

Cholangiocarcinome

Drainage – Endoprothèse Trans-hépatiques Quoi de neuf en 2019 ?

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Tanger, 22 novembre 2019

1

**Comment positionner
Le Drainage Biliaire Percutané / Endoscopique ?**

DRAINAGE - ENDOPROTHESE

- Dans les sténoses biliaires malignes non opérables, la chirurgie de décompression palliative, n'a plus de place

Elle est remplacée par le drainage

1 – Endoscopique +++

2 - Trans-hépatique

Si échec ou impossibilité
de la voie endoscopique **(DPC)**

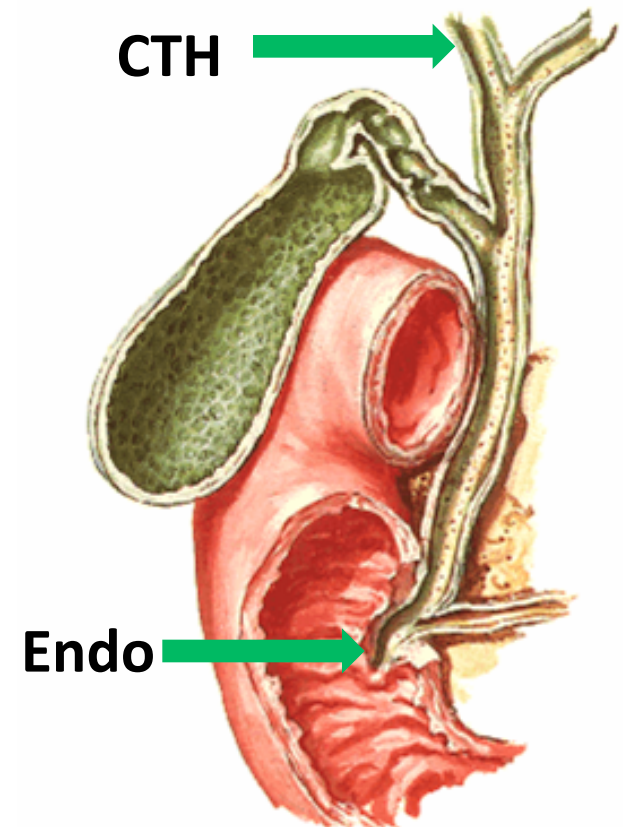
3 – Rendez-vous

Shaib YH. J Clin Gastroenterol 2007

Yao D. J Intern Med Res 2014

Deipolyi AR. Semin Intervent Radiol 2017

Bokemeyer A. UEG Journal 2019





RESEARCH

Open Access

Percutaneous transhepatic and endoscopic biliary drainage for malignant biliary tract obstruction: a meta-analysis

Jian-jun Leng^{1†}, Ning Zhang^{1,2†} and Jia-hong Dong^{1*}

Table 1 Summary of studies included in the meta-analysis^a

First author	Year	Study type	Comparison	Number of cases	Malignancy causing biliary obstruction	Age, yr	Males,%	Type of stent placed	Prophylactic antibiotics	Follow-up period
Saluja	2008	RCT	PTBD vs. EBD	27 vs. 27	Carcinoma of the gallbladder	51 vs. 50	37% vs. 30%	Plastic stent	Cefoperazone + sulbactam	3 months
Piñol	2002	RCT	PTBD vs. EBD	28 vs. 26	Primary carcinoma of the pancreas, gallbladder, or bile ducts, or to regional lymph node metastases	75 vs. 70	43% vs. 42%	Metal stent	Ciprofloxacin	Median: 2.5 months
Speer	1987	RCT	PTBD vs. EBD	36 vs. 39	Primary carcinoma of the pancreas, gallbladder, or bile ducts	73 vs. 72.5	NA	Plastic stent	NA	NA

^aEBD, Endoscopic biliary drainage; NA, not available; PTBD, Percutaneous transhepatic biliary drainage; RCT, Randomized controlled trial.

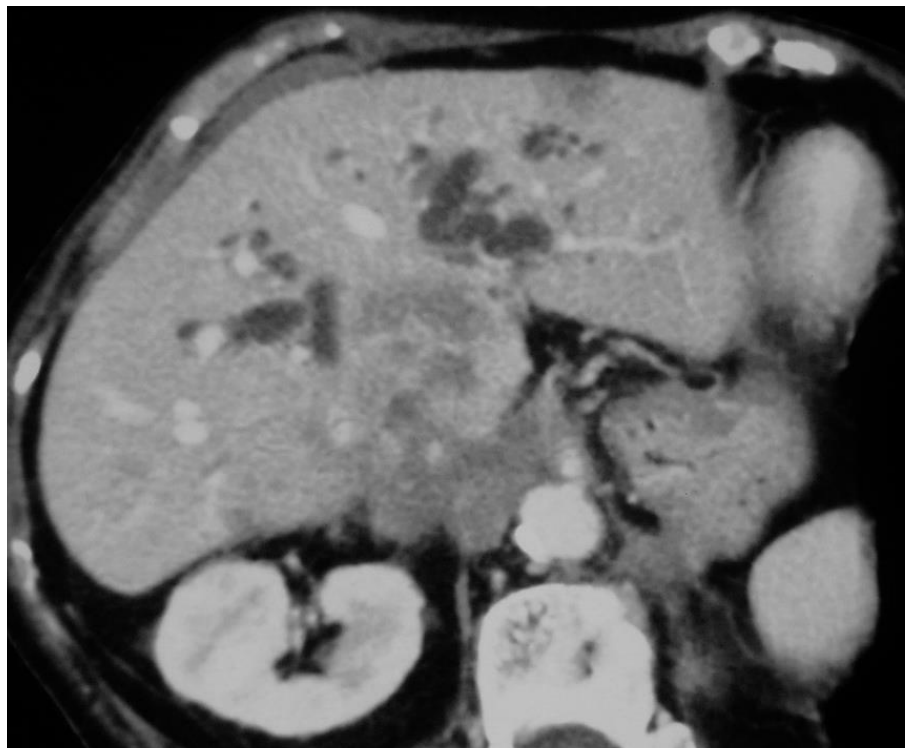
- Peut être drainage percutané meilleure efficacité
 - Complications identiques
- Mais études anciennes**

