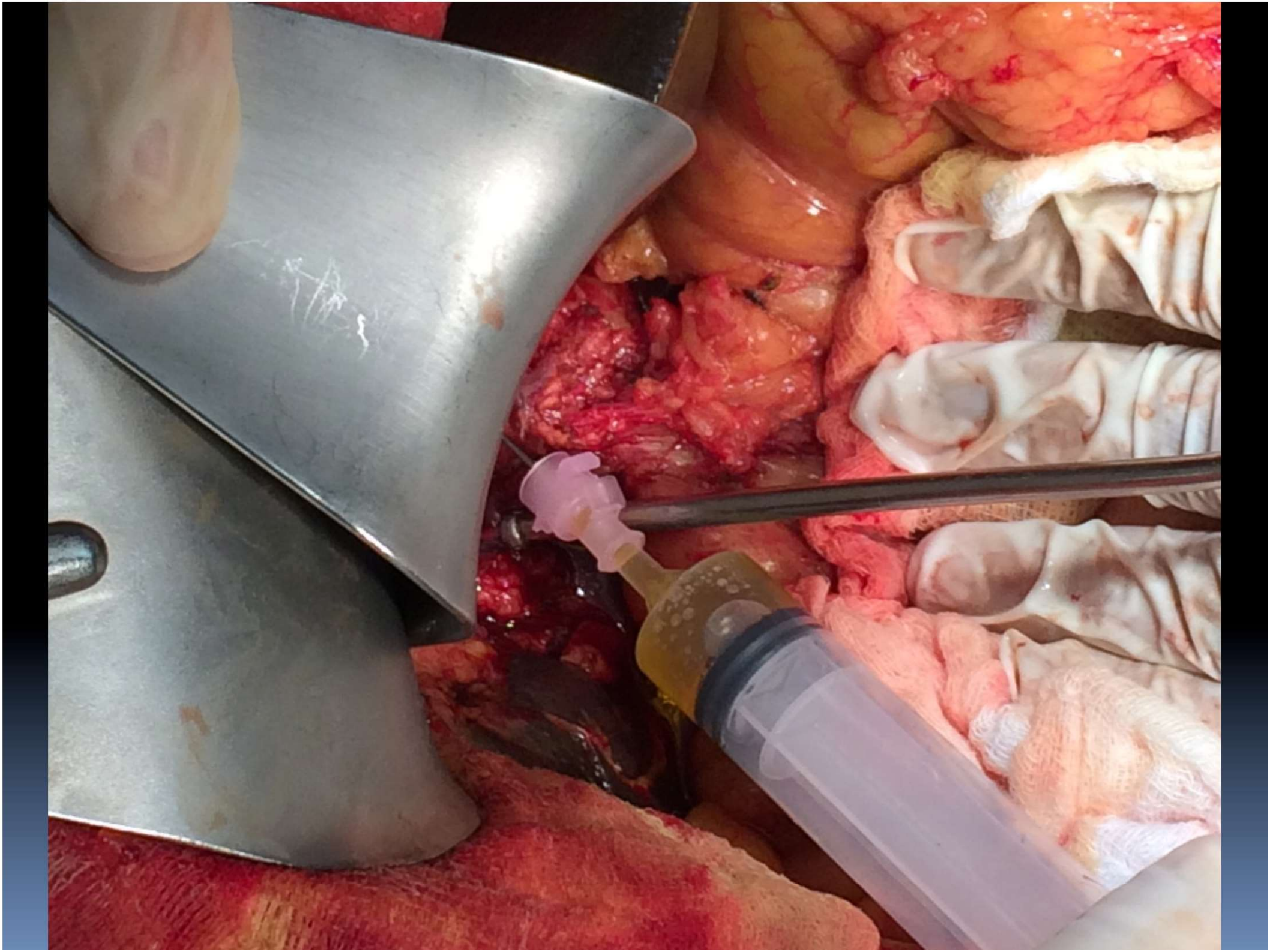
A colecistectomia na colecistite aguda sempre será um desafio. A operação por videolaparoscopia deve ser a indicada e sempre obedecer os padrões de segurança até o momento bem estabelecidos.

