



**LE COMPLICANZE
IN ENDOSCOPIA
DIGESTIVA**

Il presente Programma, aggiornato alla data del 22 Luglio 2019, è un documento suscettibile di modifica sino alla stesura definitiva

UDINE | 25-27 Settembre 2019

Luigi Pasquale Presidente SIED
Maurizio Zilli Direttore del Corso



Le complicanze della colangiopancreatografia retrograda endoscopica

La Perforazione
Caso clinico

Dario Raimondo
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Caso clinico

- Paziente di sesso femminile di 57 anni
- Nessuna patologia degna di nota all'anamnesi
- Nel 06/2019 si reca in PS a causa di ittero improvviso, nausea e vomito
- In PS vengono eseguiti esami siero ematochimici, ecg, con evidenza di rialzo degli indici di colestasi (AST: 175 UI/L, ALT 378 UI/L ; bilirubina tot 4.8 mg/dl, bilirubina diretta 3.7/dl; lipasi 1862 UI/L; amilasi 404 UI/L; FA 333 UI/L; GGT 1613 UI/L)
 - Ferritina 156,12ng/ml
- Nessuna alterazione di emocromo, creatinina, azotemia ed ECG.
- La paziente esegue ETG addome completo

Caso clinico

ECOGRAFIA ADDOME COMPLETO eseguito in data 28.06.2019:

Fegato steatosico di dimensioni normali, senza lesioni nodulari anomale apprezzabili dalla metodica. Si rileva lieve dilatazione delle vie biliari intraepatiche.-

Il coledoco risultata dilatato ma non si riesce al variare del decubito e della compressione con la sonda ad evidenziare una sicura causa ostruente litiasica.

La colecisti è distesa, a pareti nette , contenente del materiale biliare declive di media ecogenicità come per fango e si rilevano cristalli dispersi.

Il pancreas , per come possibile valutarlo a causa del meteorismo suddetto, presenta spessore ed ecogenicità nella norma (la paz. non riferisce dolore alla compressione profonda e prolungata con la sonda ecografica). Si segnala unicamente in sede cefalopancreatica adiacente al lume del coledoco distale una ipoecogenicità rotondeggiante di 1,5x2 m di non chiara interpretazione : lesione pancreatică? Porzione duodenale collabita di diverticolo duodenale?

Utile approfondimento diagnostico alla luce degli esami laboratoristici.

Il Wirsung non appare dilatato.

Non segni di fluido peritoneale libero.

Milza, reni nei limiti.

Aorta di calibro regolare.

Caso clinico

- La paziente viene ricoverata presso la Medicina D'urgenza
- Indicazione ad eseguire colangio RM

Caso clinico

Data Referto: 02.07.2019

COLANGIO RM

Sono state eseguite sequenze T1 in fase ed in opposizione , TSE T2, TSE T2 FS, T2 colangiografiche, DWI.

Fegato con alcune piccole cisti.

Colecisti modicamente dilatata senza calcoli e senza alterazioni di parete.

Vie biliari intraepatiche, coledoco (9 mm) e dotto pancreatico (5 mm) dilatati. La dilatazione è causata da una stenosi serrata nella regione peri-ampollare della testa del pancreas dove è visibile un focolaio di modica ipointensità in T1, a margini irregolari, in corrispondenza del quale il piano di clivaggio con il duodeno è poco definibile. Presenza di piccole adenopatie retropancreatiche (4-5 mm). Reperto sospetto per neoplasia più che per flogosi. Si consiglia approfondimento.

Vena porta e vene sovraepatiche regolari.

Pancreas di regolare morfologia e dimensioni senza evidenti alterazioni focali.

Surreni regolari.

Milza normale.

Reni in sede di regolare morfologia e dimensioni senza evidenti alterazioni.

Caso clinico



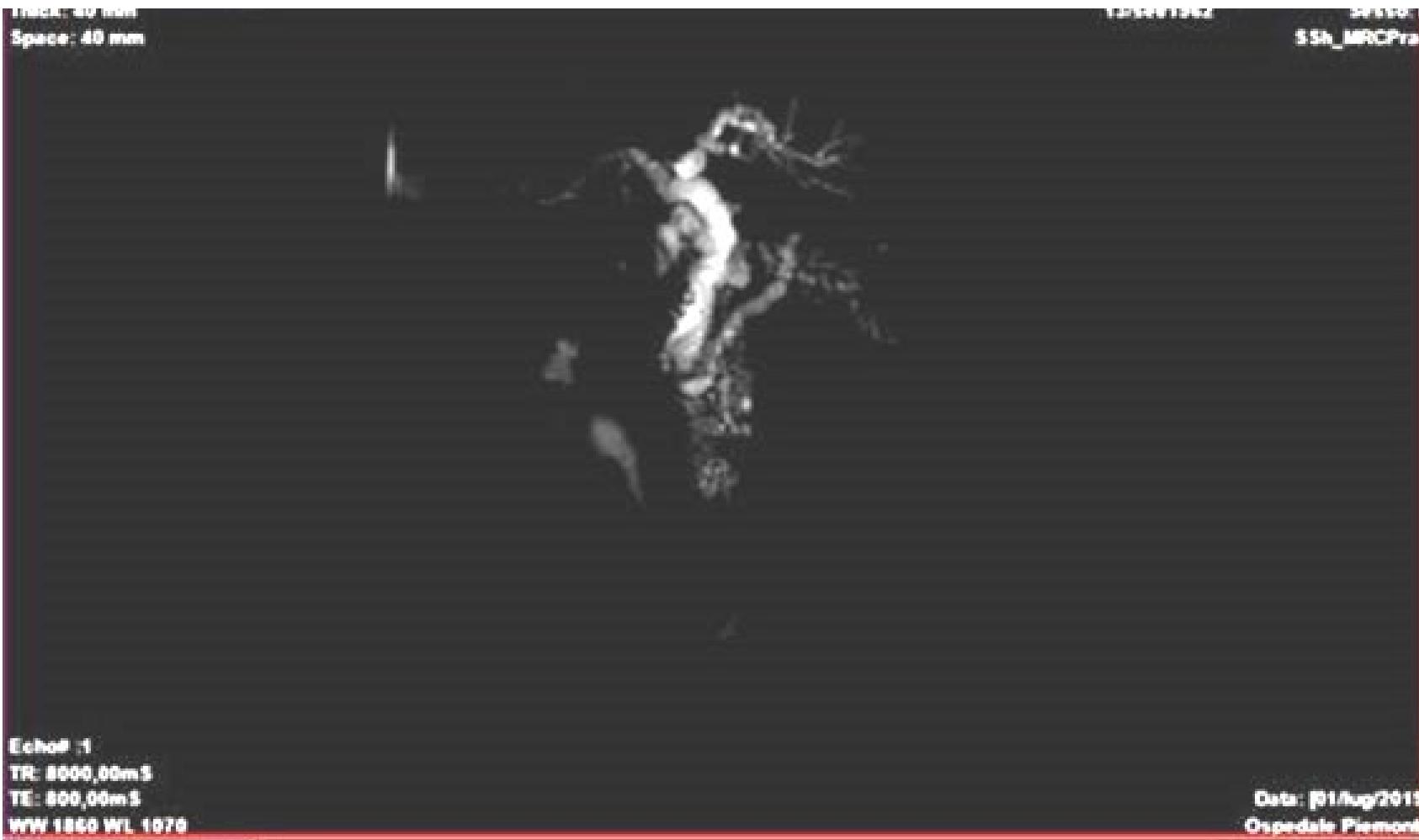
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Colangio RM

Caso clinico

Colangio RM



Caso clinico

- A distanza di 5 giorni dall'accesso in ps, ulteriore incremento degli indici di colestasi , riduzione di amilasi e lipasi.
- Condizioni cliniche generali: buone
- Si decide di eseguire ERCP previa contestuale ECOENDOSCOPIA + FNA

HITACHI

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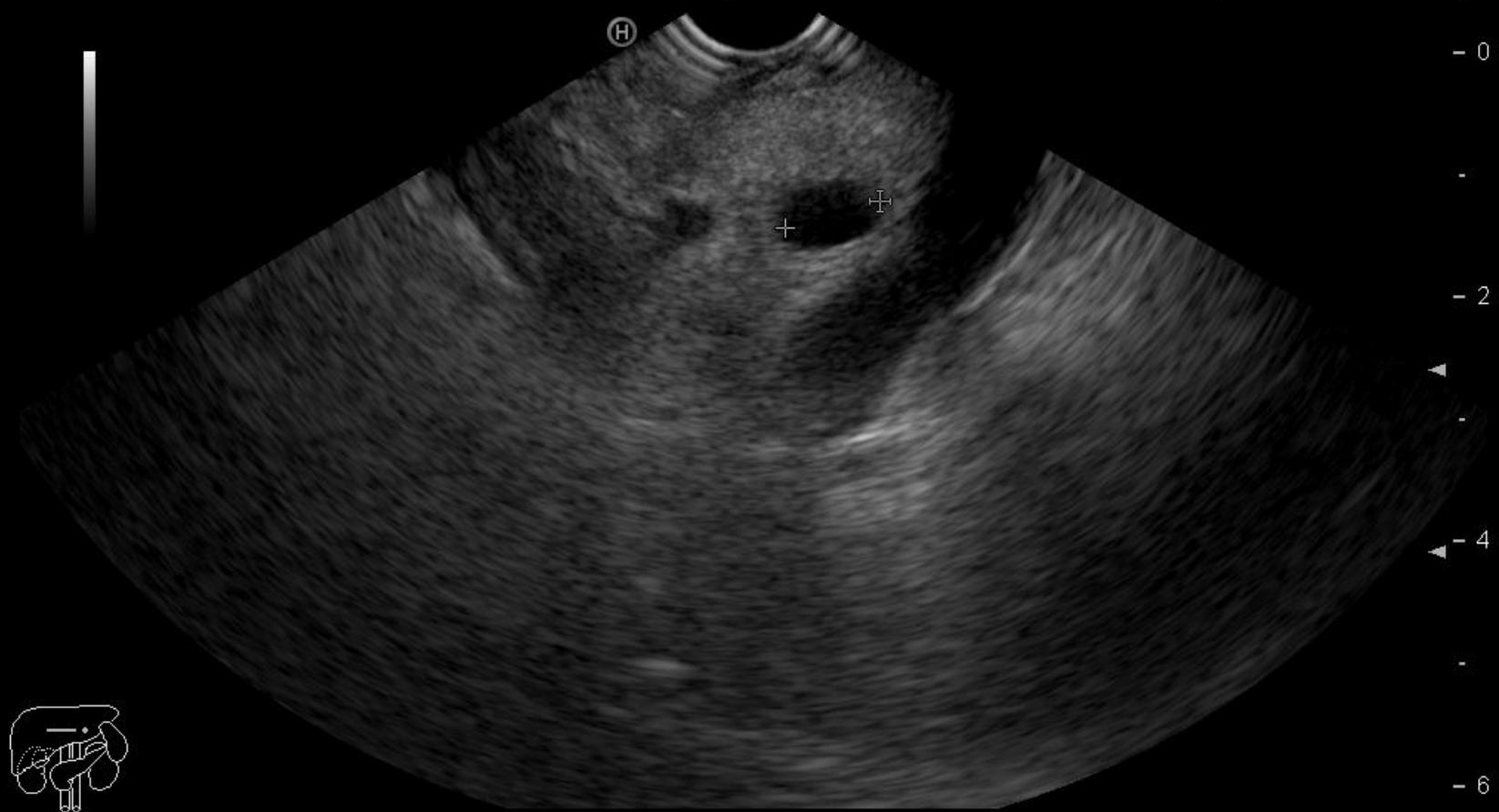
Endoscope