2

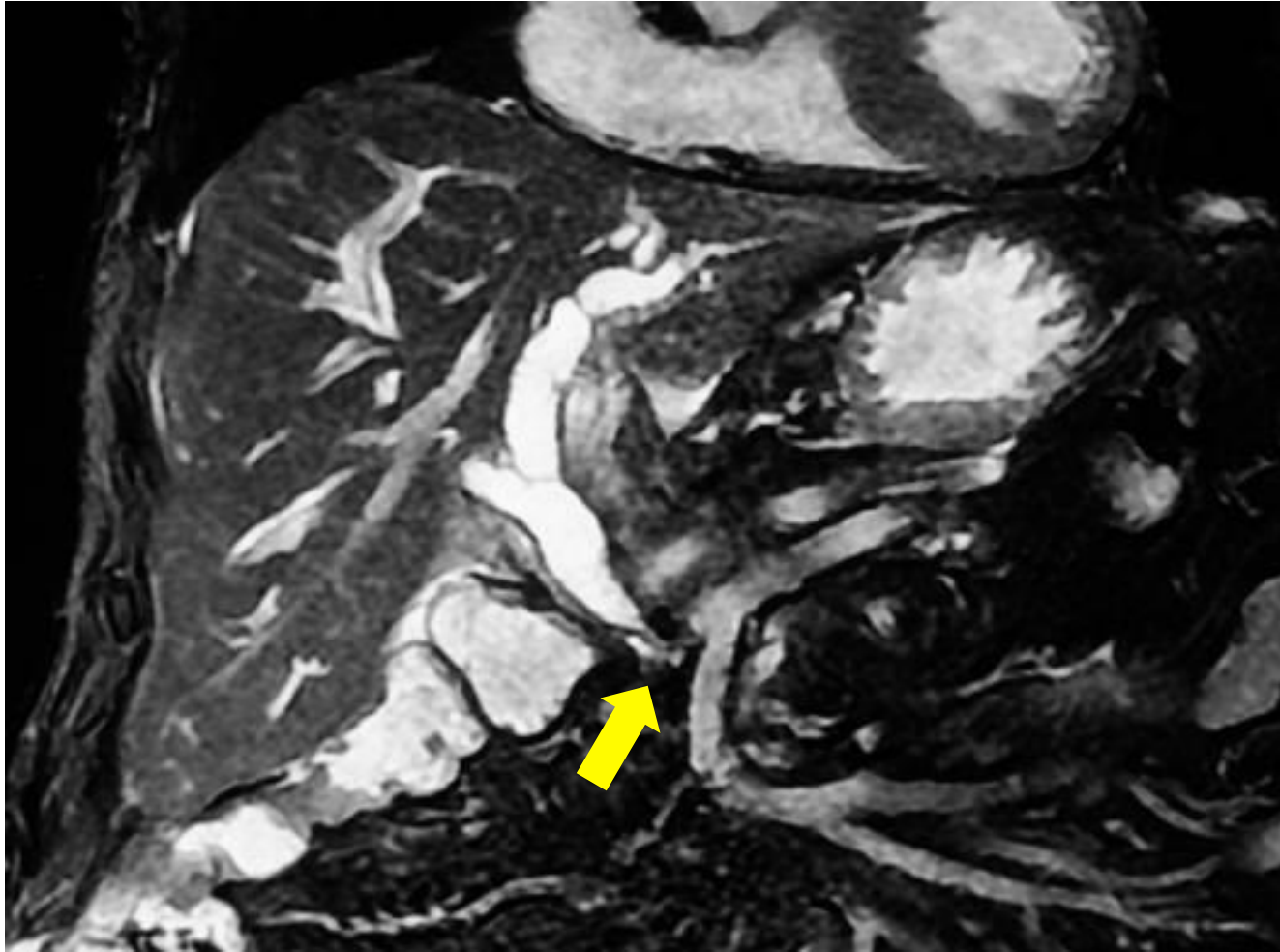
Quelle Imagerie préalable ?

**Imagerie préalable rapide
Stade &
planification du geste**

Scanner TAP



Bili-IRM, Diffusion, Injection, perfusion Produits hépato-spécifiques



Sténose anastomose bilio-digestive post-chirurgie
→ Abord percutané des voies biliaires



Radiomics Facilitates Candidate Selection for Irradiation Stents Among Patients With Unresectable Pancreatic Cancer

Hai-Feng Zhou^{1†}, Yu-Qi Han^{2,3†}, Jian Lu^{1†}, Jing-Wei Wei^{3,4†}, Jin-He Guo^{1†}, Hai-Dong Zhu^{1†}, Ming Huang⁵, Jian-Song Ji⁶, Wei-Fu Lv⁷, Li Chen¹, Guang-Yu Zhu¹, Zhi-Cheng Jin¹, Jie Tian^{3,4,8,9} and Gao-Jun Teng^{1*}*

**Evaluation pronostique de la lésion (agressivité) par une cartographie Paramétrique
TDM – IRM en vue du choix de ttt, notamment prothèse**



Comment je fais le drainage percutané ?

Préalable et précautions

- Hémostase correcte

(TP > 50%, plq > 50000, TCA < 1.5 témoin)

- Arrêt: salicylés, Clopidogrel et anticoagulants
- Antibiothérapie ou prophylaxie +++
- Absence d'ascite ou évacuation préalable
- Dénutrition
- CorticoTTT

garder à l'esprit qu'un geste considéré initialement comme simple, peut durer des heures....

Burke DR. JVIR 1997

Cazejust J. J. Diag Interv Imaging 2019

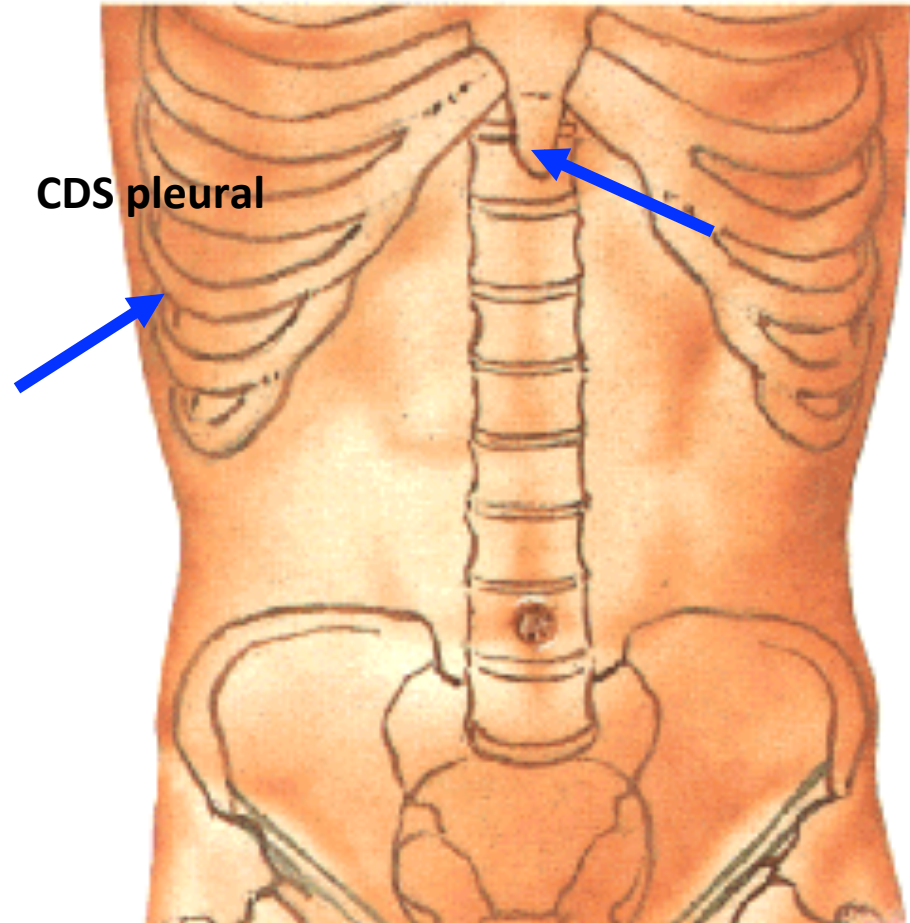


Préalable et précautions

- RCP
- Bloc opératoire ou interventionnel
- **Anesthésiste +++ AG avec intubation**
- Conditions d'asepsie