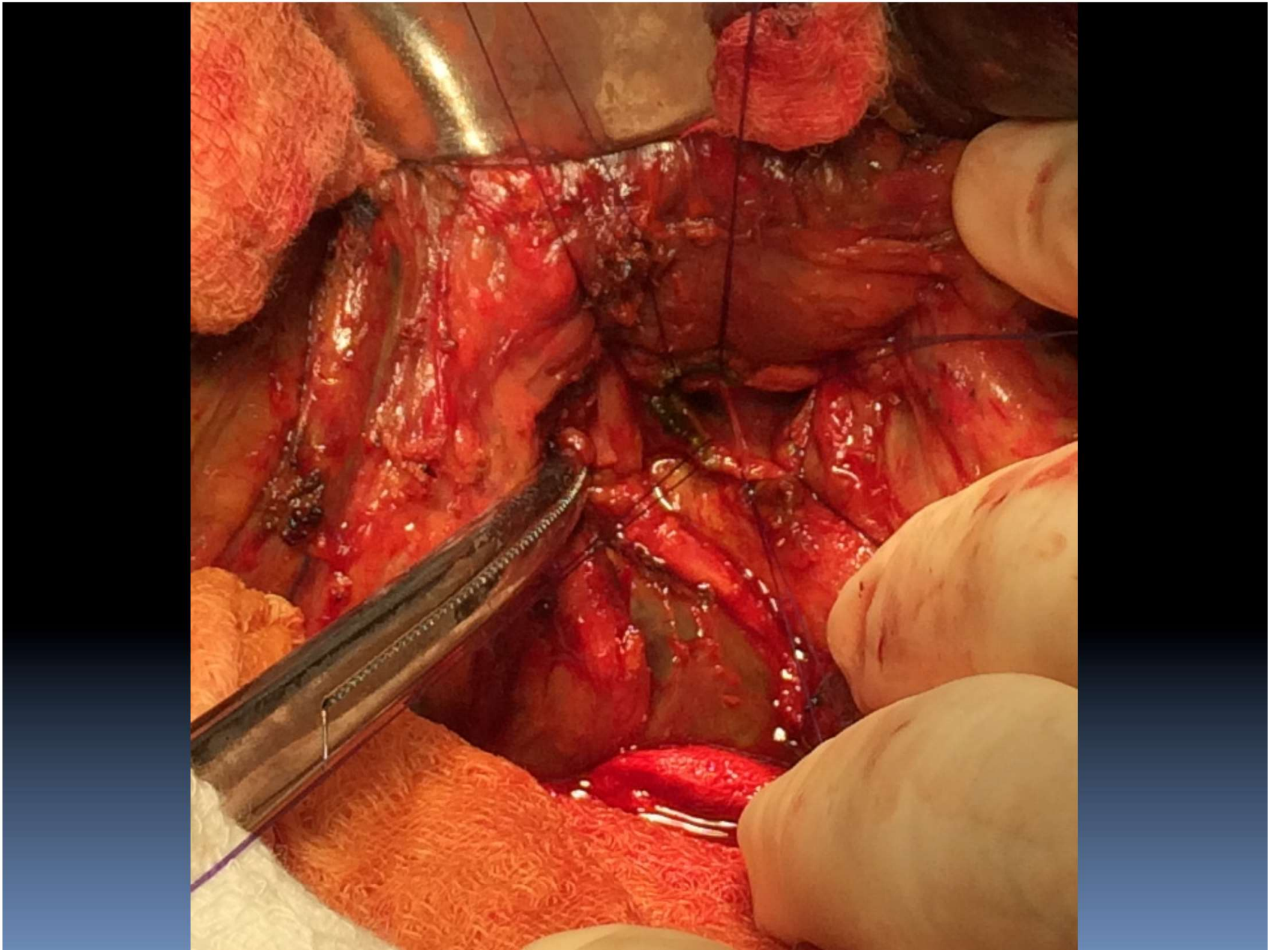
Conduta

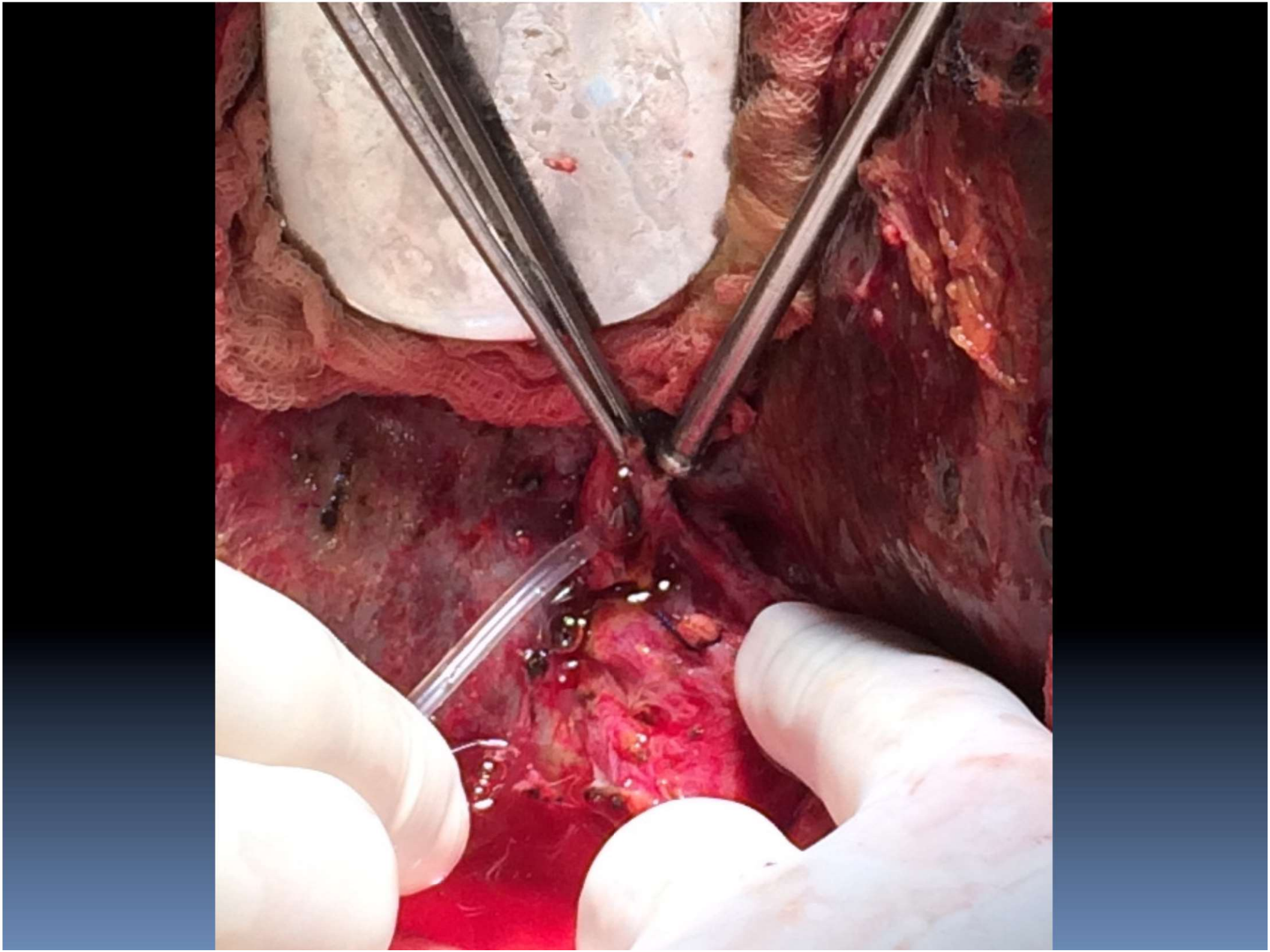

Biliary Injury
Intraoperative diagnosis
Partial section
Total section
Biliary resection
Without thermal lesion
Without thermal lesion
Thermal lesion
Suture without t-tube
T-T anastomosis with t-tube
Experienced Surgeon
Inexperienced Surgeon
Hilar and subphrenic drainage
Roux-en Y hepato jejunostomy