04-JUL-19 09:46:41

P:100% MI 0.4 TIS<0.4



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Calip

+ D1

8.0 mm

FR:32

EG-3270UK

BG:5 DR:65

7.5MHz

HITACHI

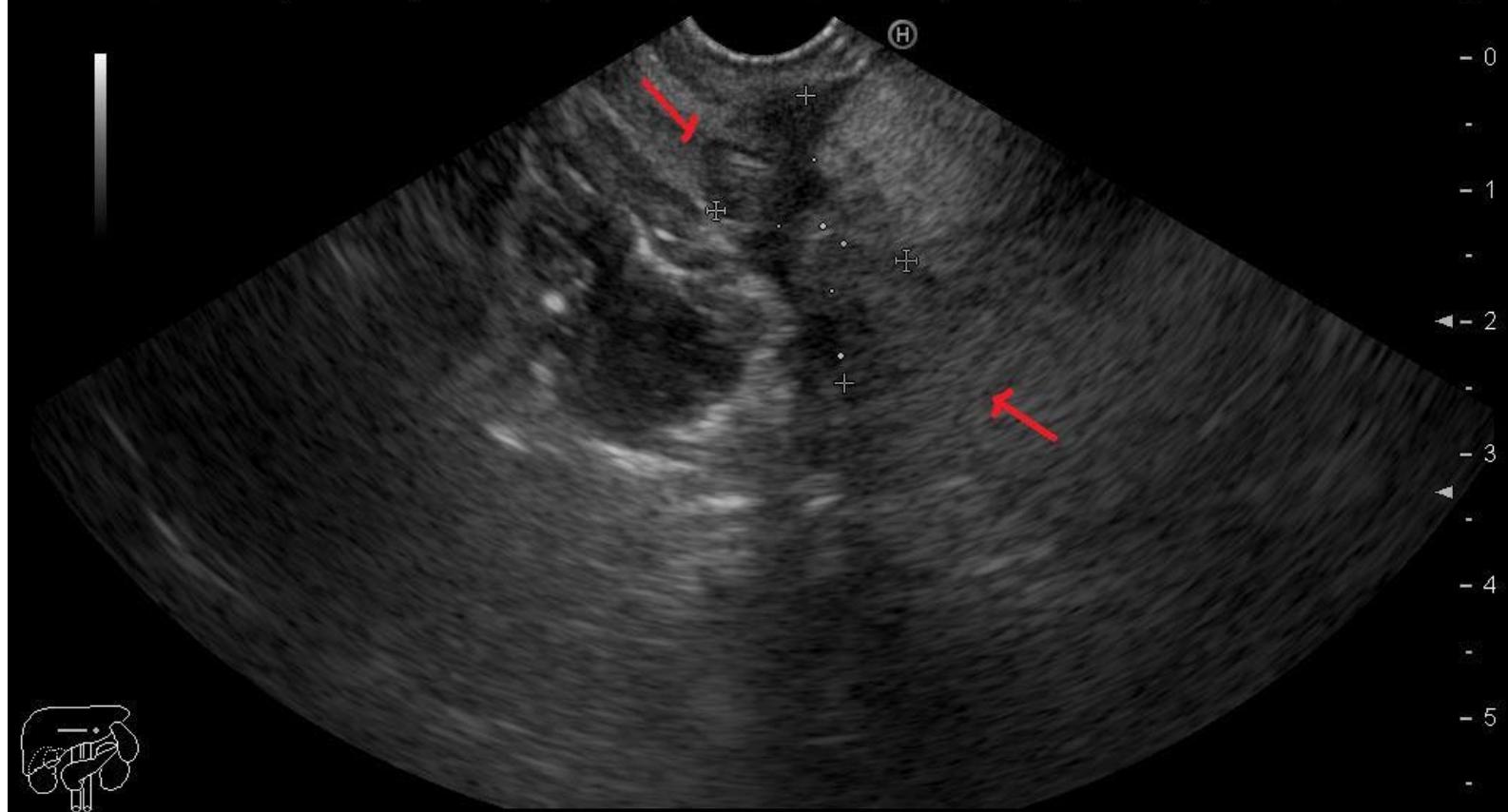
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Endoscope

04-JUL-19
P:100% MI 0.6
TIS<0.4



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Calip

+ D1

22.0 mm

⊕ D2

14.9 mm

FR:32

EG-3270UK

BG:5 DR:65
7.5MHz

HITACHI

20190704001

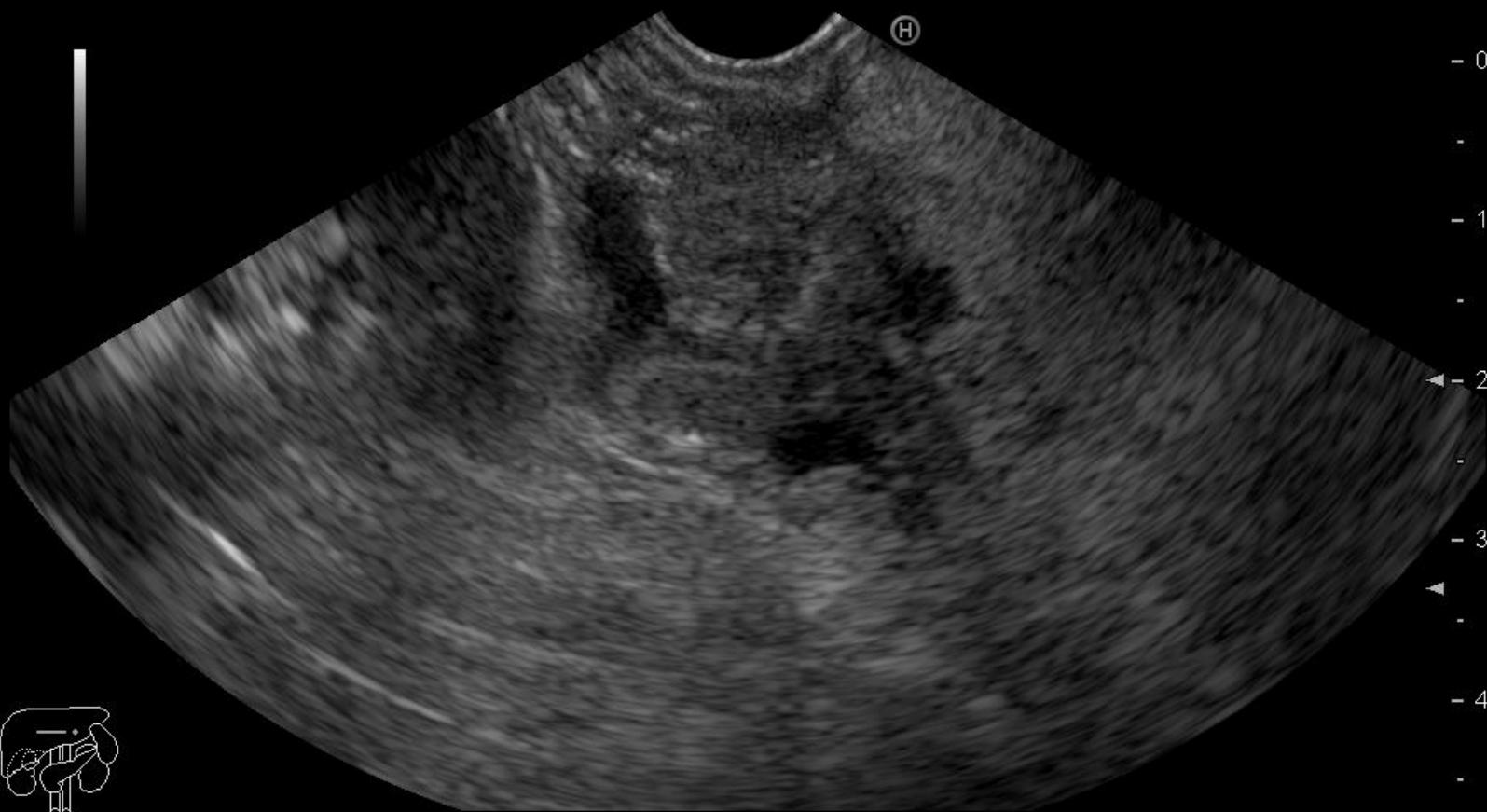
Endoscope

04-JUL-19 10:07:58

P:100%

MI 0.6

TIS<0.4



FR:32
EG-3270UK

BG:5 DR:65
7.5MHz

HITACHI

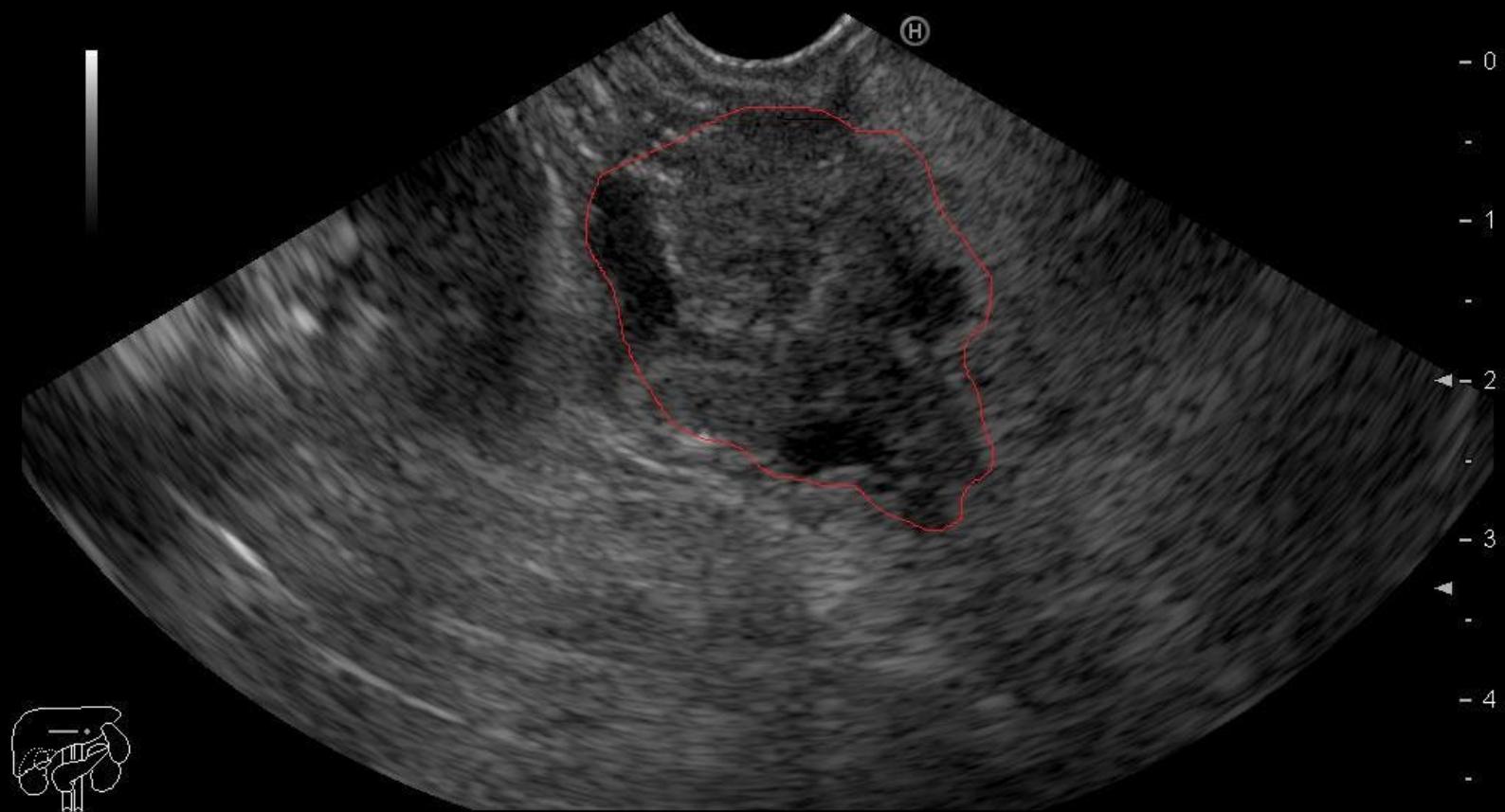
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Endoscope