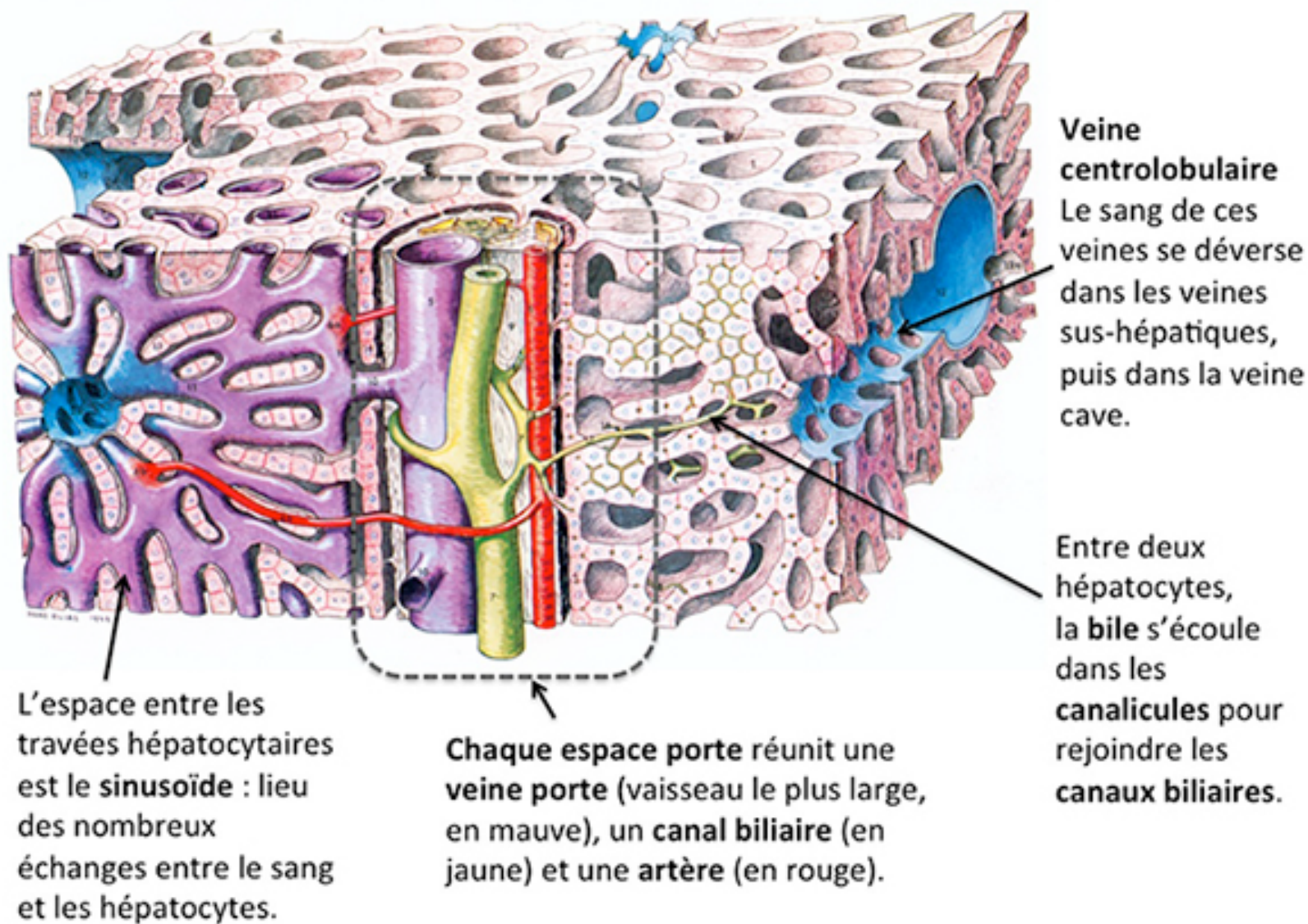
Abord des VBIH droites et/ou gauches sous échographie



Aiguille téflonée 18G +++
Aiguille Chiba plus rarement
Désilet 6F

Yamao K. Gut Liver 2010
Cazejust J. J. Diag Interv Imaging 2019

Structure du tissu hépatique



4

**Drain interne - externe
ou Stent
Ou les deux ?**

Drainage – Stenting biliaire

Tenir compte de 5 facteurs

- Pronostic du patient
- Etat nutritionnel (cicatrisation)
- Contamination des segments biliaires séquestrés
- Possibilité de résection chirurgicale curative
- Préservation de la fonction hépatique en vue d'une chimiothérapie

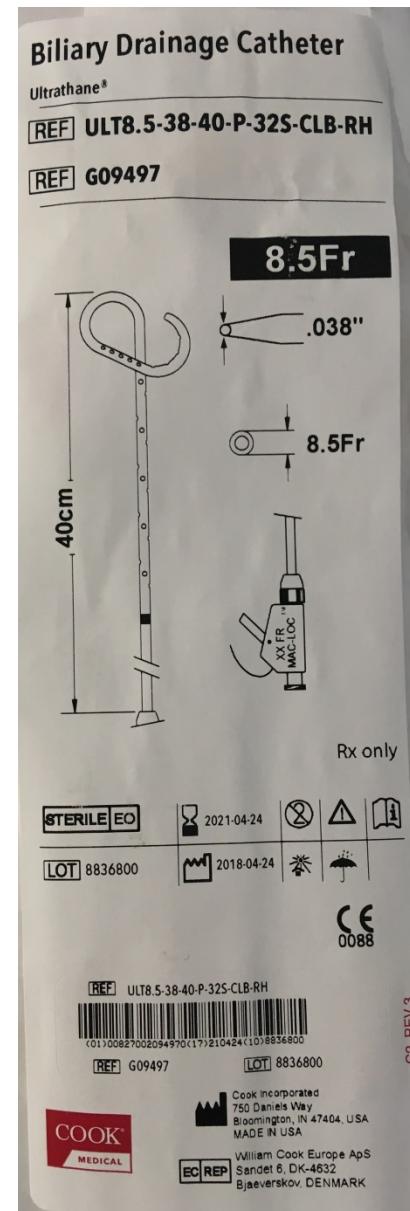
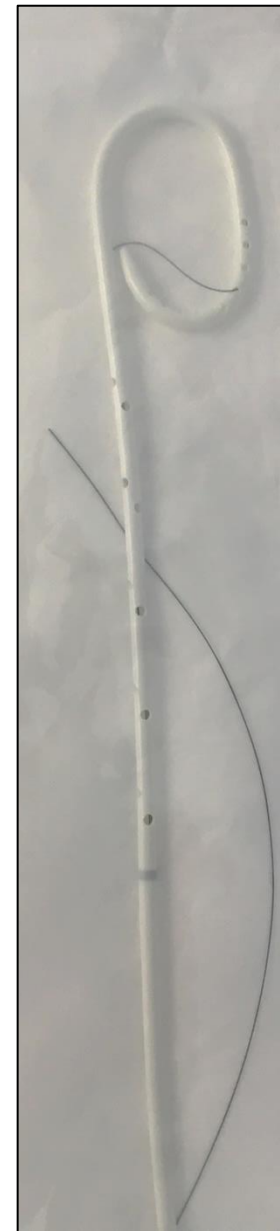
Tenter toujours de franchir l'obstacle Drainage Interne-externe