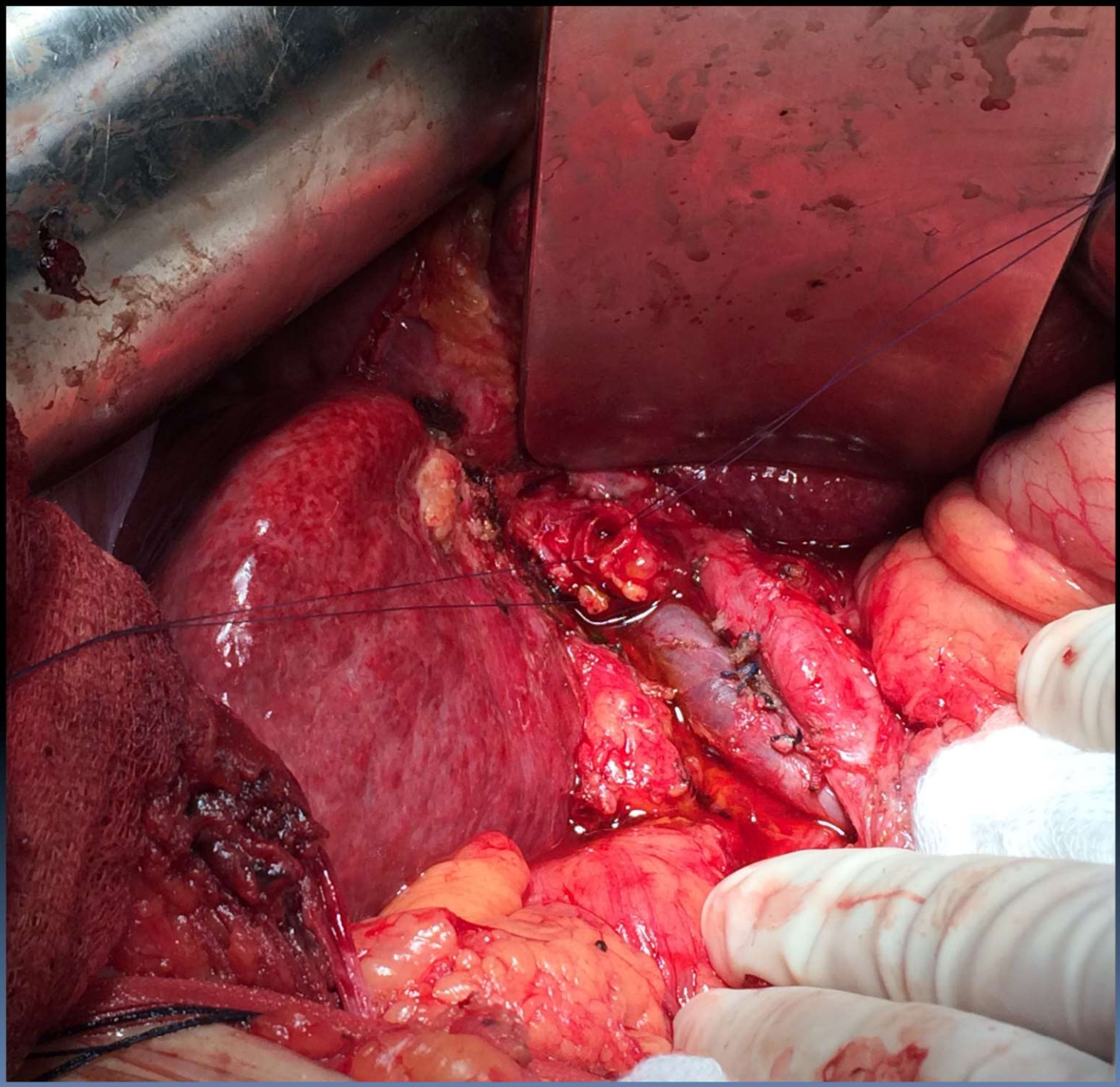


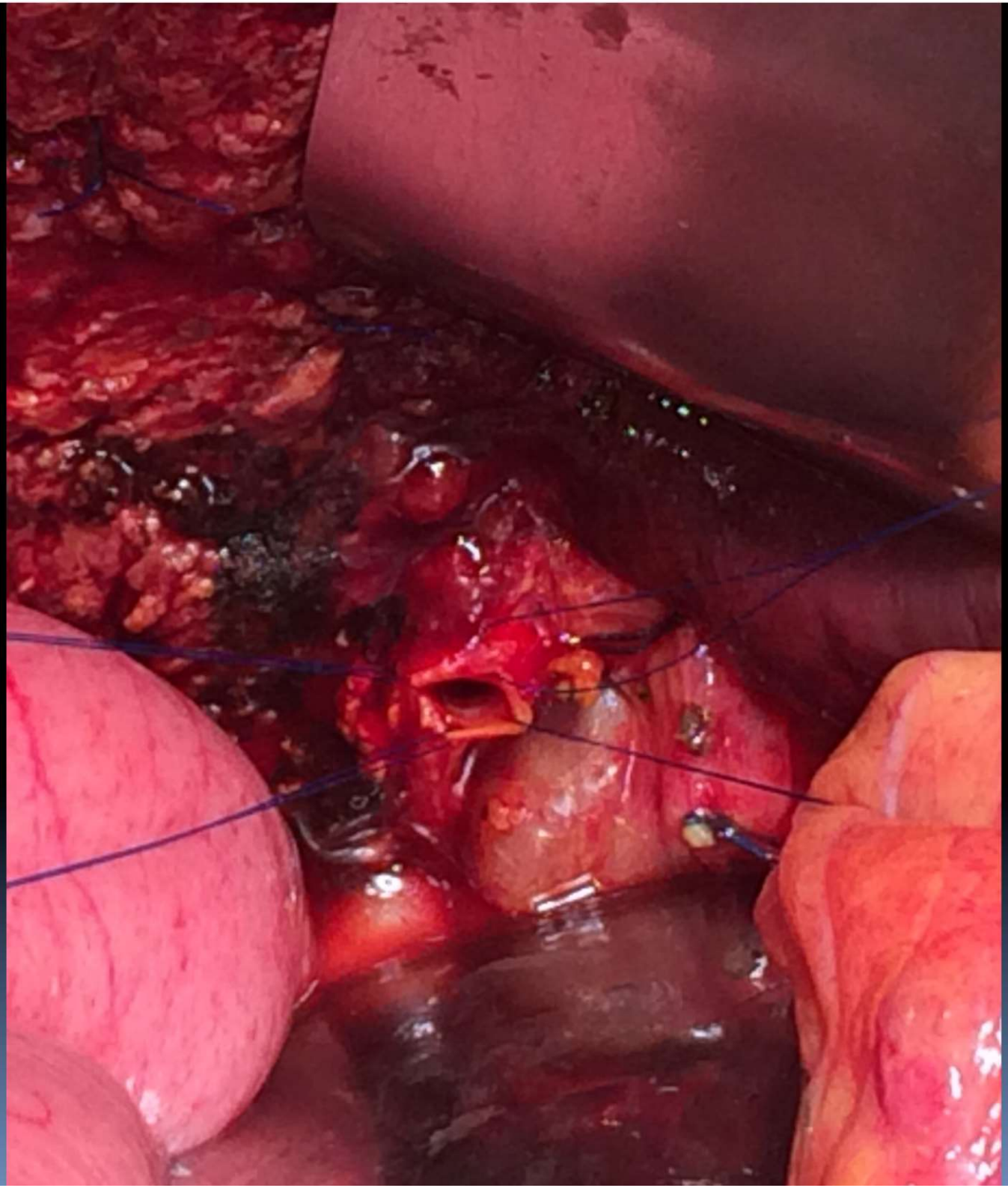


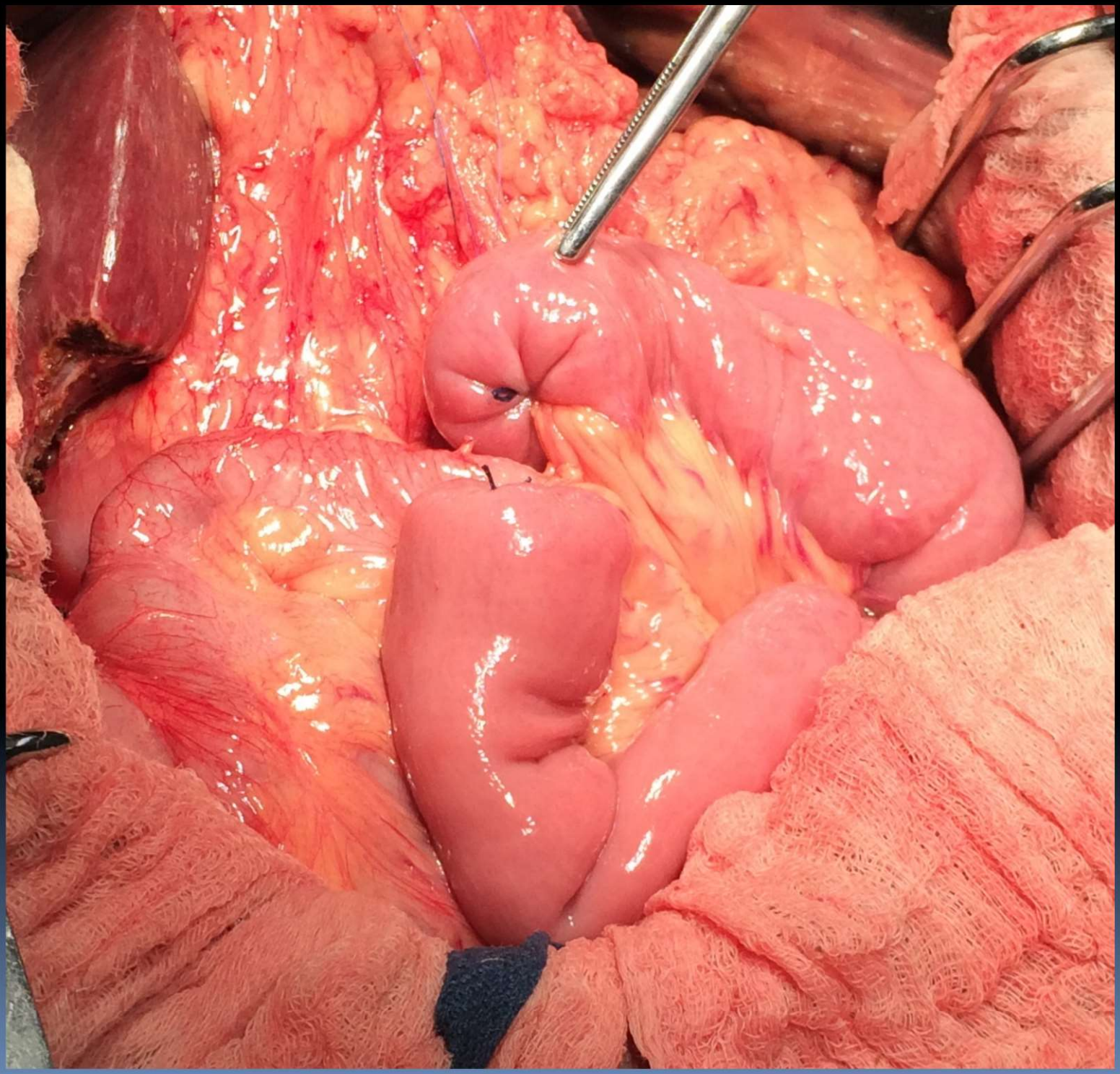


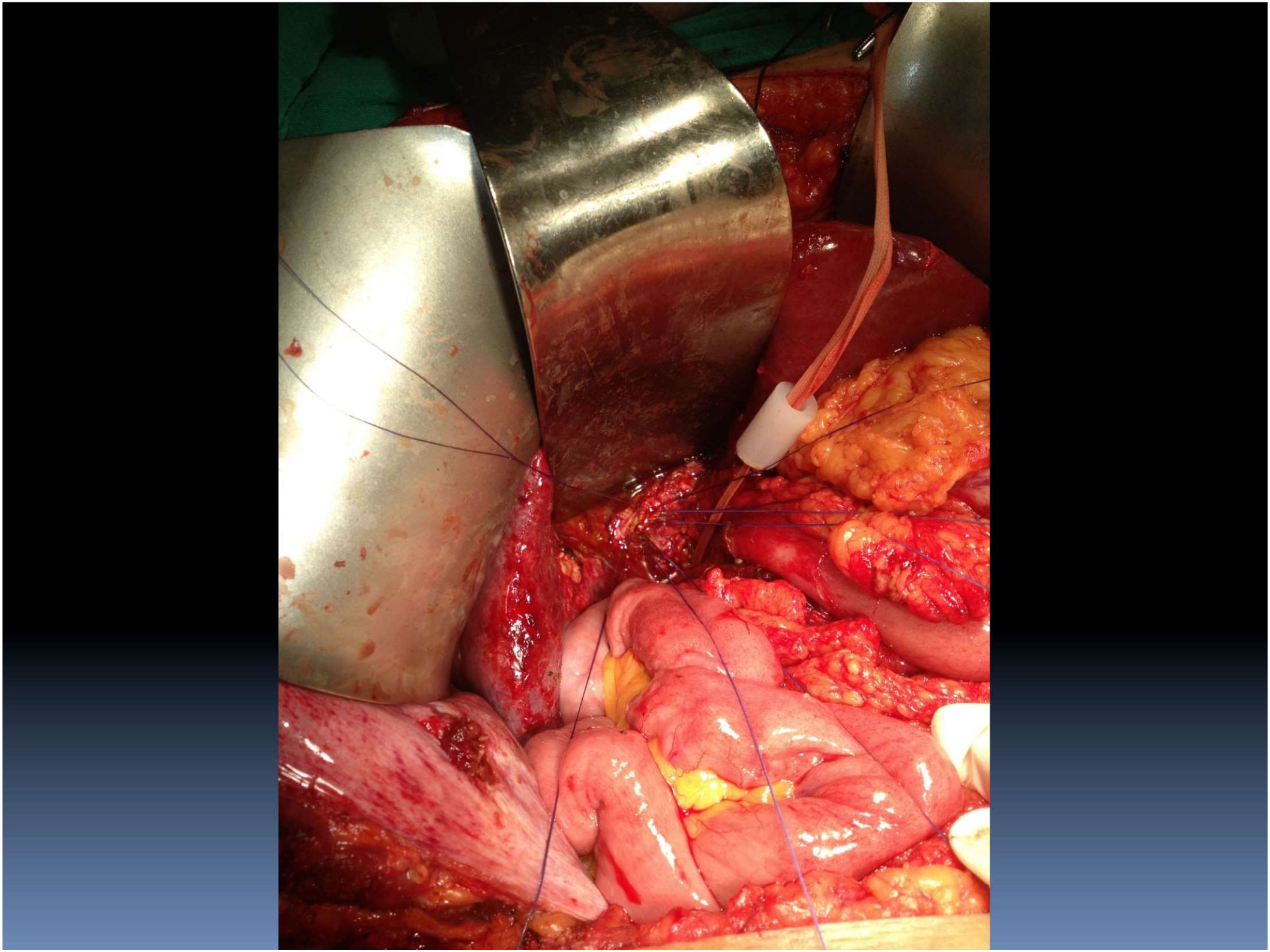




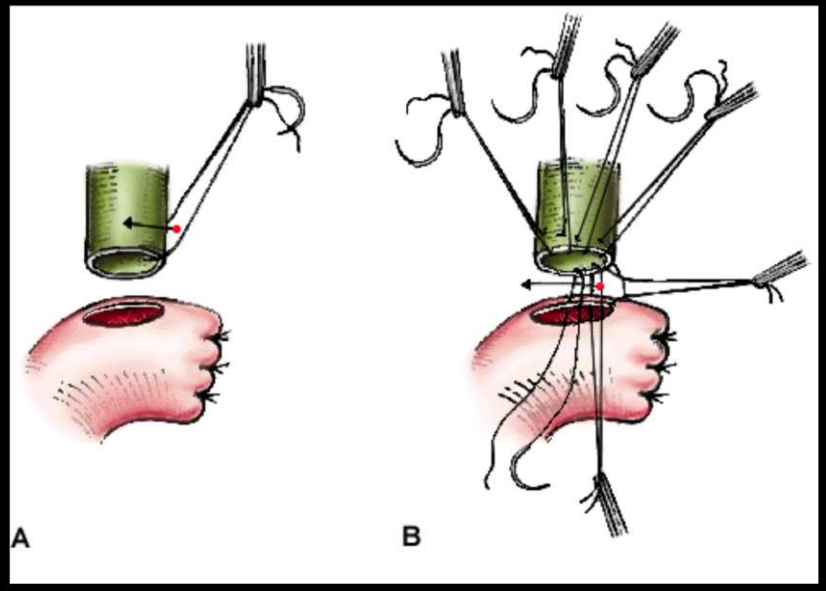