04-JUL-19 10:07:58
P:100% MI 0.6 TIS<0.4



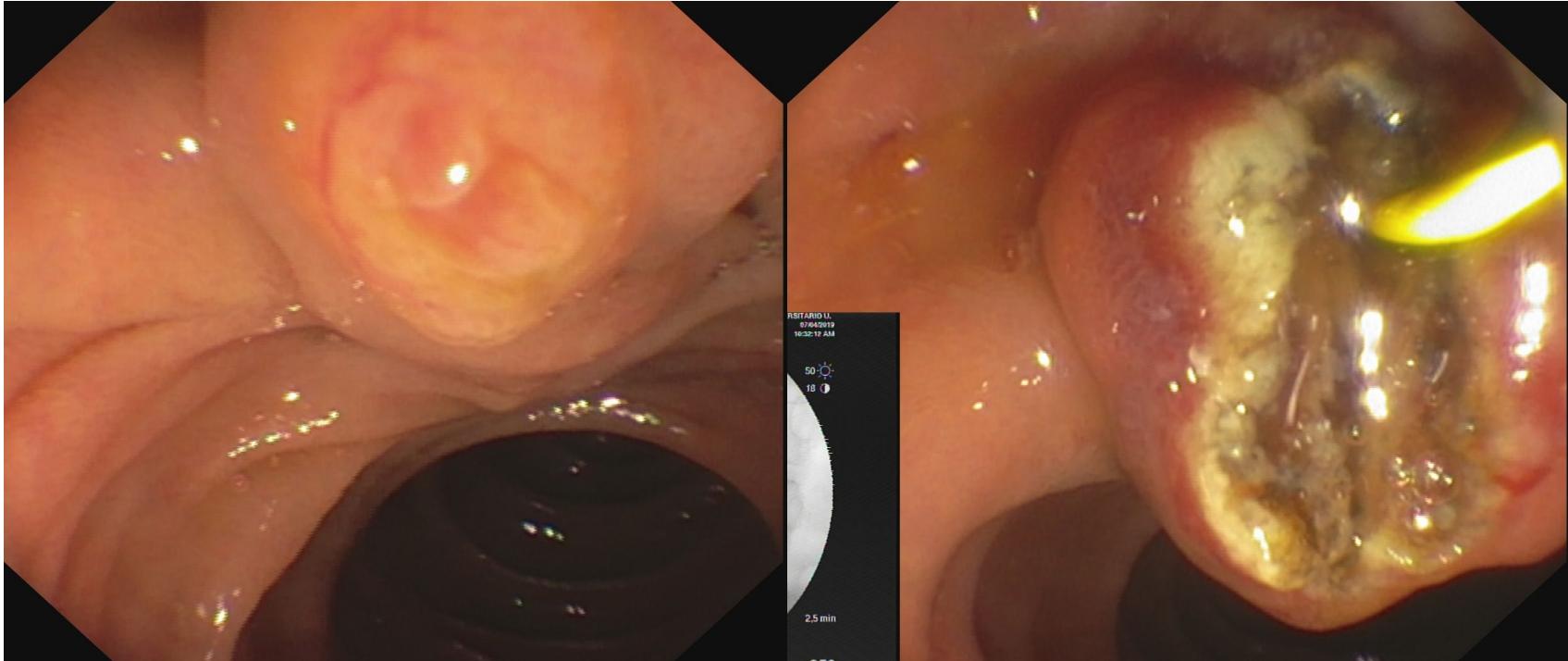
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FR:32
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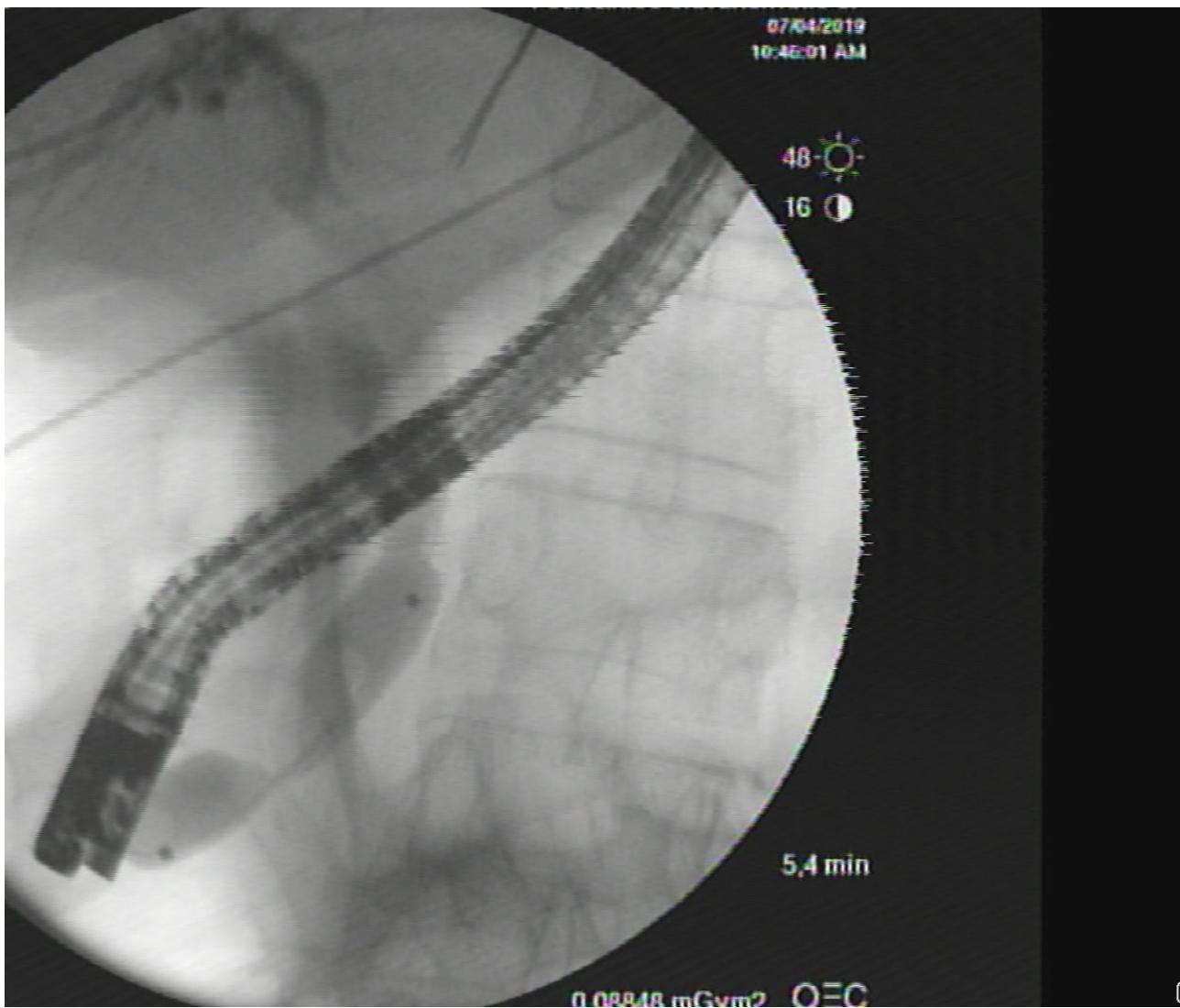
BG:5 DR:65
7.5MHz

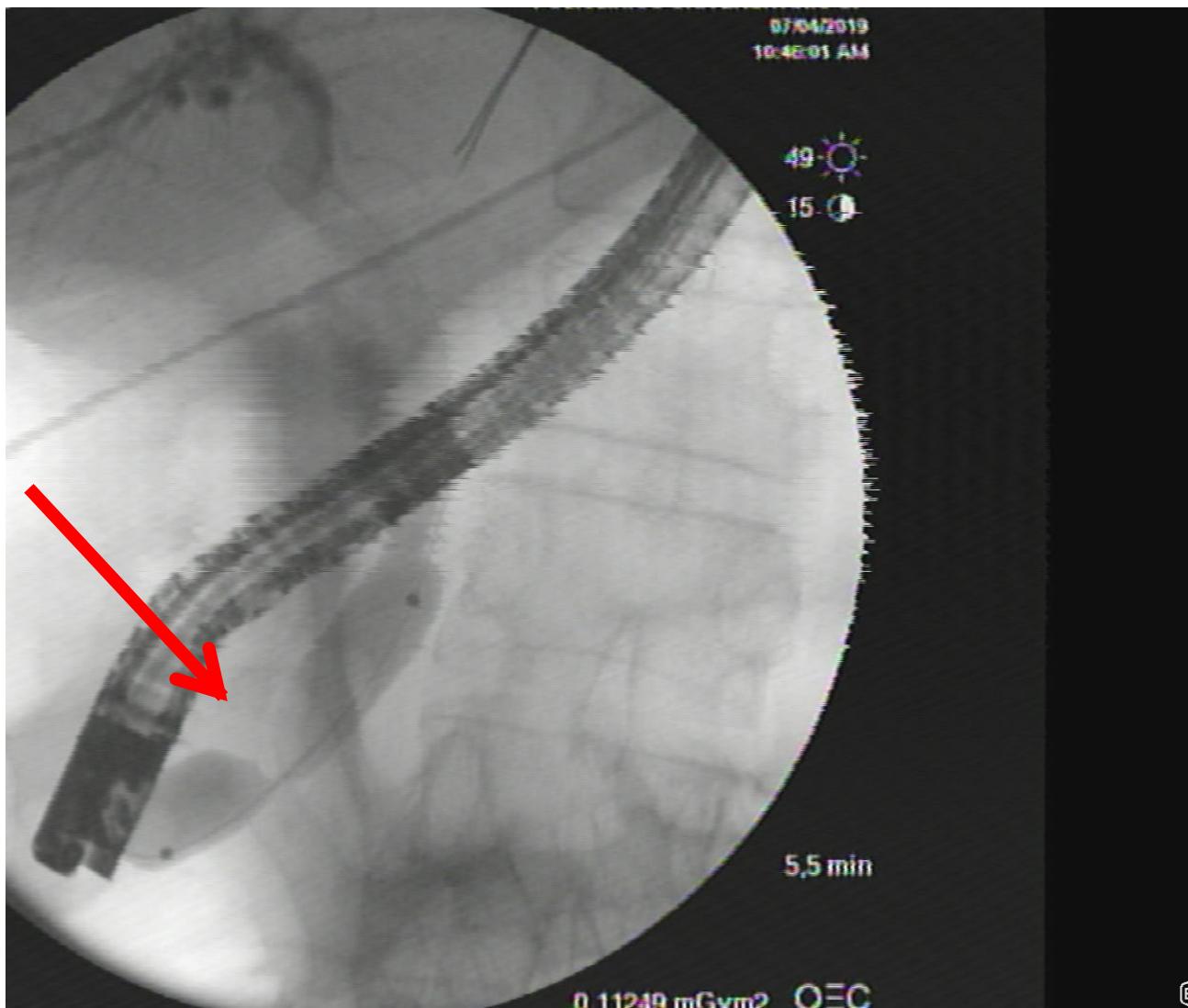




ERCP: alla colangiografia evidenza di stenosi serrata prepapilare, si effettua sfinterotomia. Si decide di posizionare stent metallico totalmente ricoperto la cui introduzione risulta difficoltosa a causa della stenosi serrata.