Suffisant en cas:

- De Mauvais pronostic
- Conditions économiques
- En pré-opératoire

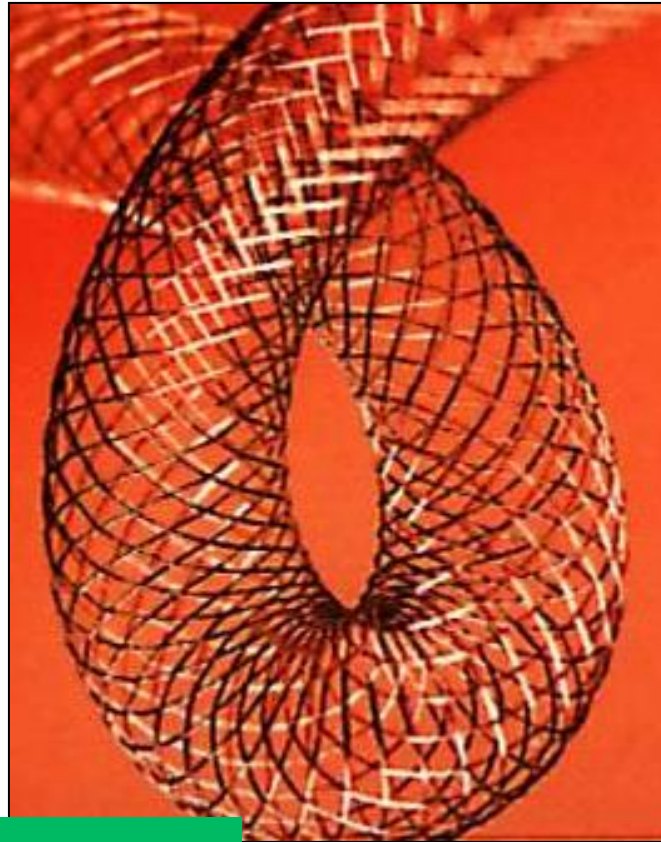
Risque de chute accidentelle

Si stent mis en place
Drain interne – externe
Trans-prothétique
obligatoire



Quel type de prothèse ? Wallstent -EPIC

Auto-expansibles SEMS
Flexibles
Bonne force radiaire
Introducteurs petits 6F



Une seule Prothèse métallique
non couverte
10 mm de diamètre
10 cm de long

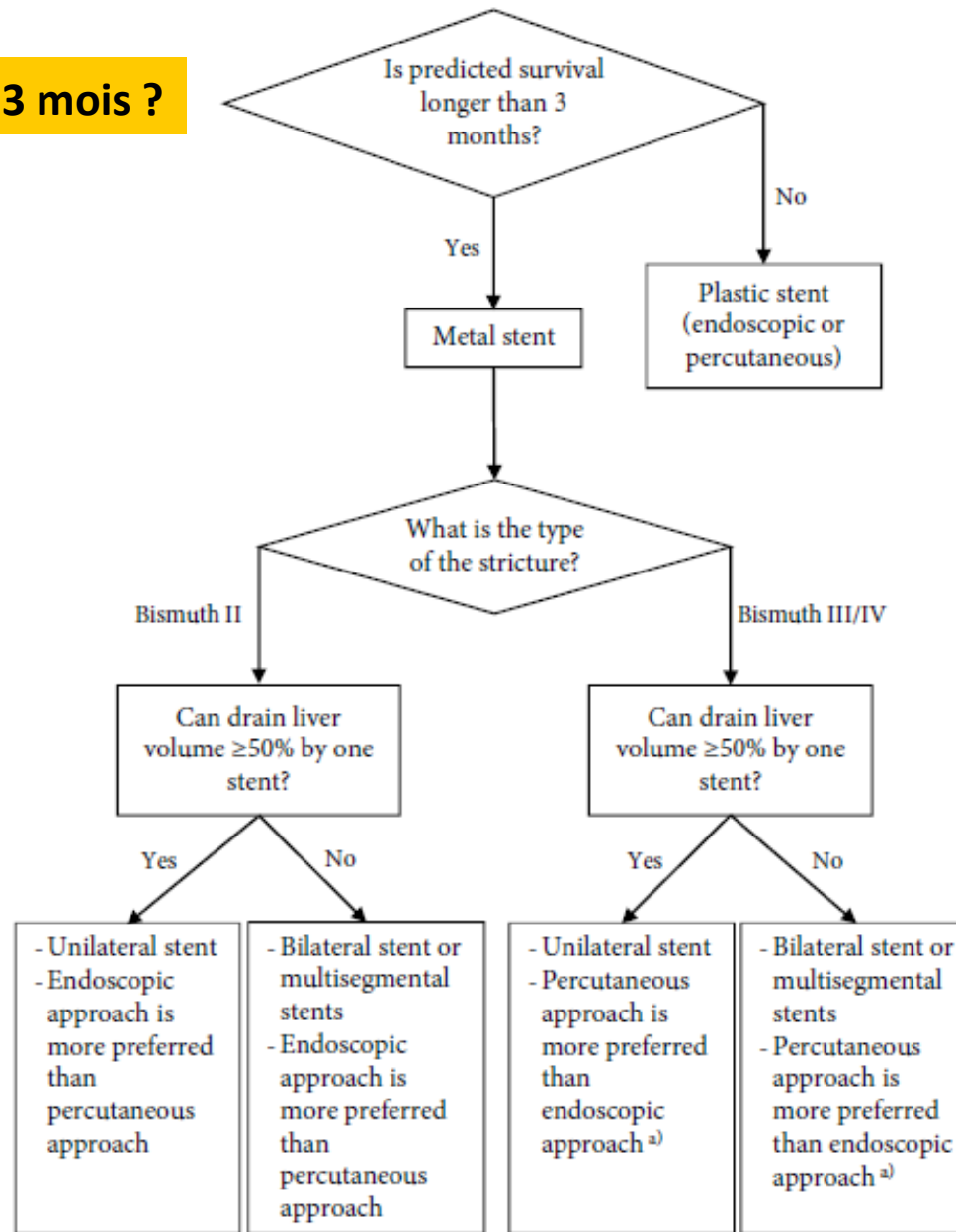
Huguet JM. World J Clin Cases 2019

Drainer plus de 50% du volume hépatique

- Diminution significative de la bilirubine
- Réduction du risque d'angiocholite
(injection ds territoire séquestré)
- Meilleure survie

***Vienne A. Prediction of drainage effectiveness during endoscopic stenting of malignant hilar strictures: the role of liver volume assessment.
Gastrointest Endosc 2010***

Pronostic à 3 mois ?