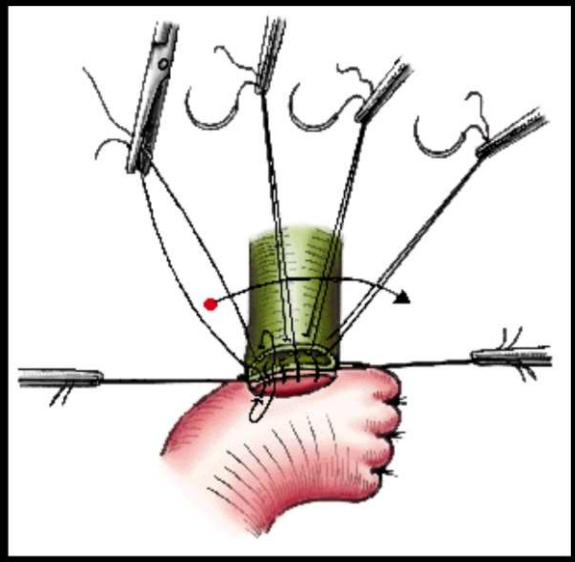




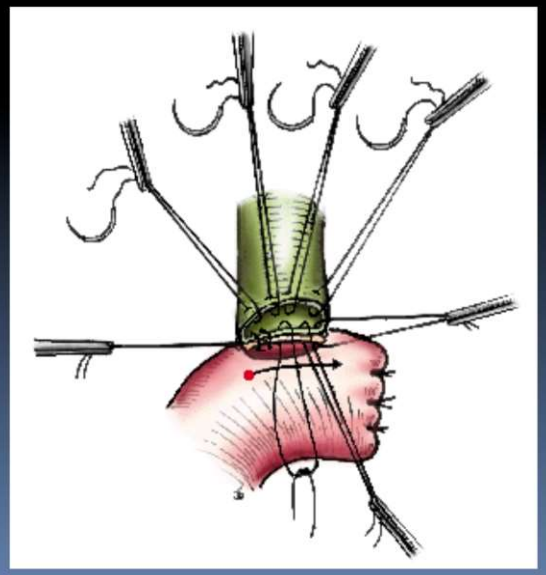


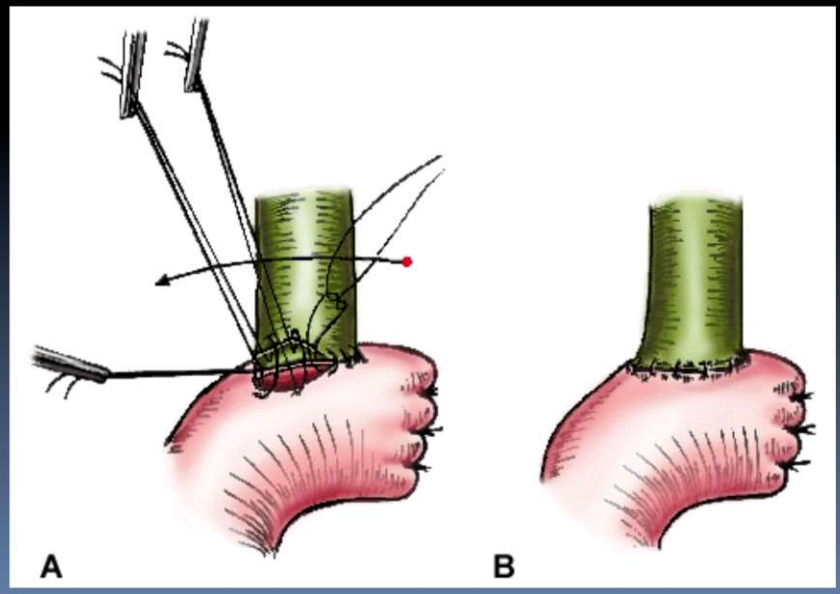
Anastomose bilio-entérica

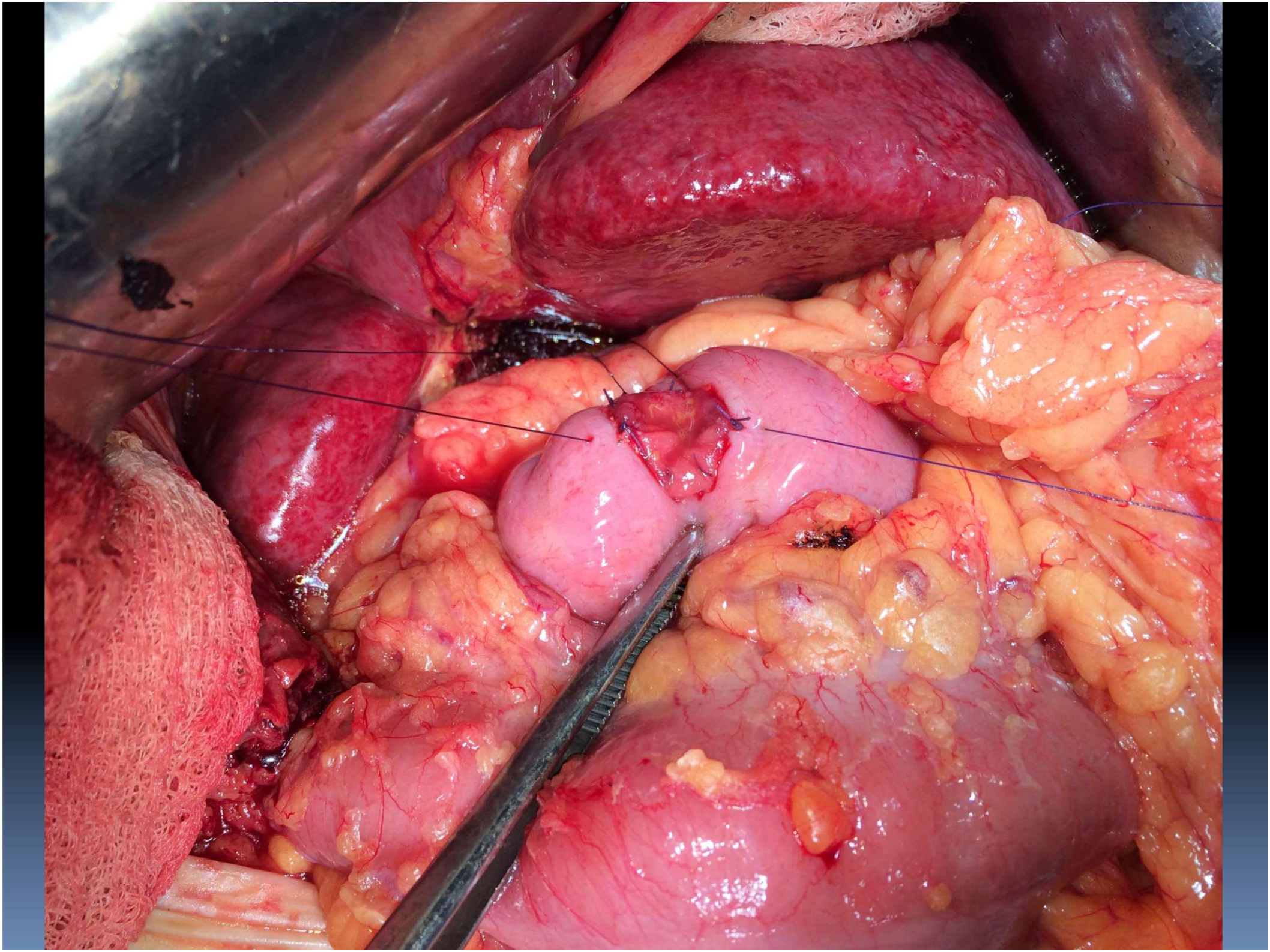