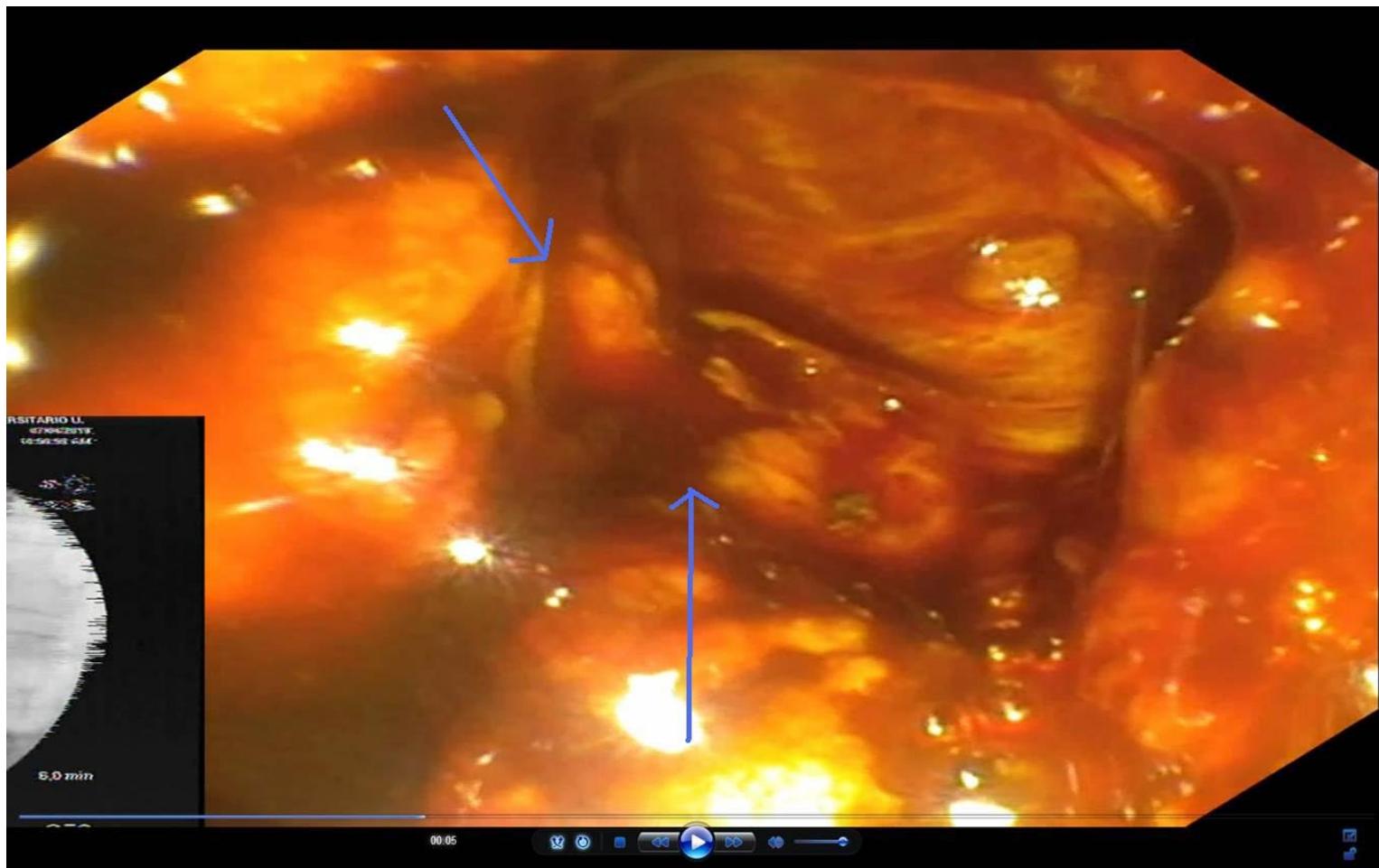
Si esegue dilatazione con catetere da dilatazione 10-12 mm.

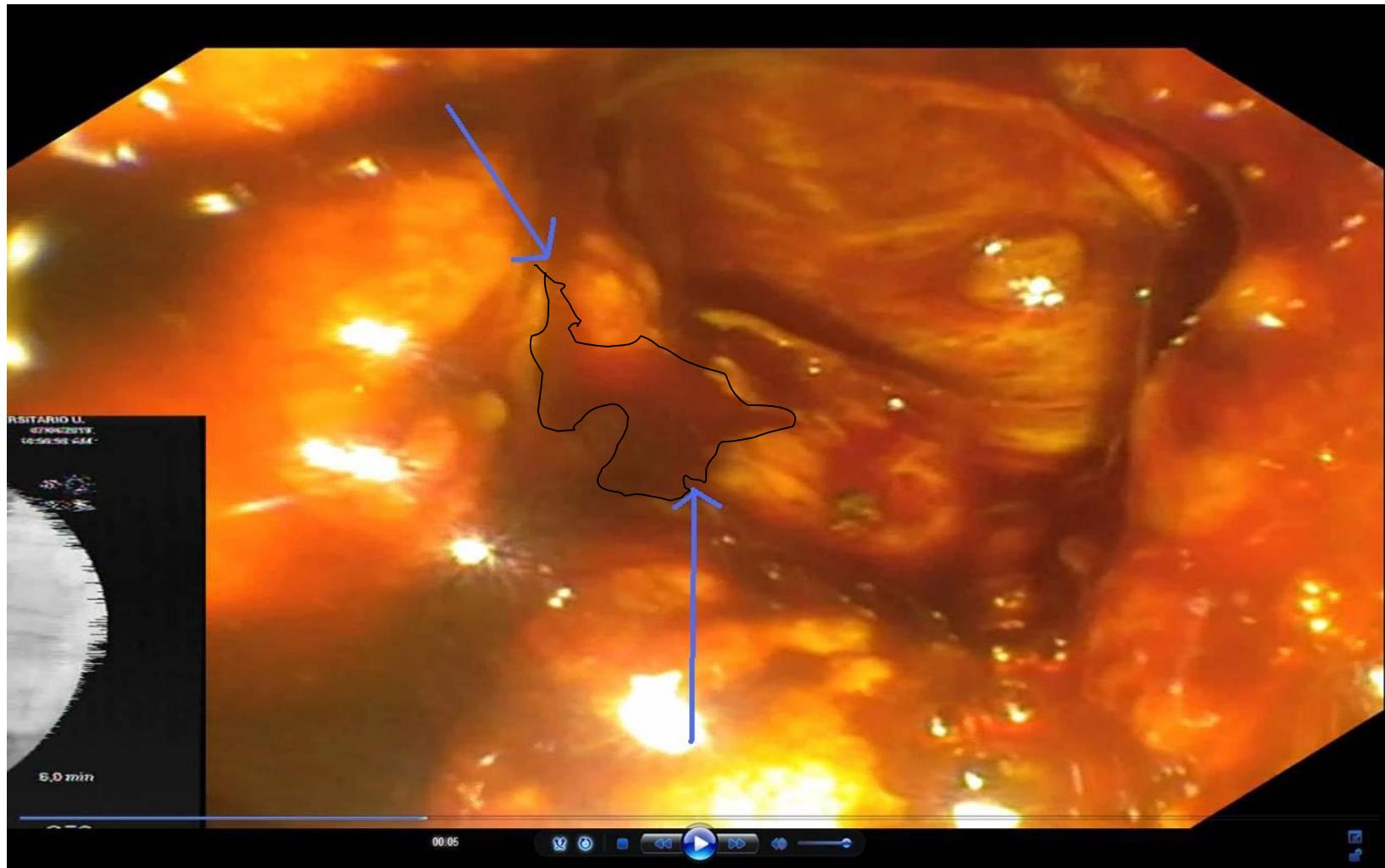






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Management of Duodenal Perforation Post-Endoscopic Retrograde Cholangiopancreatography. When and Whom to Operate and What Factors Determine The Outcome? A Review Article

Norman Oneil Machado

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JOP. J Pancreas (Online) 2012 Jan 10; 13(1):18-25.



Table 1. Literature review (2000 to 2011): demographic details.

ID	Series	No. of cases	Frequency ^a (%)	Age (years): mean (range)	Sex (male:female)
#1	Krishna <i>et al.</i> , 2011 [6]	14	NR	46 (11-68)	8:6
#2	Morgan <i>et al.</i> , 2009 [10]	24	0.2	62 (NR)	9:15
#3	Avgerinos <i>et al.</i> , 2009 [8]	15	0.34	69 (34-87)	6:9
#4	Mao <i>et al.</i> , 2008 [9]	9	0.37	58 (36-71)	3:6
#5	Knudson <i>et al.</i> , 2008 [14]	32	0.6	56 (52-60)	7:25
#6	Fatima <i>et al.</i> , 2007 [13]	75	0.8	56 (14-91)	23:52
#7	Assalia <i>et al.</i> , 2007 [13]	22	NR	63.8 (57-71)	10:12
#8	Wu <i>et al.</i> , 2006 [11]	28	0.45	67 (43-86)	15:13
#9	Preetha <i>et al.</i> , 2003 [15]	18	0.45	72.5 (48-82)	7:11
#10	Stapfer <i>et al.</i> , 2000 [4]	14	1	48.5 (NR)	4:10
Total	-	251	0.2-1	58.5 (11-91)	93:158 37.1:62.9%

^a Frequency of duodenal perforation per number of ERCP performed

Complications of ERCP

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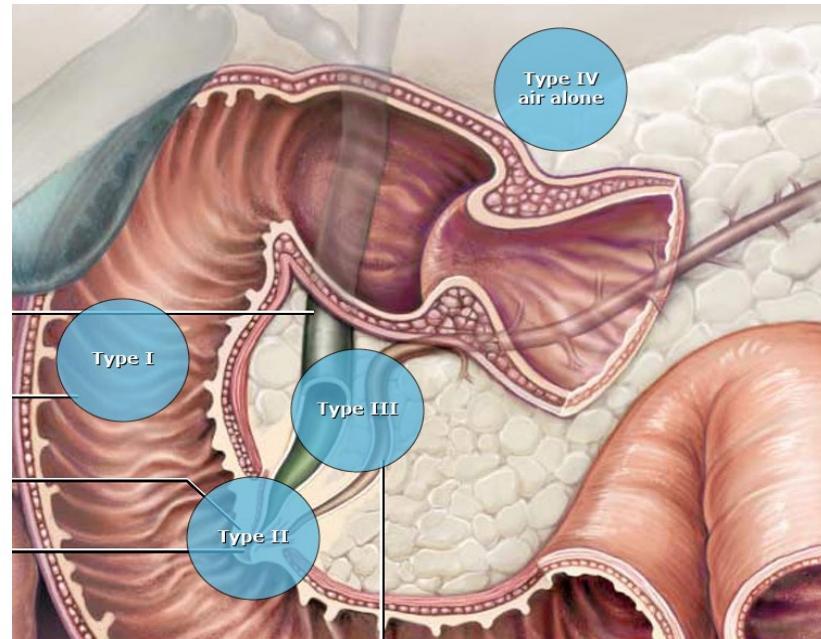
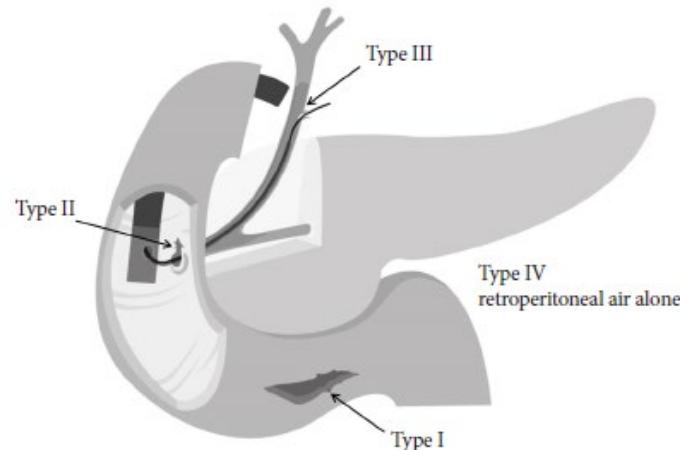
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Best Practice & Research Clinical Gastroenterology 30 (2016) 793–805

Classification of ERCP related perforation according to different authors.