Rerknimitr R. Asia-Pacific consensus recommendations for endoscopic and interventional management of hilar cholangiocarcinoma. *J Gastroenterol Hepatol* 2013

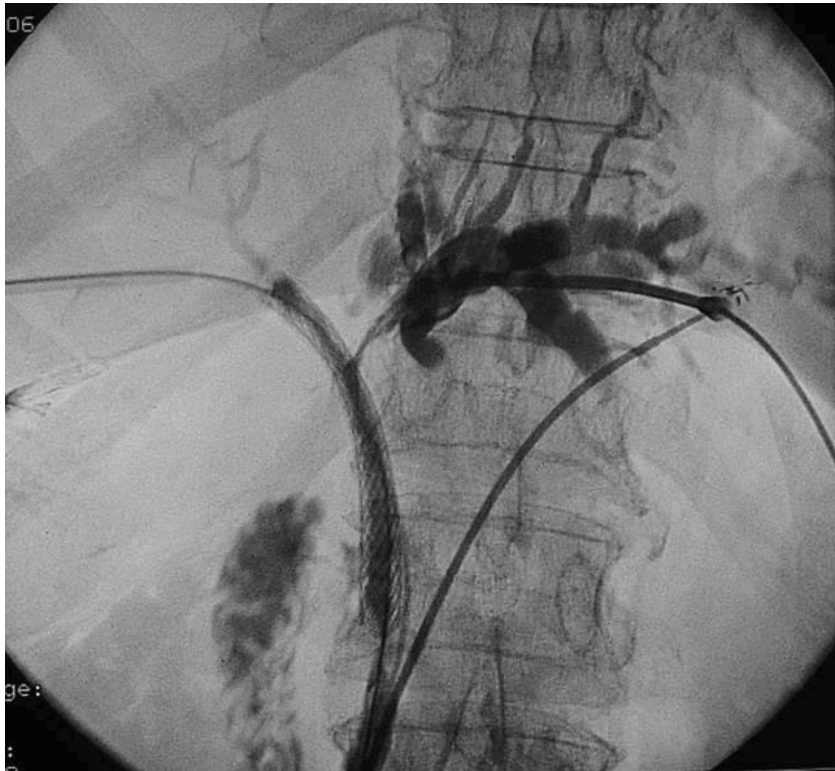
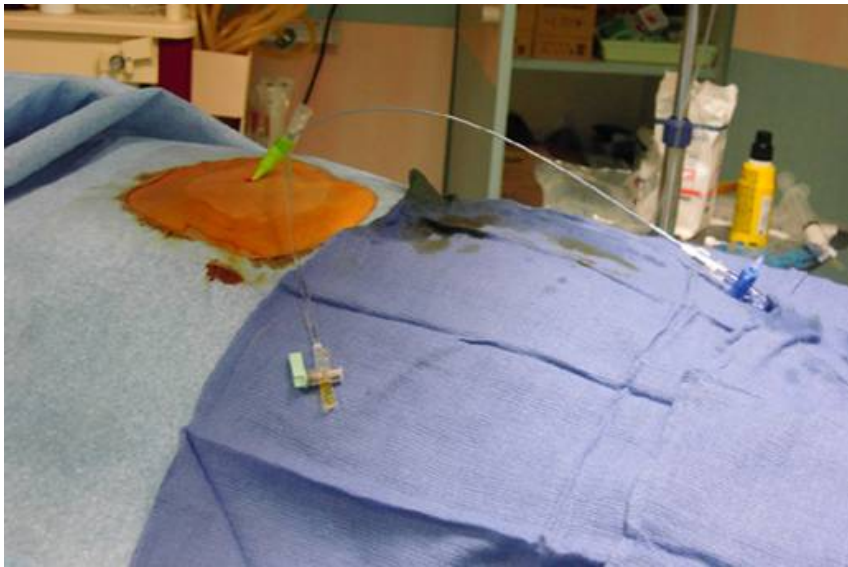
Drainage de raison

*Drainer **50%** du foie*



82 ans, cholangioK IV

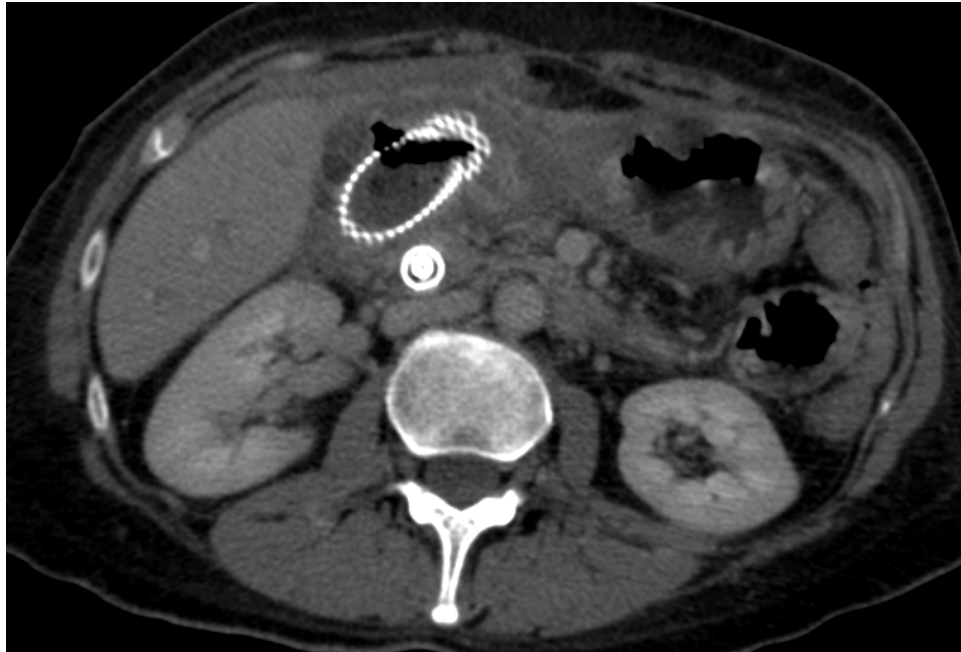
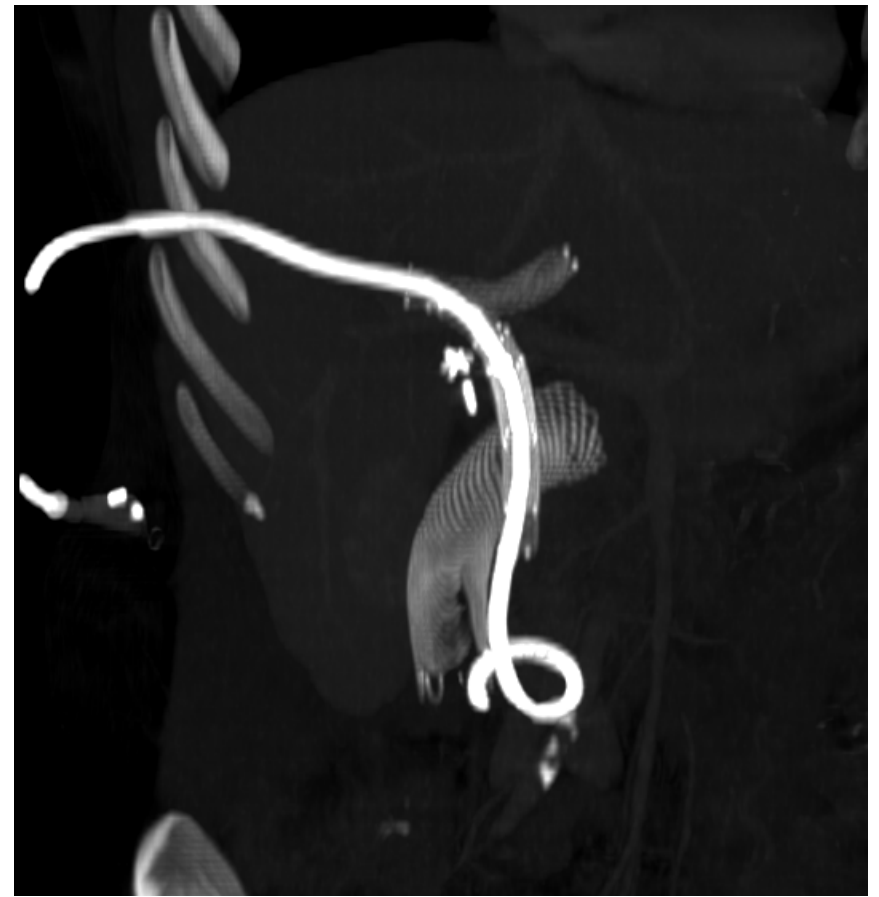
Side by Side Stenting