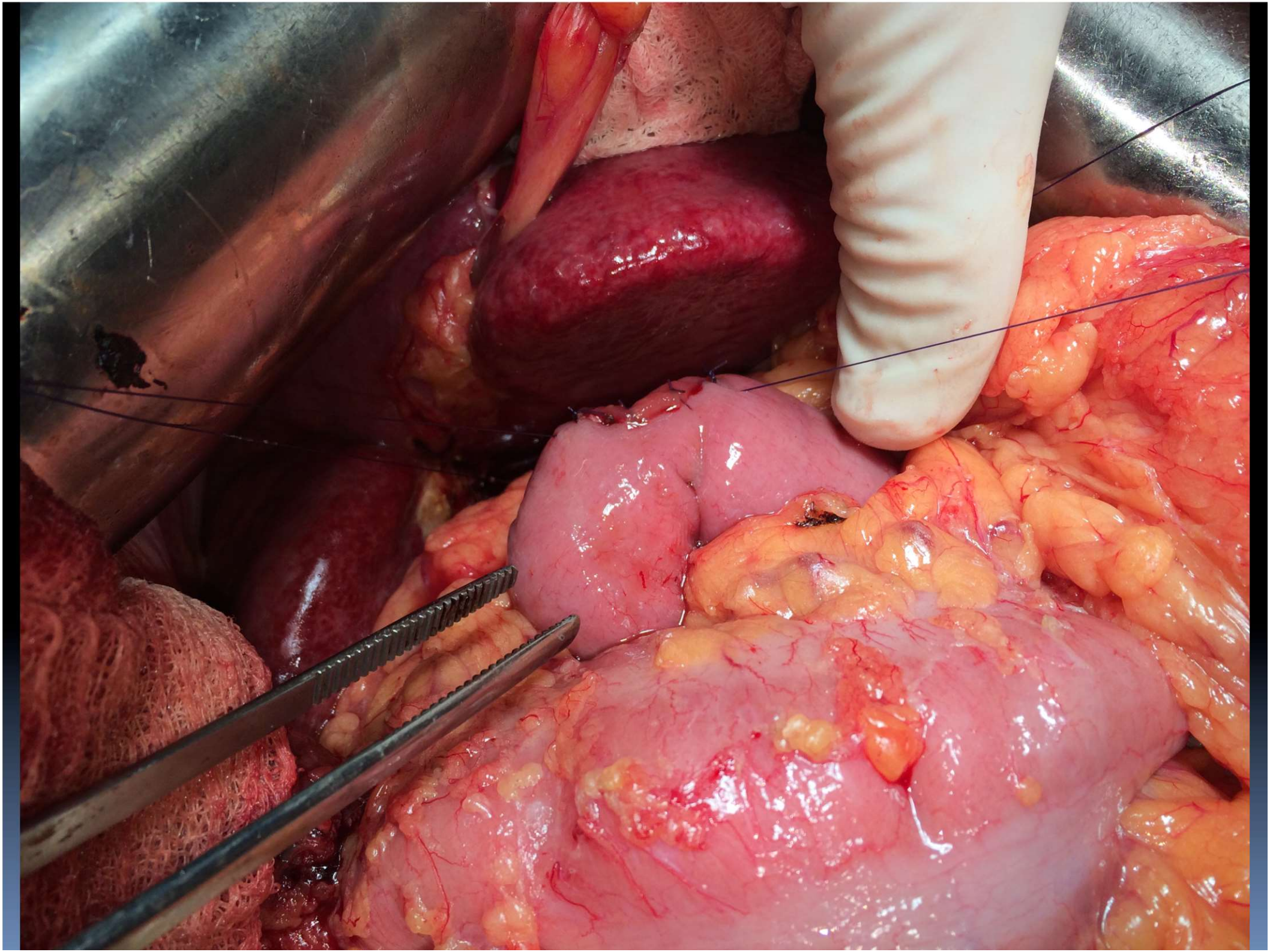


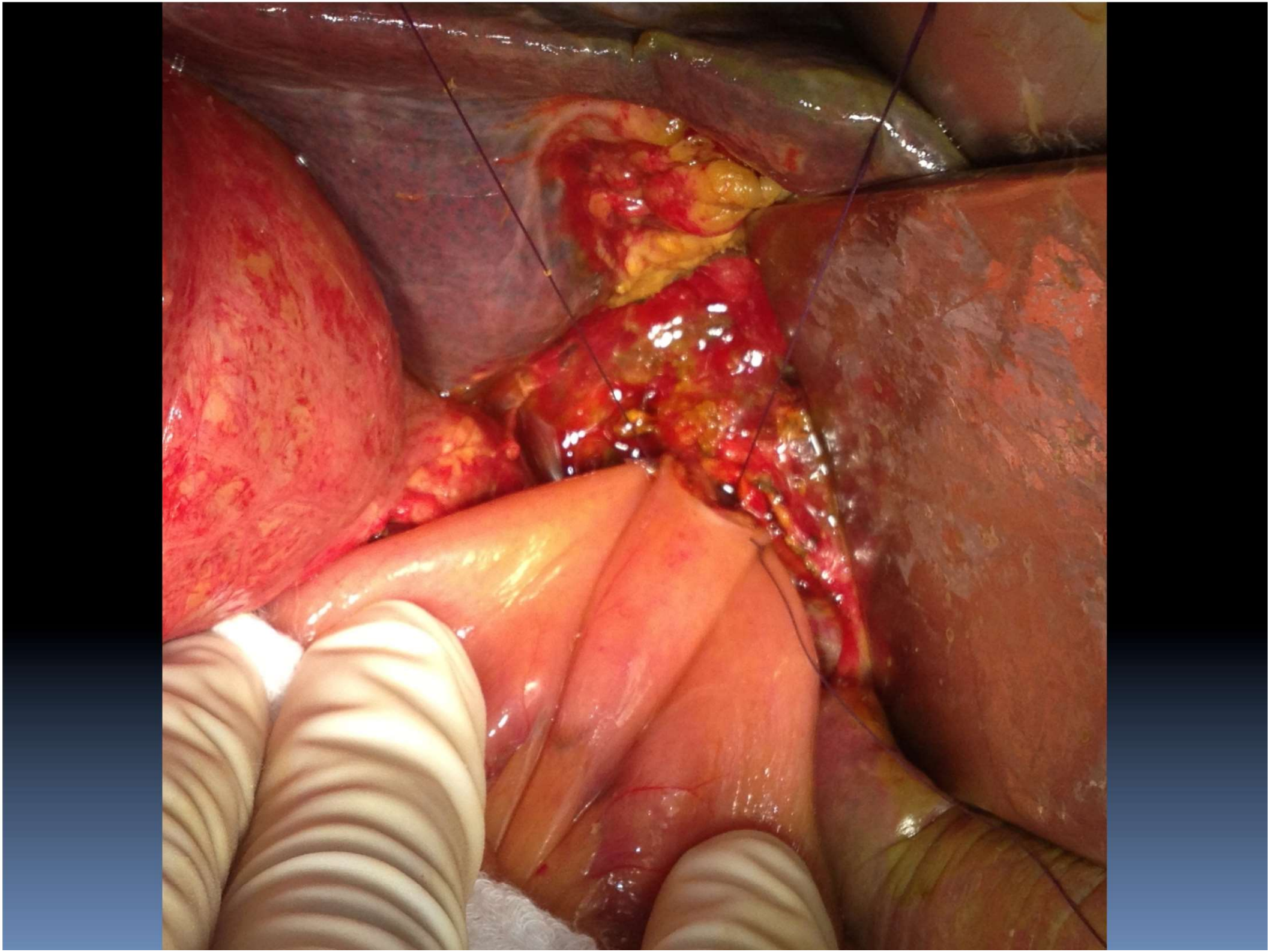
Y de Roux



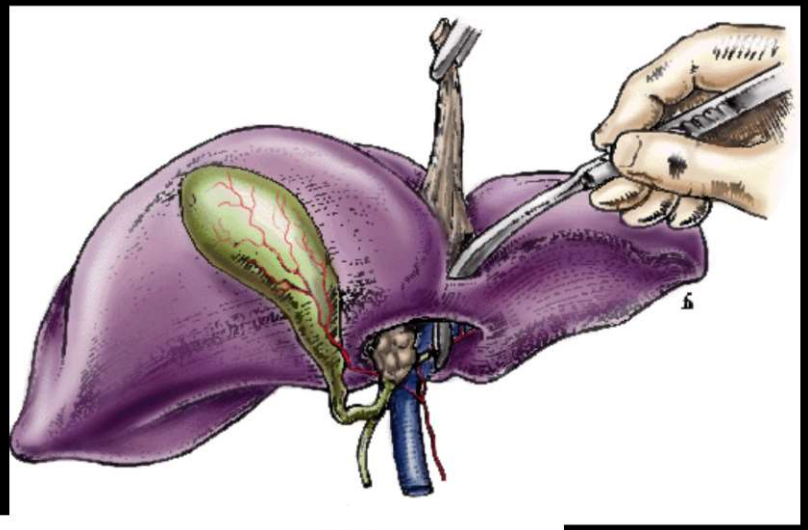


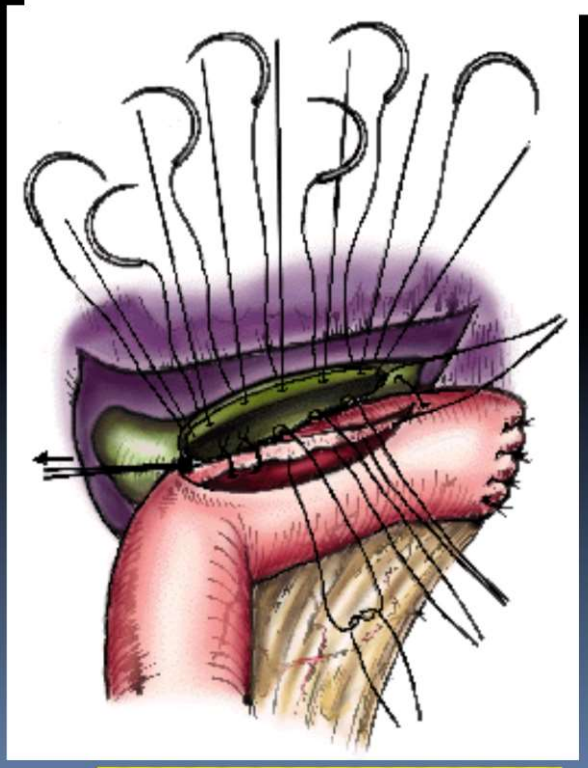