	Stapfer et al.	Howard et al.	Kim et al.
Type I	Lateral or medial wall perforation	Duodenal perforation remote from the papilla	Scope related perforation (associated with heavy contamination)
Type II	Perivaterian injury	Periampullary retroperitoneal perforation	Perforation related to needle-knife used during the sphincterotomy, ERCP cannula or the sphincterotome (associated with moderate contamination)
Type III	Distal bile duct injury related to wire/basket instrumentation	Guidewire related perforation	Guidewire related perforation (associated with minimal contamination)
Type IV	Retroperitoneal air alone	-	-



ERCP-related perforation: an analysis of operative outcomes in a large series over 12 years



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Surgical Endoscopy

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Table 1 Characteristics and outcomes of the 50 patients treated surgically for ERCP-related perforation between 2004 and 2016

Patient characteristics	Entire cohort (n=50)	Early surgery (< 24 h) (n=30)	Delayed surgery (≥ 24 h) (n=20)	p value
Age (years), mean (± SD)	47.7 (± 14.58)	49.76 (± 15.30)	44.6 (± 13.19)	0.224
Sex				0.265
Male	11 (22)	5	6	
Female	39 (78)	25	14	
ACCI, median (range)	1 (0–4)	1 (0–4)	1 (0–3)	0.123
Indication of ERCP				0.764
(A) Benign	41 (82)	25	16	
1. CBD stones with/without cholangitis	34 (68)	19	15	
2. Choledochal cyst	1 (2)	1	0	
3. Benign biliary stricture	3 (6)	3	0	
4. Chronic calcific pancreatitis	3 (6)	2	1	
(B) Malignant	9 (18)	5	4	
1. Gall bladder cancer	3 (6)	2	1	
2. Hilar cholangiocarcinoma	3 (6)	1	2	
3. Carcinoma head of pancreas	2 (4)	1	1	
4. Periampullary carcinoma	1 (2)	1	0	
Biliary stenting during ERCP	25 (50)	12	13	0.083
Perforation detected during ERCP	32 (64)	19	13	0.904
X-ray abdomen				<0.001
Free intra-peritoneal air	25 (50)	23	2	
Retroperitoneal air	25 (50)	7	18	
Hemoglobin (g/dL), median (range)	10.4 (7.8–15)	10.85 (7.8–15)	10.1 (8.4–13)	0.129
Serum bilirubin (mg/dL), median (range)	1.1 (0.1–24.4)	1.25 (0.1–24.4)	1 (0.5–20.3)	0.876
Serum albumin (g/dL), median (range)	2.85 (1.1–4.2)	3 (1.1–4.2)	2.55 (1.4–3.9)	0.076
TLC ($\times 10^9/\text{L}$), median (range)	13.75 (6.4–23.1)	11.9 (6.4–22.3)	16.1 (8.7–23.1)	0.001
Type of perforation				0.891
Type I	19 (38)	12	7	
Type II	18 (36)	12	6	
Type III	2 (4)	1	1	
Unknown perforation	11 (22)	5	6	0.265
Perforation size (cm), median (range)	1 (0.2–2.5)	1 (0.2–2.5)	1.25 (0.5–2)	0.666
Large perforation (> 1 cm)	17 (34)	10	7	0.546
Outcome				
CCCI, mean (± SD)	12.22 (± 13.76)	7.64 (± 10.50)	23.22 (± 14.90)	0.004
Post-operative duodenal leak	22 (44)	7	15	<0.001
LOS (days), median (range)	8.5 (4–74)	7.5 (4–22)	16 (7–74)	0.026
Mortality	16 (32)	6	10	0.026

Values in parentheses are percentages unless indicated otherwise

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Table 2. Literature review (2000 to 2011): clinical details.

ID	Predisposing procedure	Site of perforation	Early presentation (<24 h)
#1	Endoscope related: 11 (78.6%) Guidewire related: 2 (14.3%) Sphincterotomy: 1 (7.1%)	Duodenum: 12 (85.7%) Common bile duct: 2 (14.3%)	10 (71.4%)
#2	Manometry and sphincterotomy: 9 (37.5%) Dilatation and stenting: 3 (12.5%) Guidewire related: 2 (8.3%) Endoscopic mucosal resection: 1 (4.2%) Not reported: 9 (37.5%)	Duodenum and common bile duct: 12 (50.0%) Periampullary: 12 (50.0%)	20 (83.3%) 16 immediately (within hrs)
#3	Guidewire related: 10 (66.7%) Diagnostic: 5 (33.3%)	Duodenum: 9 (60.0%) Periampullary: 3 (20.0%) Retroperitoneal air only: 1 (6.7%) Unknown: 2 (13.3%)	11 (73.3%) 10 immediately (within hrs)
#4	Precut related: 6 (66.7%) Sphincterotomy: 1 (11.1%) Precut and sphincterotomy: 1 (11.1%) Basket related: 1 (11.1%)	Periampullary: 7 (77.8%) Common bile duct: 2 (22.2%)	9 (100%) 8 immediately (within hrs)
#5	Sphincterotomy: 22 (68.8%) Stent placement: 10 (31.3%)	Periampullary: 13 (39.4%) Duodenum: 10 (30.3%) Miscellaneous: 5 (15.2%) Unknown: 5 (15.2%) ^b	27 (84.4%)
#6	Guidewire related: 24 (32.0%) Sphincterotomy: 11 (14.7%) Endoscope related: 8 (10.7%) Common bile duct cannulation: 8 (10.7%) Stent placement: 7 (9.3%) Stricture dilatation: 5 (6.7%) Difficult stone extraction: 1 (1.3%) Unknown: 11 (14.7%)	Duodenum: 34 Common bile duct: 34 Pancreatic duct: 1 Unknown: 6	66 (88.0%) 53 immediately (within hrs)
#7	Sphincterotomy: 17 (77.3%) Guidewire related: 2 (9.1%) Endoscope related: 2 (9.1%) Unknown: 1 (4.5%)	Duodenum: 2 (9.1%) Periampullary: 20 (90.9%)	20 (90.9%)
#8	Guidewire related: 7 (25.0%) Endoscope related: 3 (10.7%) Miscellaneous: 2 (7.1%) Unknown: 7 (25.0%) Not reported: 9 (32.1%)	Duodenum: 3 (10.7%) Periampullary: 11 (39.3%) Common bile duct: 7 (25.0%) Unknown: 7 (25.0%)	14 (50.0%)
#9	Sphincterotomy: 7 (38.9%) Endoscope related: 6 (33.3%) Guidewire related: 4 (22.2%) Unknown: 1 (5.6%)	Duodenum: 6 (33.3%) Periampullary: 7 (38.9%) Common bile duct: 4 (22.2%) Retroperitoneal air only: 1 (5.6%)	8 (44.4%)
#10	Sphincterotomy: 6 (42.9%) Endoscope related: 5 (35.7%) Guidewire related: 3 (21.4%)	Duodenum: 5 (35.7%) Periampullary: 6 (42.9%) Common bile duct: 3 (21.4%)	12 (85.7%) 11 immediately (within hrs)
Total	Sphincterotomy: 65 (25.9%) ^a Guidewire related: 54 (21.5%) Endoscope related: 36 (14.3%) Stent placement: 20 (8.0%) Manometry and sphincterotomy: 9 (3.6%) Common bile duct cannulation: 8 (3.2%) Precut: 6 (2.4%) ^a Stricture dilatation: 5 (2.0%) Others: 10 (4.0%) Unknown: 20 (8.0%) Not reported: 18 (7.2%)	Duodenum: 87 (34.5%) ^c Periampullary: 79 (31.3%) Common bile duct: 58 (23.0%) ^c Retroperitoneal air only: 2 (0.8%) Unknown: 20 (7.9%) ^b Miscellaneous: 6 (2.4%) ^b	197 (78.5%) 140 (55.8%) during ERCP

A systematic review of the management and outcome of ERCP related duodenal perforations using a standardized classification system[☆]



Roberto Cirocchi ^a, Michael Denis Kelly ^b, Ewen A. Griffiths ^c,
 Renata Tabola ^d, Massimo Sartelli ^e, Luigi Carlini ^f, Stefania Ghersi ^g,
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Table 1 – List of included studies and Stapfer classification.

Author/ Country/Year	Time of enrolled patients	Type of study	Number of patients having ERCP	Number of patients with ERCP perforation	Stapfer Type I (number)	Stapfer Type II (number)	Stapfer Type III (number)	Stapfer Type IV (number)	Unclassified Perforation
Kumbhani ²⁸ USA 2016	2000–2014	R	3331	76 (2.28%)	7	54	9 ^c	6 ^d	0
Armas Ojeda ²⁹ Spain 2015	2001–2011	R	1923	15 (0.78%)	3	12	0	0	0
Koc ³⁰ Turkey 2014	2007–2013	R	2972	28 (0.94%)	0	17	9	2	0
Rabie ⁶ Saudi Arabia 2013	2008–2011	R	597	10 (1.67%)	3	1	3	3	0
Polydorou ³¹ Greece 2013	1989–2010	R	9880	44 (0.4%)	7	30	5 ^b	2 ^b	0
Miller ³² Israel 2013	1995–2011	R	1638	26 (1.59%)	5	11	5	5	0
Alfieri ³³ Italy 2013	1999–2011	R	NR	30	6	15	1	8	0
Dubecz ⁵ Germany 2012	2000–2009	R	12,232	11 (0.08%)	3	3	1	4	0
Avgerinos ³⁴ USA 2009	1999–2008	R	4358	15 (0.34%)	9	3	0	1	2
Sarli ³⁵ Italy 2007	1988–2004	R	NR	18	0	18	0	0	0
Preetha ³⁶ Republic of Singapore 2003	1994–2003	R	4030	18 (0.45%)	6	7	4	1	0
Stapfer ¹³ USA 2000	1993–1998	R	1413	14 (1%)	5	6	3	0	0
Totals			42,374	305 (0.60%) ^a	54 (17.7%)	177 (58%)	40 ^f (13.1%)	32 ^d (10.5%)	2 (0.7%)

A systematic review of the management and outcome of ERCP related duodenal perforations using a standardized classification system[☆]