Stent-In-Stent (à travers les mailles)



Acrobatie

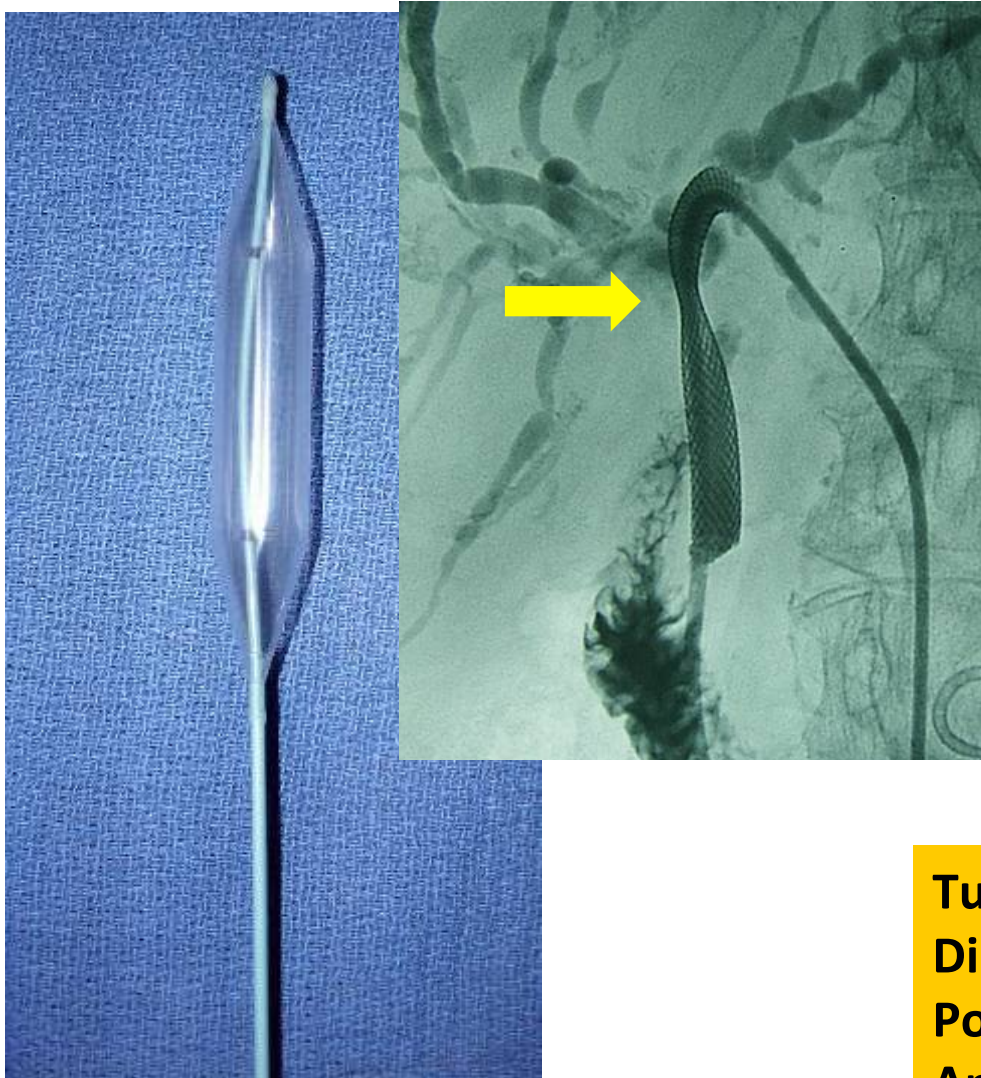


Stents nouveau design (Korea)

Y-configured stent

M-Hilar and K-Hilar stents

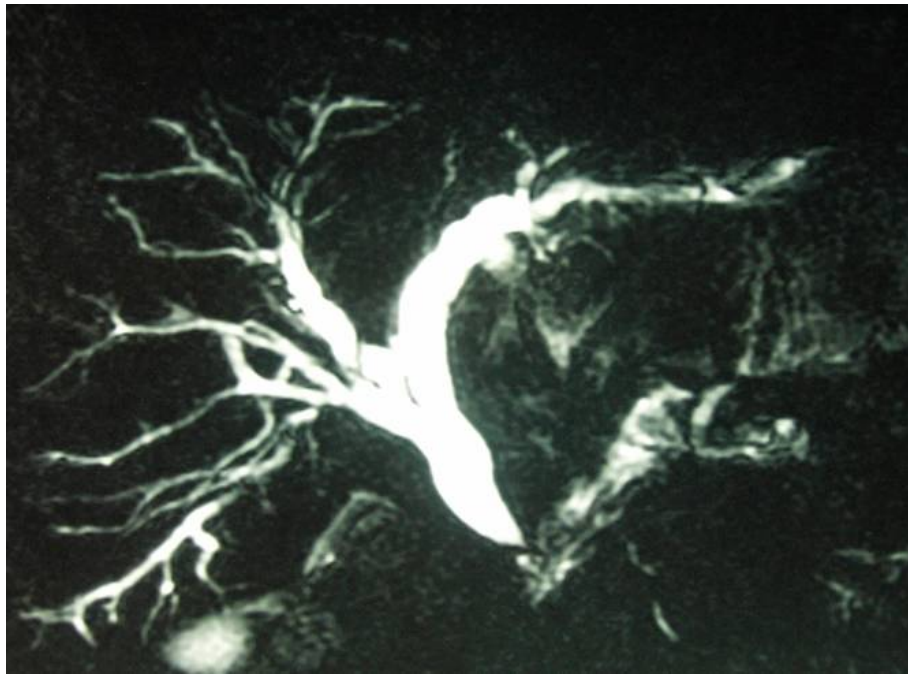
Dilatation intra-stent ?