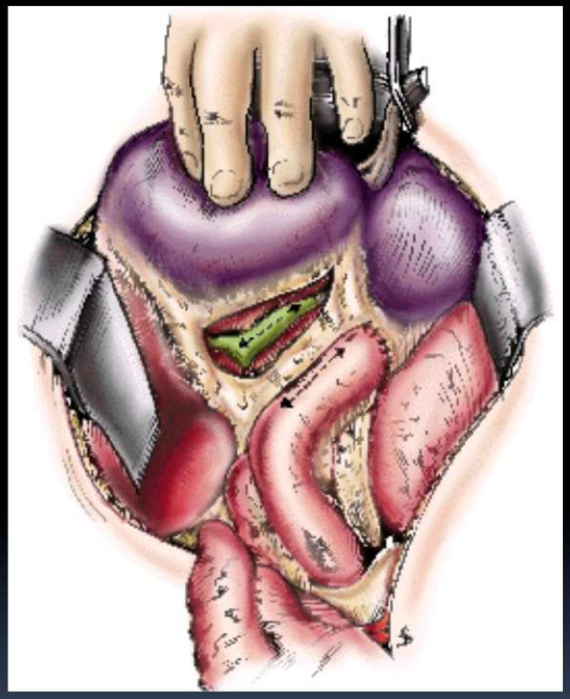


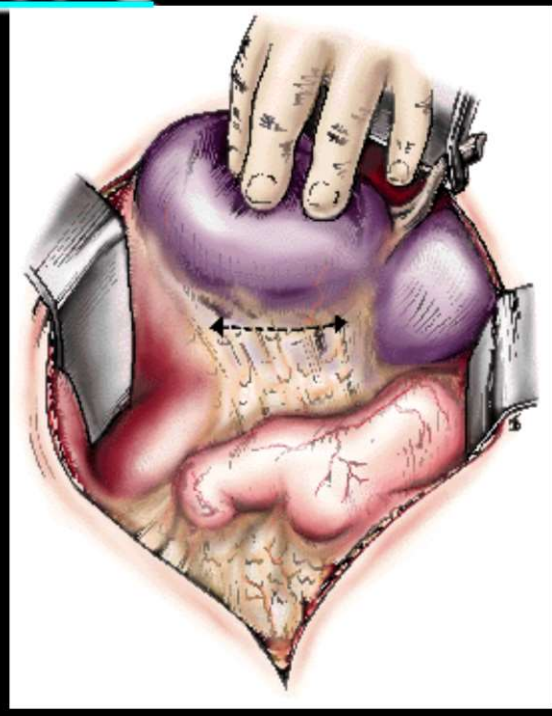


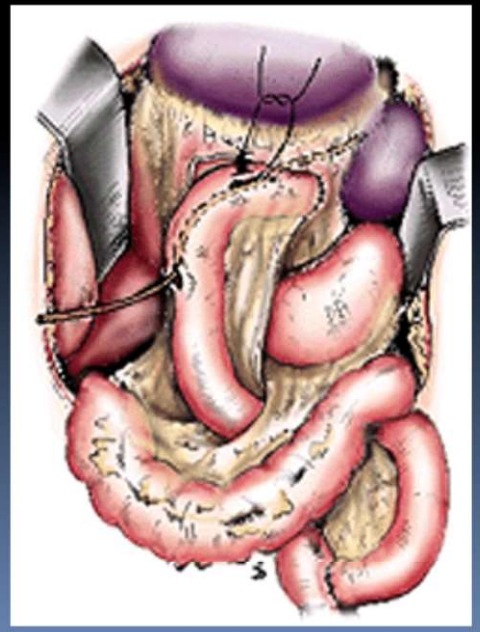
Abordagem do ducto hepático E











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