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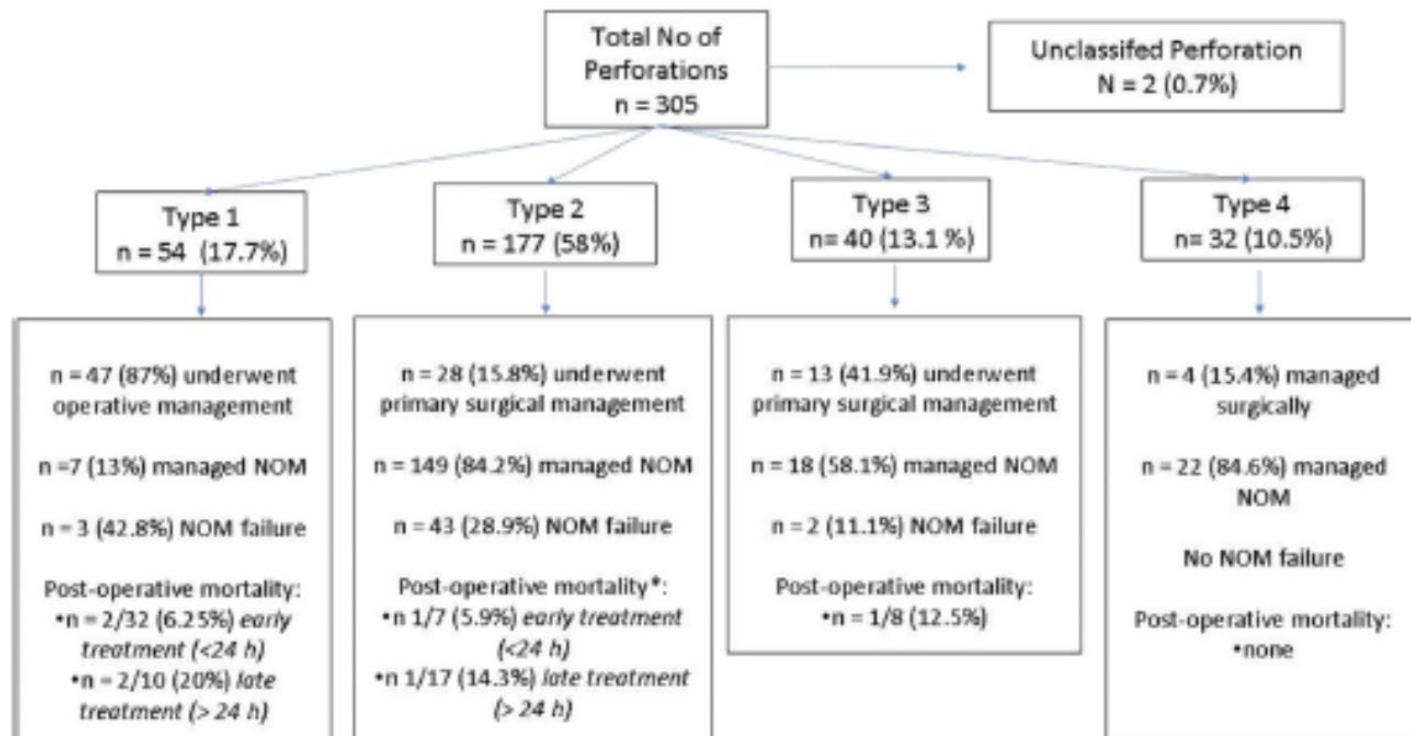
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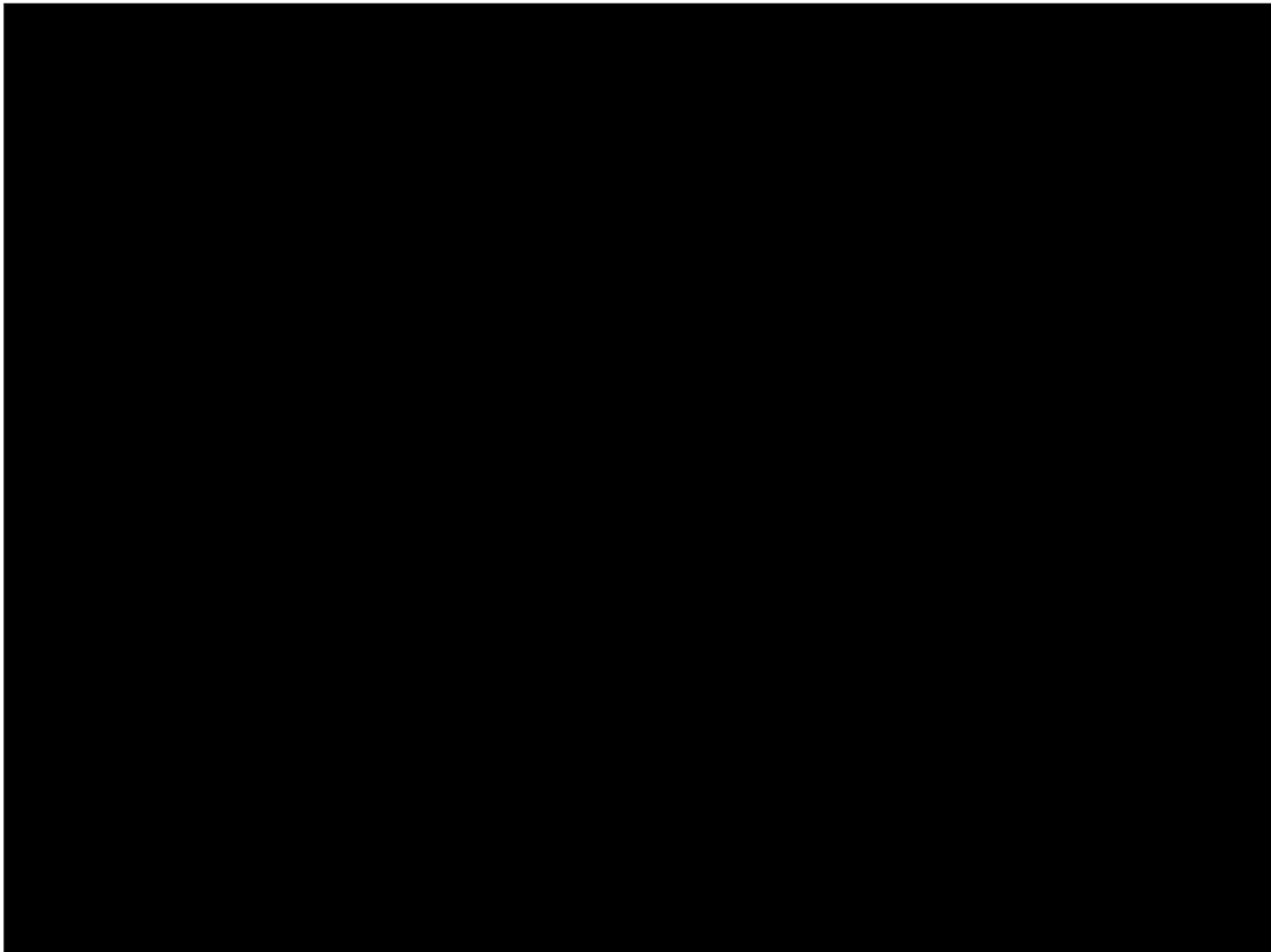
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*In Stapfer type II perforation the correlation between post-operative mortality rate and timing was reported only in 24 patients

Table 4. Literature review (2000 to 2011): management and outcome.

ID	Conservative management	Surgical management	Surgical procedure	Outcome: mortality
#1	7 (50.0%) Percutaneous ultrasound guided drainage: 7 (100%)	7 (50.0%)	Closure of perforation: 2 T tube insertion: 5 Choledocholithotomy: 4 Duodenal exclusion: 2 Tube duodenostomy: 1 Gastrojejunostomy: 3 Retroperitoneal drainage: 3	1 (7.1%)
#2	14 (58.3%)	10 (41.7%)	Closure of perforation / retroperitoneal drainage: 9 Retroperitoneal drainage only: 1 Closure of perforation / retroperitoneal drainage / gastrojejunostomy: 1	1 (4.2%)
#3	2 (13.3%)	13 (86.7%)	Closure of perforation / duodenal exclusion / gastrojejunostomy: 12 Closure of perforation / choledochoduodenostomy: 1 Retroperitoneal drainage: 1	3 (20.0%)
#4	6 (66.7%)	3 (33.3%)	Retroperitoneal drainage: 3 T tube insertion: 2	0
#5	20 (62.5%)	12 (37.5%)	Closure of perforation: 3 Retroperitoneal drainage: 5 T tube insertion: 2 Duodenal exclusion: 1 Tube duodenostomy: 1	0
#6	53 (70.7%) Salvage surgery: 4 (7.5%)	22 (29.3%)	Closure of perforation: 12 Retroperitoneal drainage: 7 Choledochojejunostomy / biliary reconstruction: 3	5 (6.7%)
#7	20 (90.9%) Salvage surgery: 2 (10.0%)	4 (18.2%)	Closure of perforation: 3 T tube insertion: 2 Retroperitoneal drainage: 2 Choledochojejunostomy / biliary reconstruction: 2	1 (4.5%)
#8	18 (64.3%)	10 (35.7%)	Closure of perforation: 2 Retroperitoneal drainage: 6 T tube insertion: 3	4 (14.3%)
#9	8 (44.4%)	10 (55.6%)	Closure of perforation: 5 Duodenal exclusion: 5	3 (16.7%)
#10	8 (57.1%) Salvage surgery: 3 (37.5%)	9 (64.3%)	Duodenal exclusion / gastrojejunostomy / retroperitoneal drainage: 4 Choledocholithotomy / T tube insertion: 3 Duodenogastrectomy: 1	2 (14.3%)
Total	156 (62.2%) Salvage surgery: 9 (5.8%)	100 (39.8%) Included salvage surgery	Closure of perforation: 49 (49.0%) Retroperitoneal drainage: 39 (39.0%) Duodenal exclusion: 24 (24.0%) T tube insertion: 13 (13.0%)	



Management of Duodenal Perforation Post-Endoscopic Retrograde Cholangiopancreatography. When and Whom to Operate and What Factors Determine The Outcome? A Review Article

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JOP. J Pancreas (Online) 2012 Jan 10; 13(1):18-25.

Table 3. Literature review (2000 to 2011): investigations.

ID	Abdomen X-ray	Abdomen US	CT scan	Contrast study	During ERCP ^a
#1	3 (21.4%)	12 (85.7%)	11 (78.6%)	3 (21.4%)	0
#2	1 (4.2%)	NR	6 (25.0%)	0	16 (66.7%)
#3	1 (6.7%)	0	11 (73.3%)	0	4 (26.7%)
#4	8 (88.9%)	0	8 (88.9%)	0	8 (88.9%)
#5	10 (31.3%)	0	11 (34.4%)	0	11 (34.4%)
#6	10 (13.3%)	0	27 (36.0%)	19 (25.3%)	26 (34.7%)
#7	13 (59.1%)	0	19 (86.4%)	8 (36.4%)	2 (9.1%)
#8	6 (21.4%)	0	9 (32.1%)	7 (25.0%)	8 (28.6%)
#9	3 (16.7%)	0	10 (55.6%)	2 (11.1%)	5 (27.8%)
#10	3 (21.4%)	0	0	4 (28.6%)	11 (78.6%)
Total	58 (23.1%)	12 (4.8%)	112 (44.6%)	41 (17.1%)	89 (36.3%)

^a Detection of duodenal perforation at the time of ERCP

NR: not reported

Diagnosis and management of iatrogenic endoscopic perforations: European Society of Gastrointestinal Endoscopy (ESGE) Position Statement



Authors

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Institutions

Institutions are listed at the end of article.

Main recommendations

1 ESGE recommends that each center implements a written policy regarding the management of iatrogenic perforation, including the definition of procedures that carry a high risk of this complication. This policy should be shared with the radiologists and surgeons at each center.

2 In the case of an endoscopically identified perforation, ESGE recommends that the endoscopist reports: its size and location with a picture; endoscopic treatment that might have been possible; whether carbon dioxide or air was used for insufflation; and the standard report information.

3 ESGE recommends that symptoms or signs suggestive of iatrogenic perforation after an endoscopic procedure should be carefully evaluated and documented, possibly with a computed tomography (CT) scan, in order to prevent any diagnostic delay.

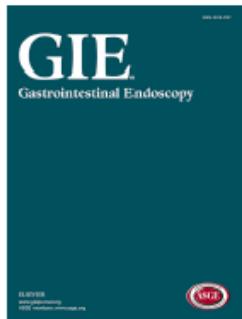
4 ESGE recommends that endoscopic closure should be considered depending on the type of perforation, its size, and the endoscopist expertise available at the center. A switch to carbon dioxide insufflation, the diversion of luminal content, and decompression of tension pneumoperitoneum or tension pneumothorax should also be done.

5 After closure of an iatrogenic perforation using an endoscopic method, ESGE recommends that further management should be based on the estimated success of the endoscopic closure and on the general clinical condition of the patient. In the case of no or failed endoscopic closure of the iatrogenic perforation, and in patients whose clinical condition is deteriorating, hospitalization and surgical consultation are recommended.

Diagnosis and management of iatrogenic endoscopic perforations: European Society of Gastrointestinal Endoscopy (ESGE) Position Statement



- ESGE recommends that symptoms or signs suggestive of iatrogenic perforation after an endoscopic procedure should be carefully evaluated and documented, possibly with a computed tomography (CT) scan, in order to prevent any diagnostic delay.
- ESGE recommends that endoscopic closure should be considered depending on the type of perforation, its size, and the endoscopist expertise available at the center. A switch to carbon dioxide insufflation, the diversion of luminal content, and decompression of tension pneumoperitoneum or tension pneumothorax should also be done.
- After closure of an iatrogenic perforation using an endoscopic method, ESGE recommends that further management should be based on the estimated success of the endoscopic closure and on the general clinical condition of the patient. In the case of no or failed endoscopic closure of the iatrogenic perforation, and in patients whose clinical condition is deteriorating, hospitalization and surgical consultation are recommended.
- In type I (i. e. nonperivaterian) duodenal perforations, ESGE recommends endoscopic treatment if the iatrogenic perforation is recognized immediately and, in the case of failure of endoscopic treatment, immediate surgery. If the duodenal perforation is diagnosed later (> 12 h), management should be surgical in the case of contrast medium extravasation or of persistent large fluid collection at CT scan, or if the patient's condition deteriorates. If the patient is in good condition without extravasation of contrast medium or persistent large fluid collection seen at CT, the patient should be treated conservatively without intervention. For iatrogenic perforations in the small bowel, the ESGE recommends surgical treatment although some iatrogenic perforations caused by dilation of a stricture at a gastrojejunostomy (GJA) may be treated conservatively.
- The most common causes of perforations related to endoscopic retrograde cholangiopancreatography (ERCP) are sphincterotomy (56 %) and guidewire manipulation (23 %). ESGE suggests that precut, Billroth II gastrectomy, and biliary stricture dilation should be considered to entail increased risk for biliopancreatic perforation.
- The majority of ERCP-related ductal or periampullary duodenal perforations can be managed nonsurgically. The indications for surgery are a major contrast medium leak, severe sepsis despite nonsurgical management, severe peritonitis, and fluid collections or unsolved problems (e. g., retained hardware) that cannot be solved by nonsurgical means. After careful patient selection, nonsurgical management is successful in more than 90 % of patients.
- For the nonsurgical management of ERCP-related ductal or periampullary duodenal perforation, ESGE recommends antibiotics and nasogastric or nasoduodenal aspiration in all patients; stenting of the perforated duct (or of the biliary duct in the case of periampullary perforation) on a case-by-case basis; and total parenteral nutrition in undernourished patients as well as in patients in whom adequate enteral feeding is presumed not to be feasible for ≥ 7 days. Cross-sectional imaging should be performed during follow-up and, if a liquid collection is disclosed, percutaneous drainage should be considered. The efficacy of TTS clips in closing periampullary perforations is unknown.