**Oui ds stent en Nitinol
± ds stent en Acier**

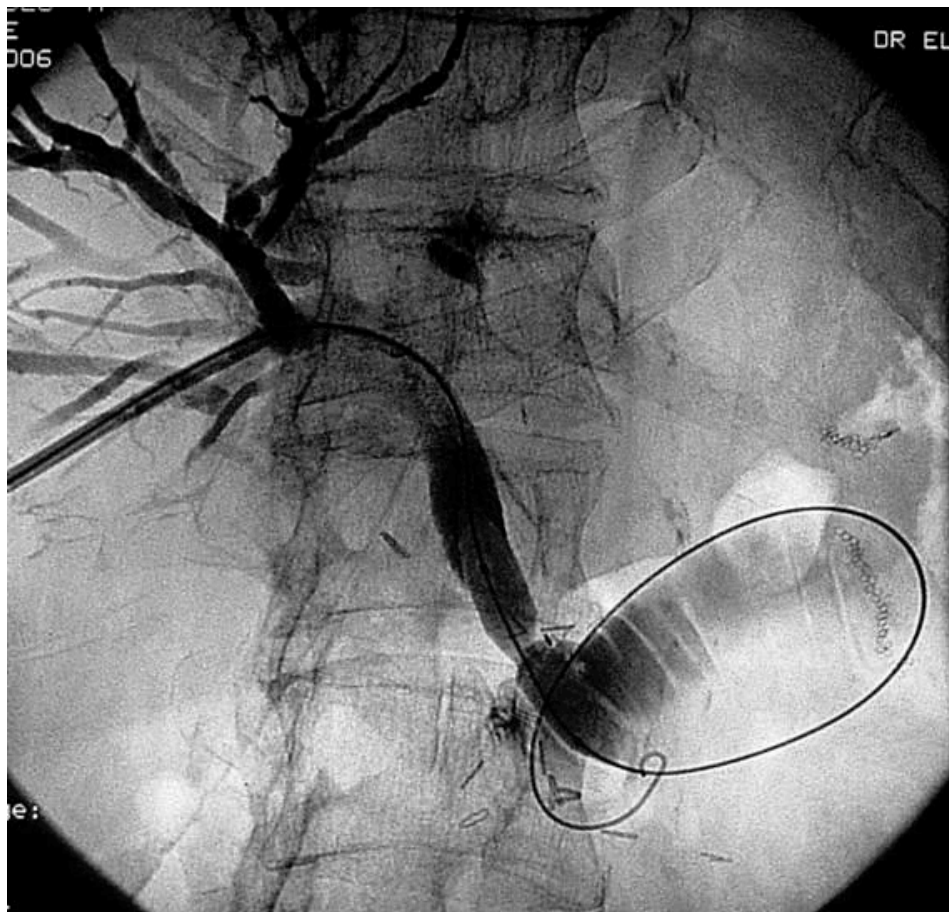
**Tumeurs fibreuses
Dilatation très douloureuse
Pourvoyeuse de complications
Anesthésie générale +++**

**H, 80 ans, Ictère sur récurrence après chirurgie (anastomose bilio-digestive)
CholangioMR**



Micro-ponction Chiba

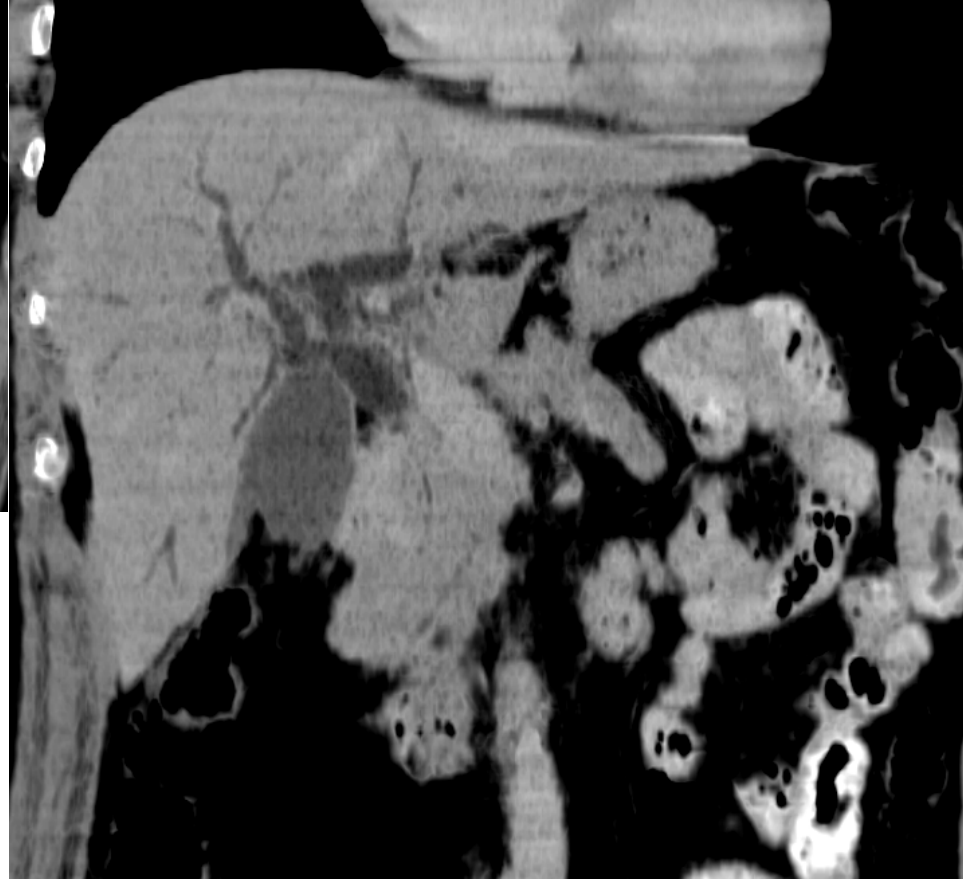
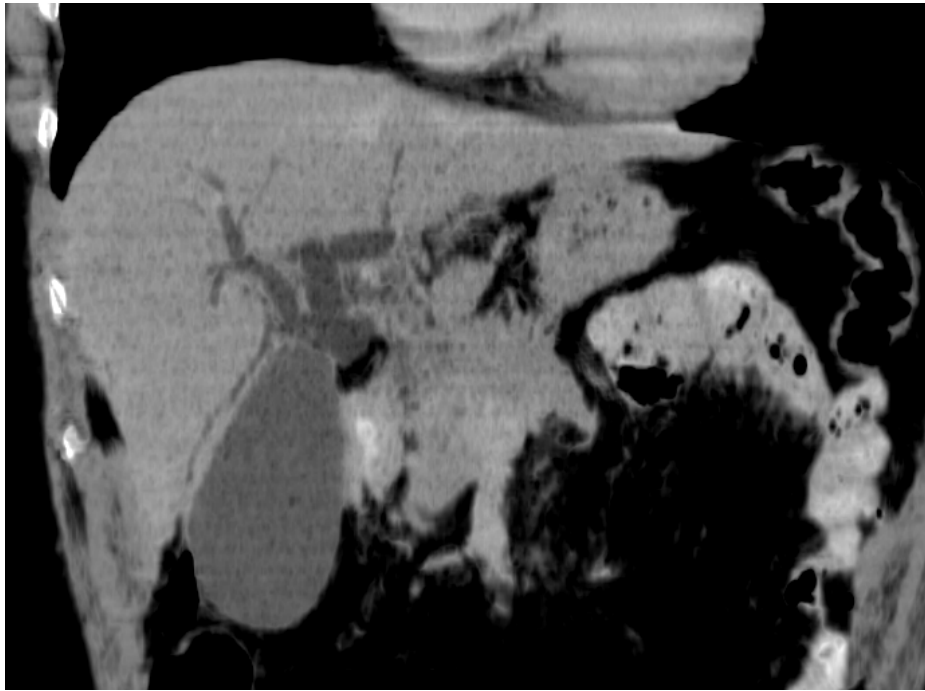