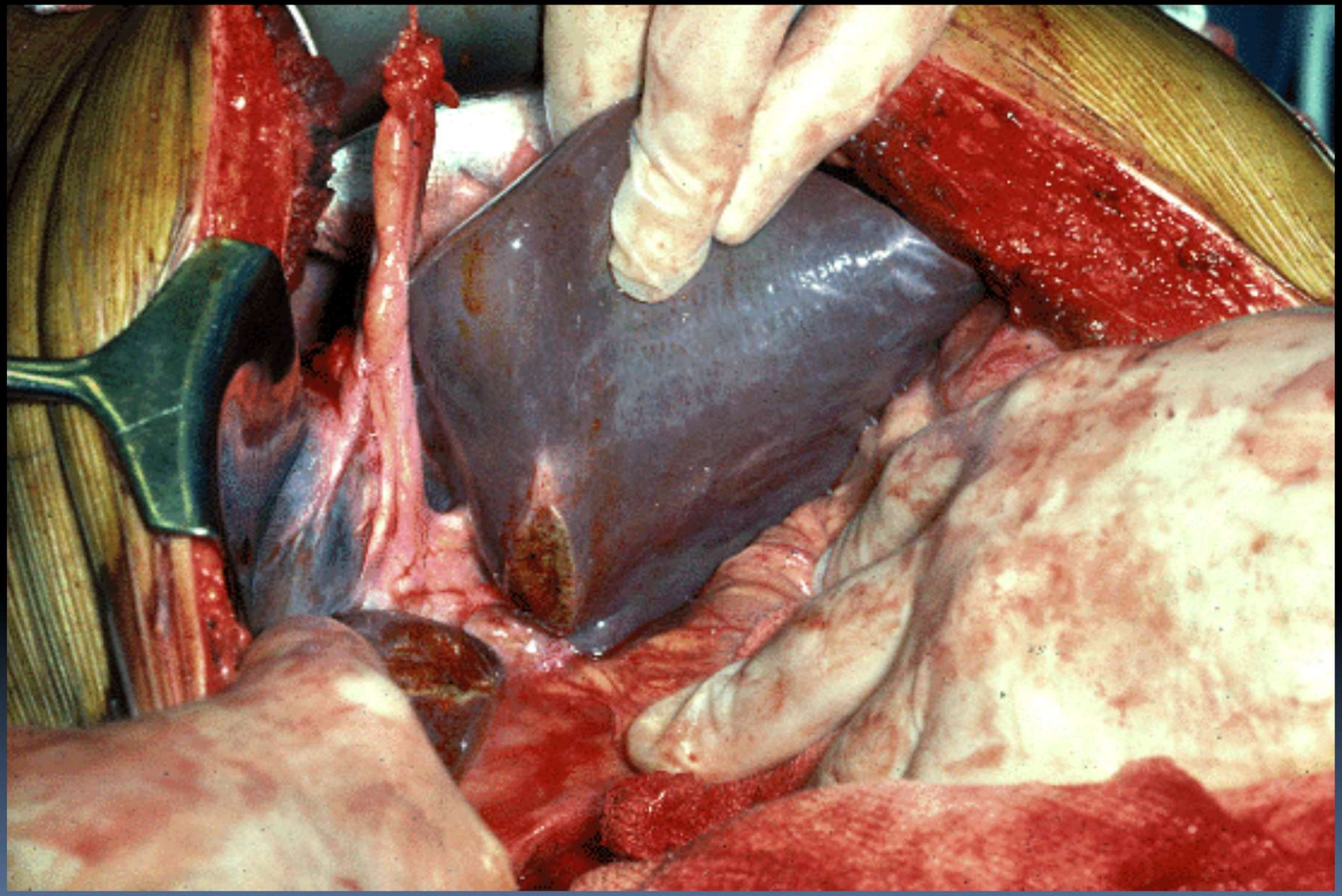
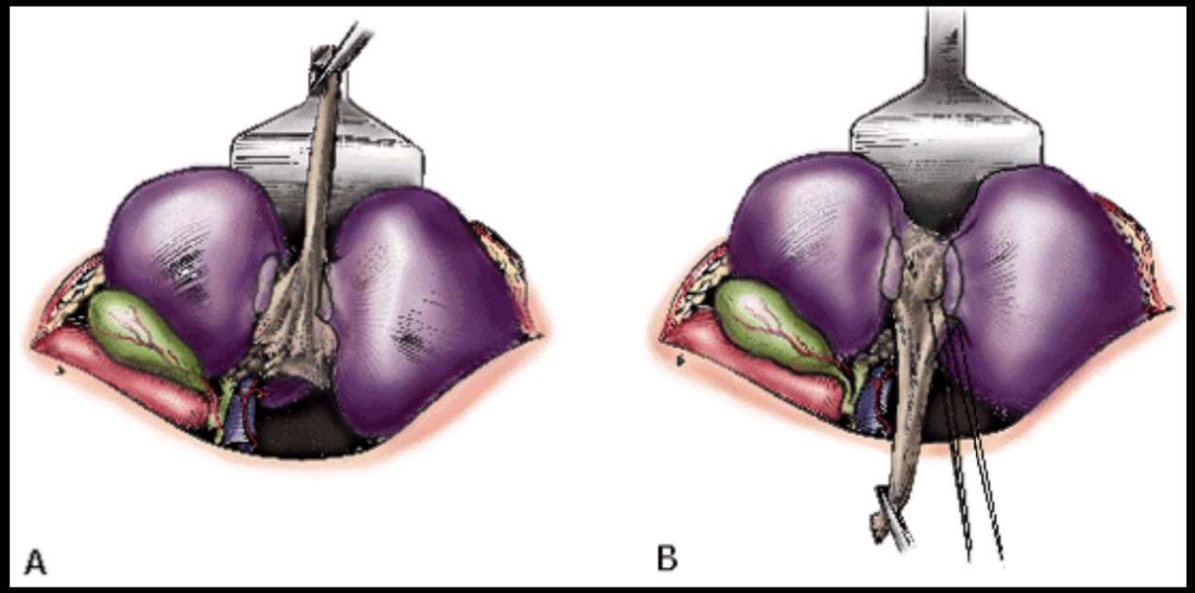
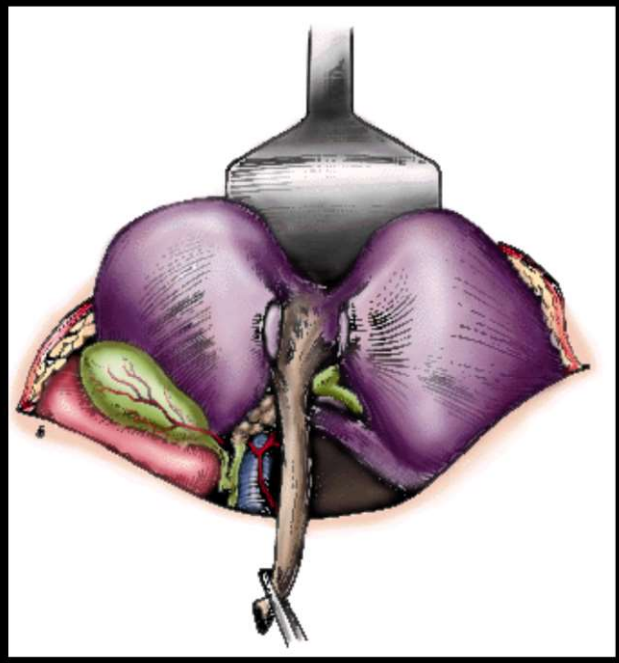
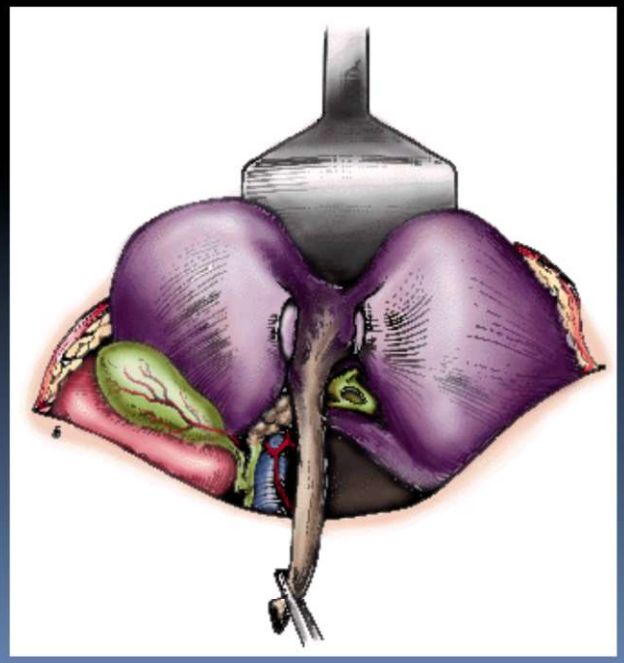
Rebaixamento da placa hilar