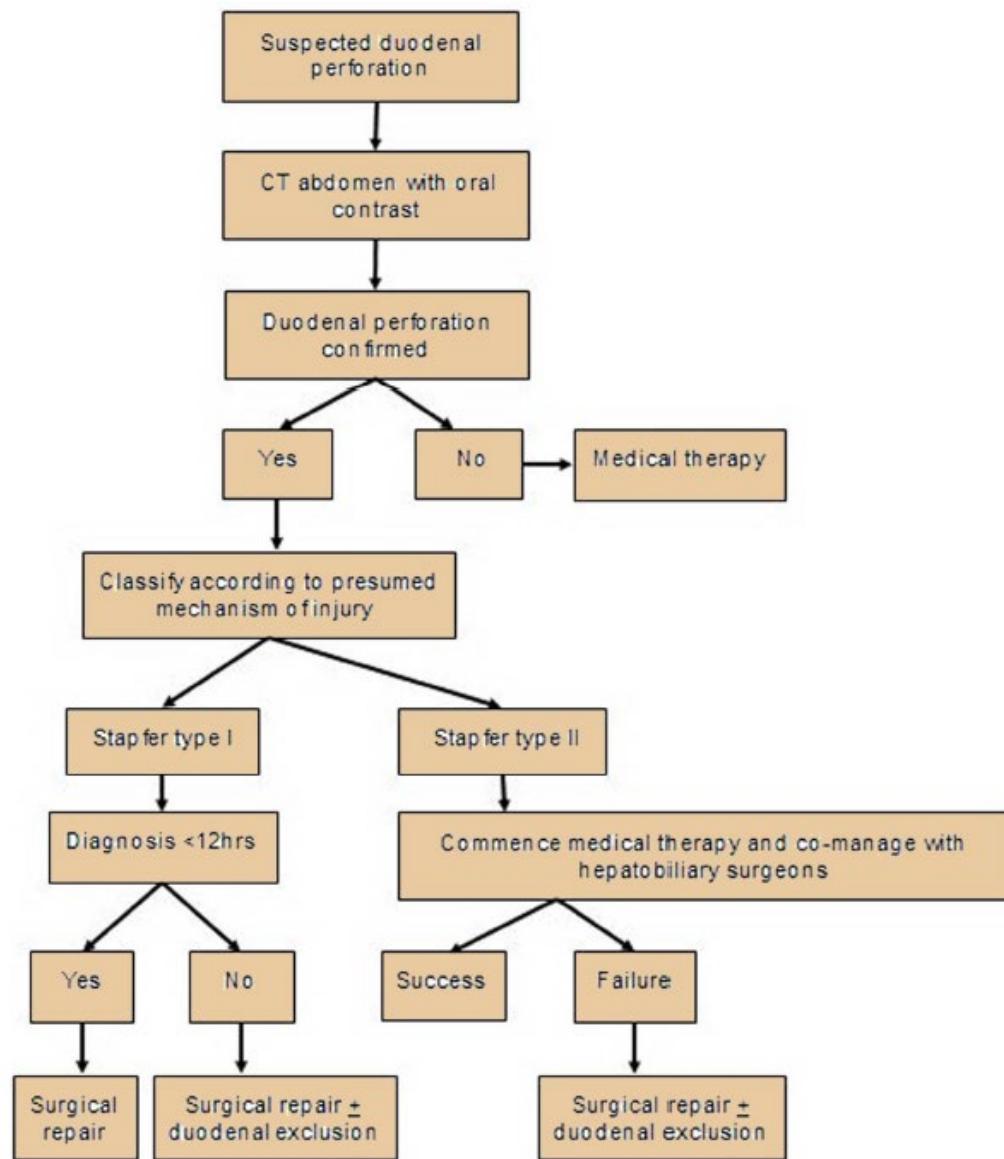


An Algorithm for the management of ERCP-related perforations



Gastrointest Endosc. 2016 May;83(5):1111-1118
Kumbhari V1, Sinha A1, Reddy A1,

, Kalloo AN1, S



Can a Fully Covered Self-Expandable Metallic Stent be Used Temporarily for the Management of Duodenal Retroperitoneal Perforation During ERCP as a Part of Conservative Therapy?



Bulent Odemis, MD, Erkin Oztas, MD, Ufuk B. Kuzu, MD, Erkan Parlak, MD,
Selcuk Disibeyaz, MD, Serkan Torun, MD, and Ertugrul Kayacetin, MD

Surg Laparosc Endosc Percutan Tech • Volume 26, Number 1, February 2016

TABLE 3. Comparison of the Standard Therapy and the FCSEMS Groups According to Different Parameters

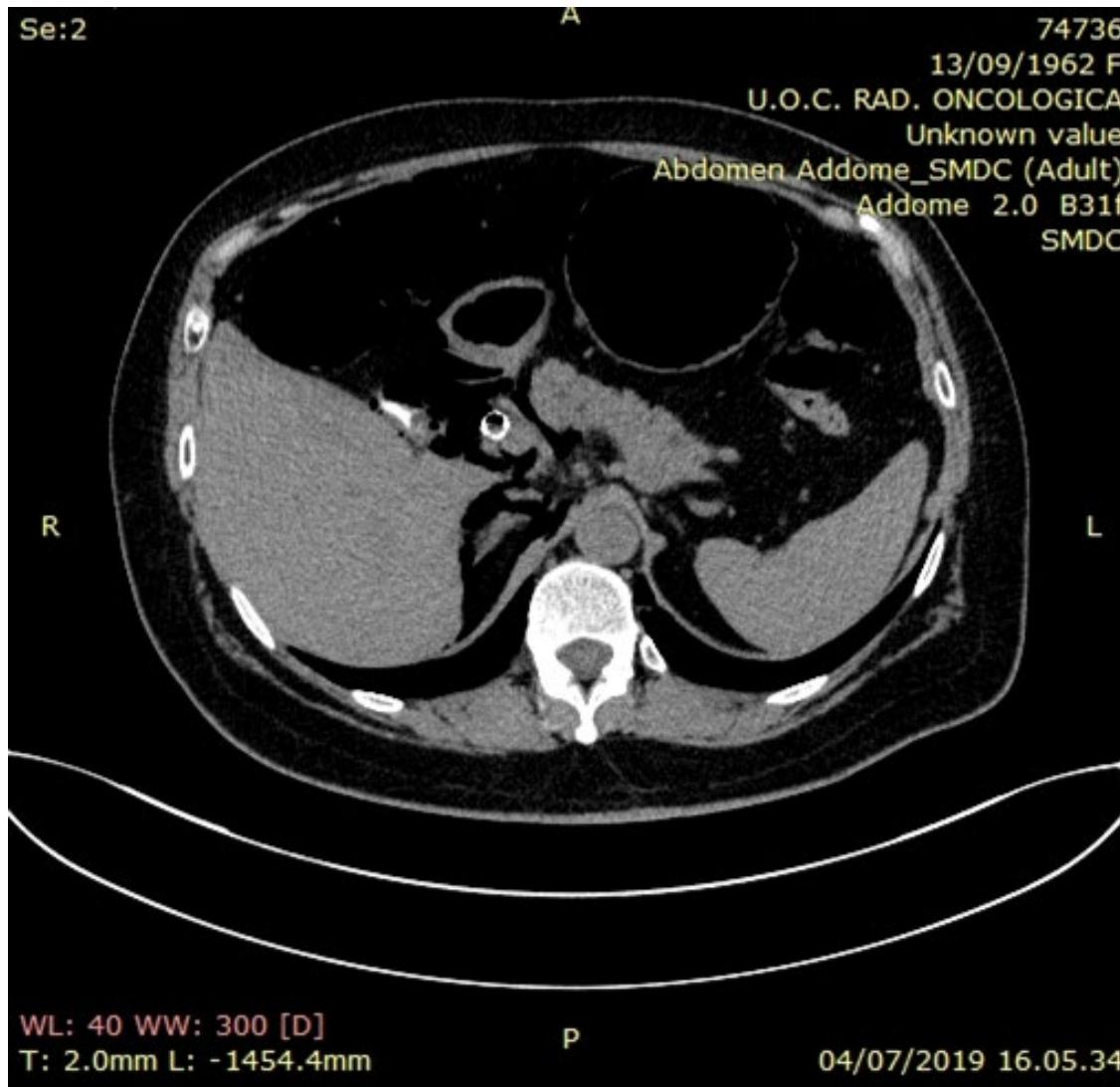
Variable	n (%)		
	Standard Therapy Group (n = 10)	FCSEMS Therapy Group (n = 10)	P
Age (y)	48.9 ± 24.03	54.5 ± 18.62	0.56
Sex (female)	8 (80)	5 (50)	0.16
ERCP indication (stone)	7 (70)	8 (80)	0.49
Papilla anatomy (normal)	5 (50)	8 (80)	0.39
Sphincterotomy			
Standard	4 (40)	8 (80)	0.13
Precut- needle knife	5 (50)	2 (20)	
Bleeding	1 (10)	2 (20)	0.53
Pancreatitis	2 (20)	1 (10)	0.53
Pain	5 (62.5)	—	0.005
Fever (> 38°C)	3 (37.5)	2 (22.2)	0.49
Length of stay (d)	15.77 ± 5.21	11.7 ± 3.19	0.053

P < 0.05 (bold) is statistically significant.

ERCP indicates endoscopic retrograde cholangiopancreatography; FCSEMS, fully covered self-expandable metallic stents.

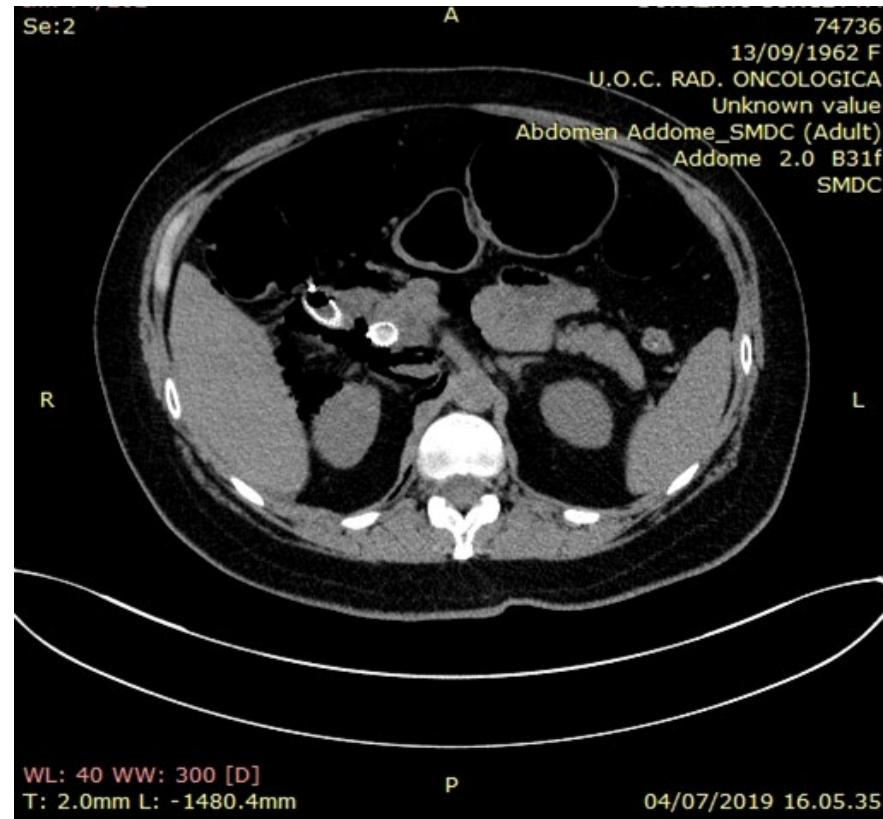
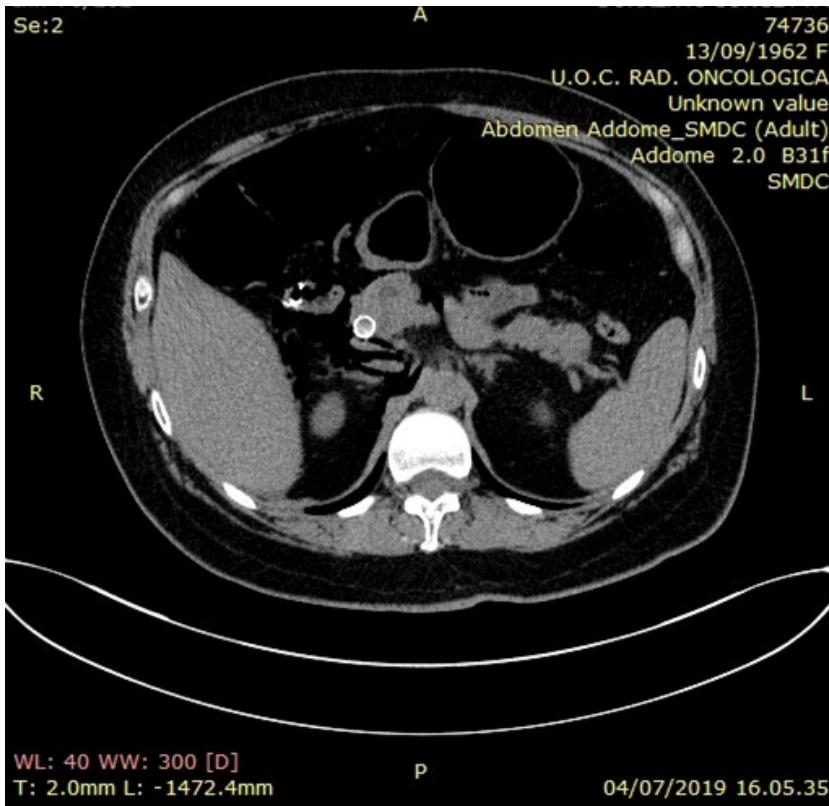
Caso clinico

TC TEMPO 0

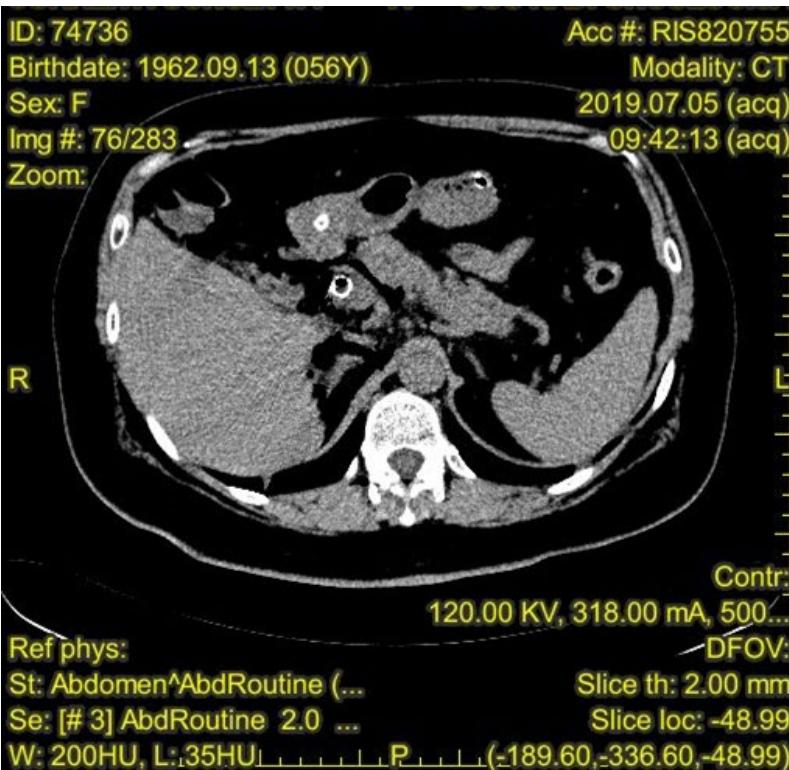


Caso clinico

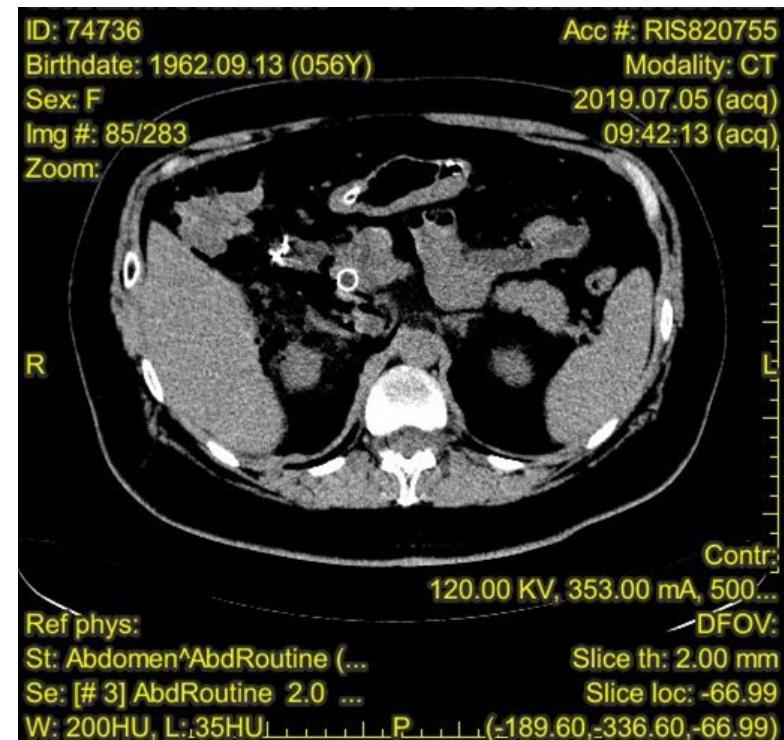
TC TEMPO 0



Caso clinico

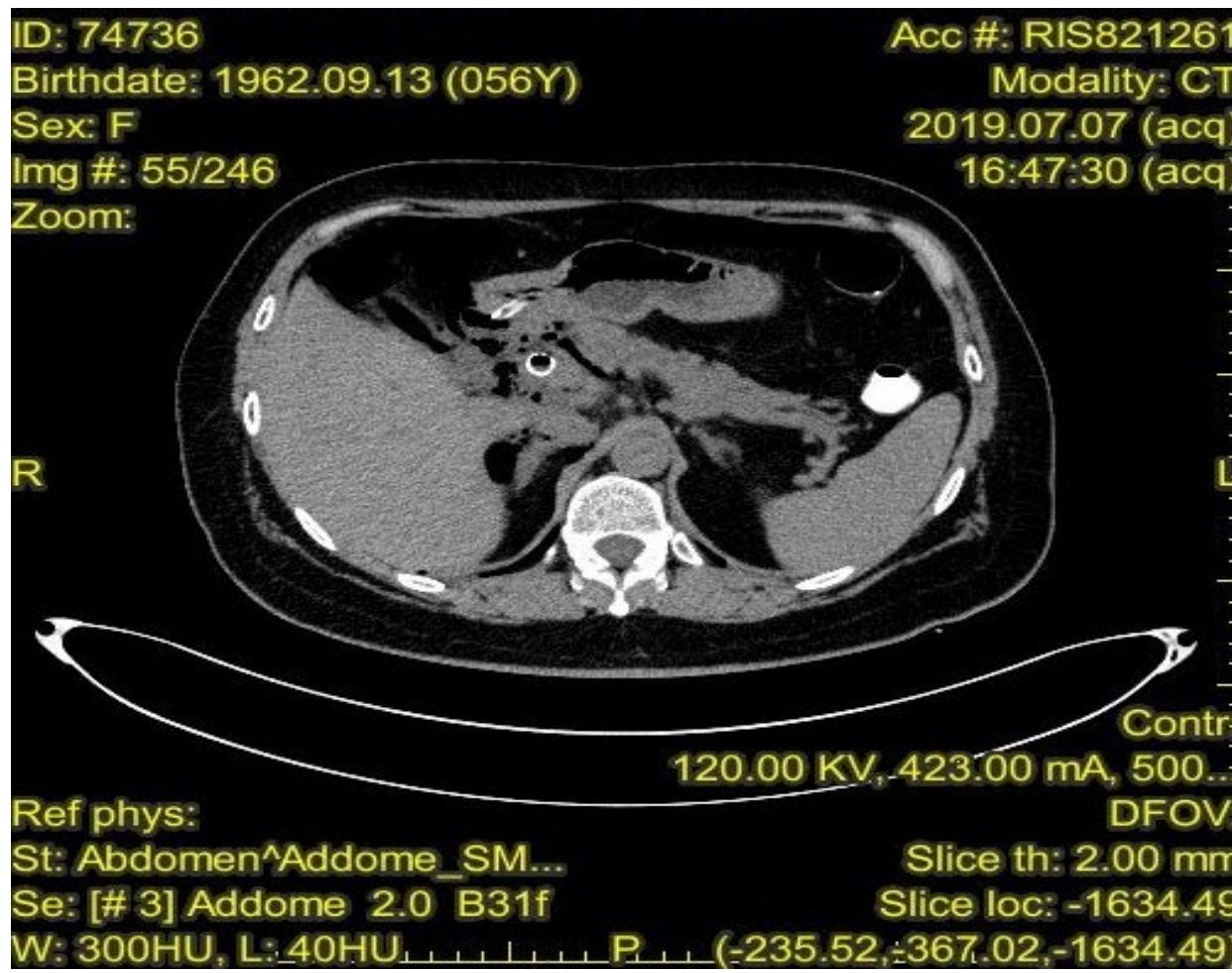


TC TEMPO 1 (A 24 ORE)



Caso clinico

TC TEMPO 2 (A 72 ORE)



Caso clinico

Paziente dimessa in 9° giornata in assenza di sintomatologia dolorosa,
In condizioni di normalizzazione degli indici di colestasi e con riduzione degli indici di

Durante la degenza : standard therapy

Posizionamento di SNG o SND

Trattamento antibiotico (cefalosporine di terza generazione)

PPI

NPT (inizio nutrizione enterale in 5° giornata)

Antidolorifico in caso di necessità (non necessario)

Controllo dei parametri vitali (sempre nella norma)

Controllo "full biochemistry panel" (in riduzione compresi lattati e procalcitonina)

Controllo con TC (0-1-2-3)

Consulta chirurgico



LE COMPLICANZE IN ENDOSCOPIA DIGESTIVA

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taiku mahalo xiè xie tanemirt
terima kasih asante xiè xie tanemirt
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ار لکش nannı xiè xie tanemirt
merci nanni vinaka
paldies ngiyabonga