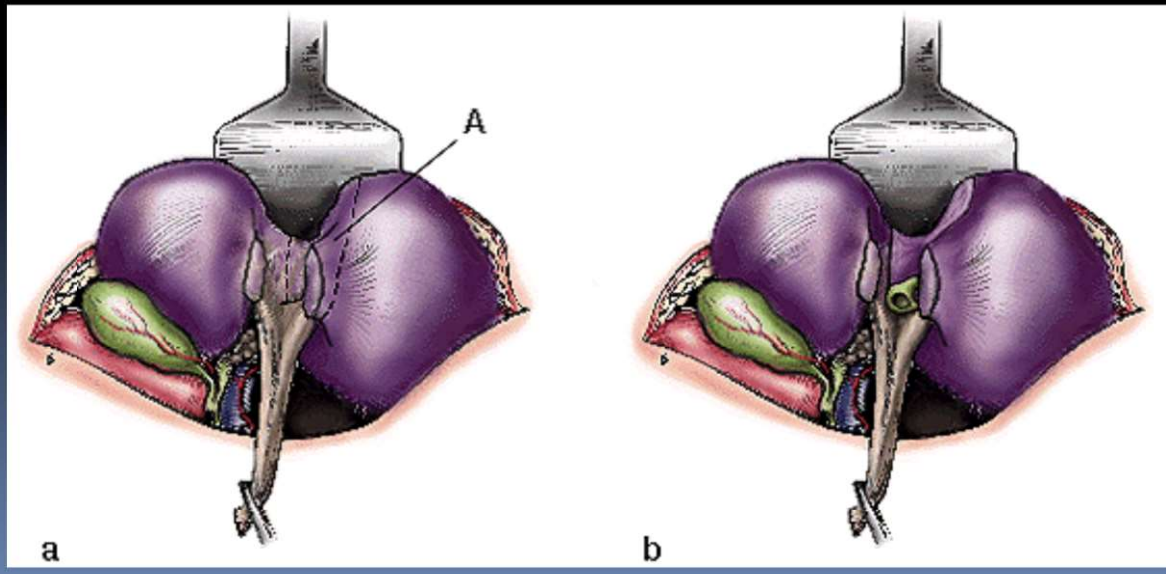


Exposição do ducto hepático esquerdo



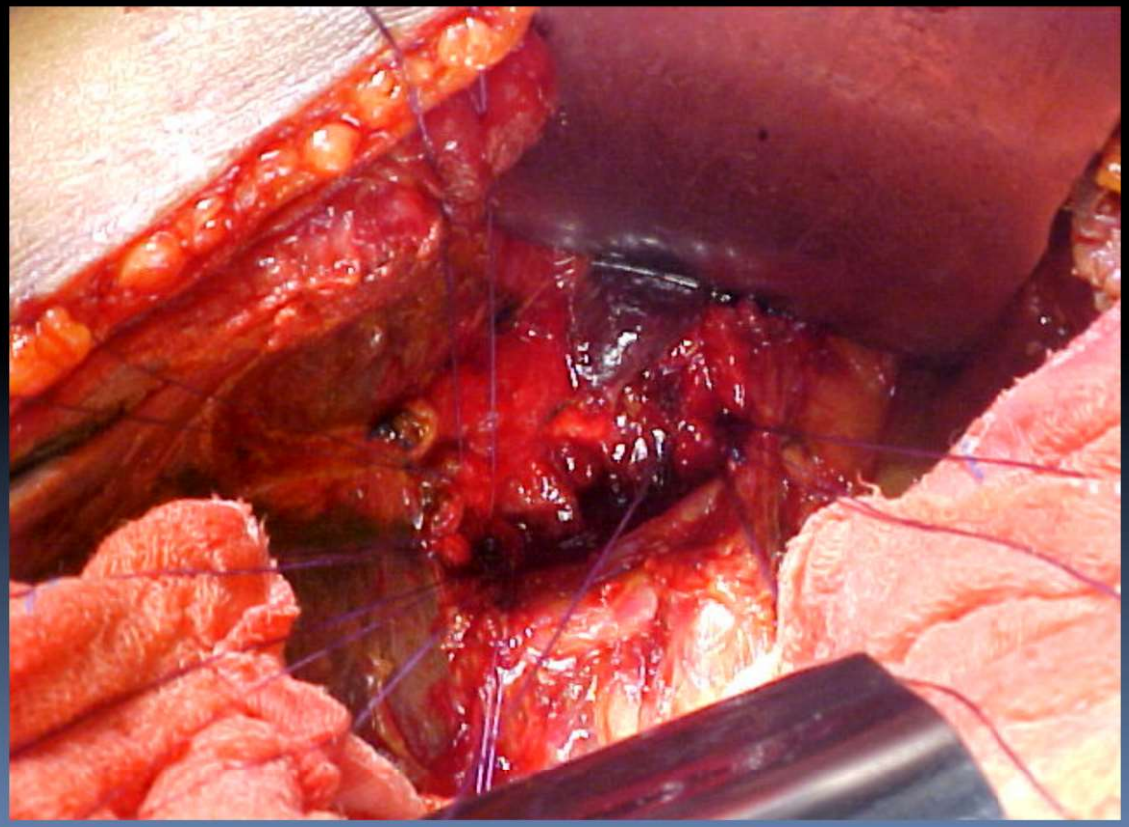


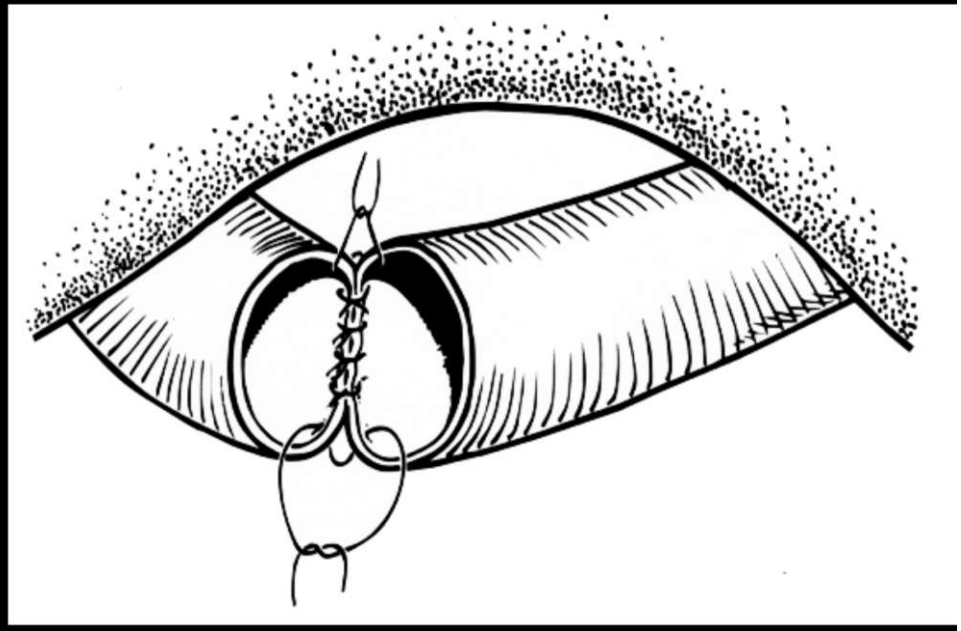




Reparo das lesões tipo E4/E5

- Reparo de diferentes ductos
- Unir ductos individualizados
- Controle US/Colangiografia





Equipe

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