Prothèse

Drain trans-prothétique laissé en place qq jours ++

**H. 64 ans... ictère nu
TDM mIP**



**DPC
CholangioK pT2N0**

J7...Etat de choc hémorragique
Rupture de l'artère hépatique



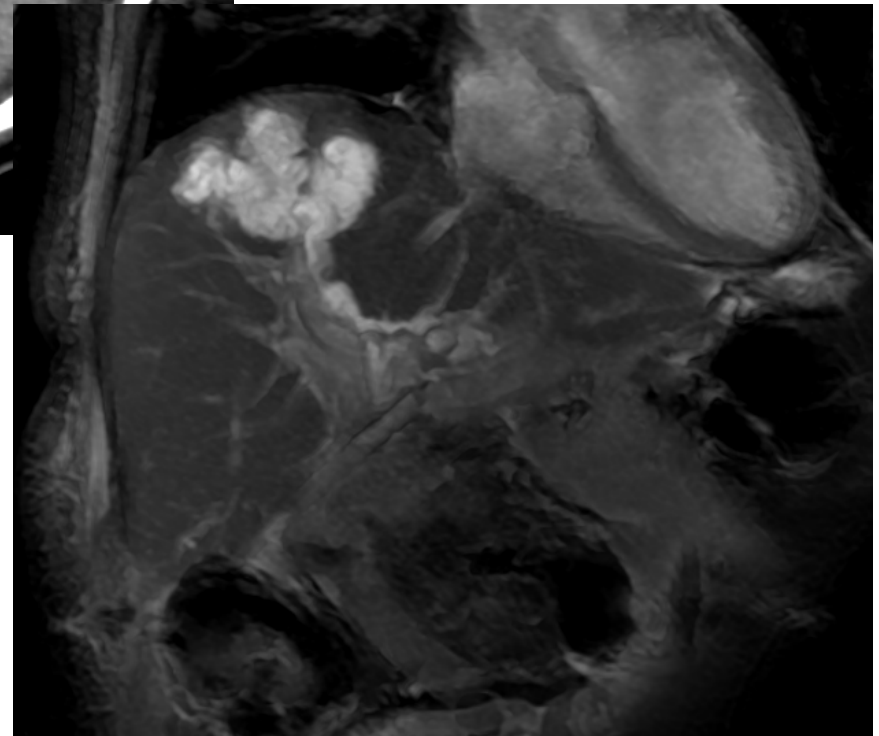


**Art Hép. droite – Foie total
Trajet intra-pancréatique**

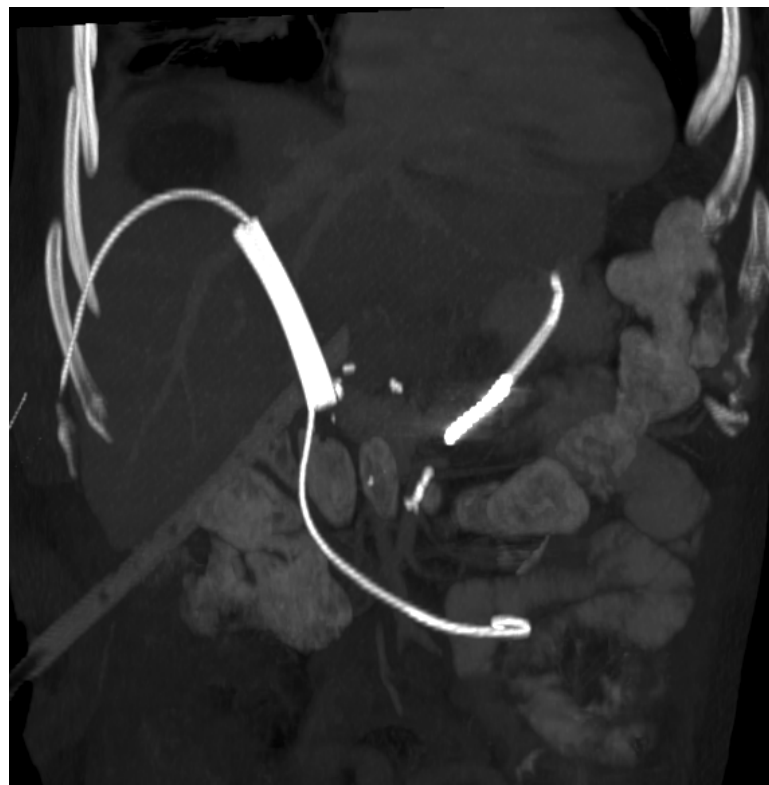
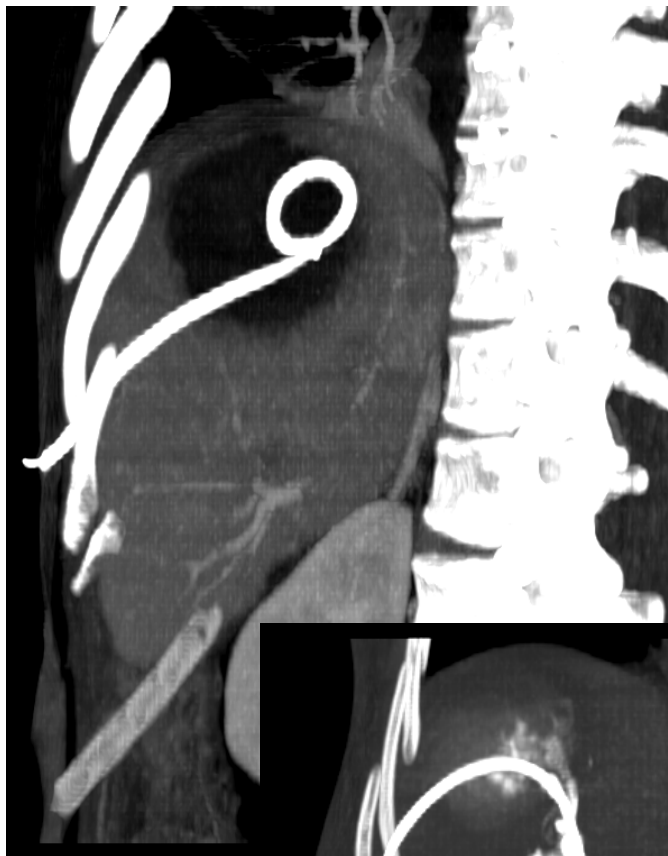




**Nécrose des voies biliaires
Bilomes**



Drainage biliaire Ext puis Int - Ext Endoprothèse anastomotique

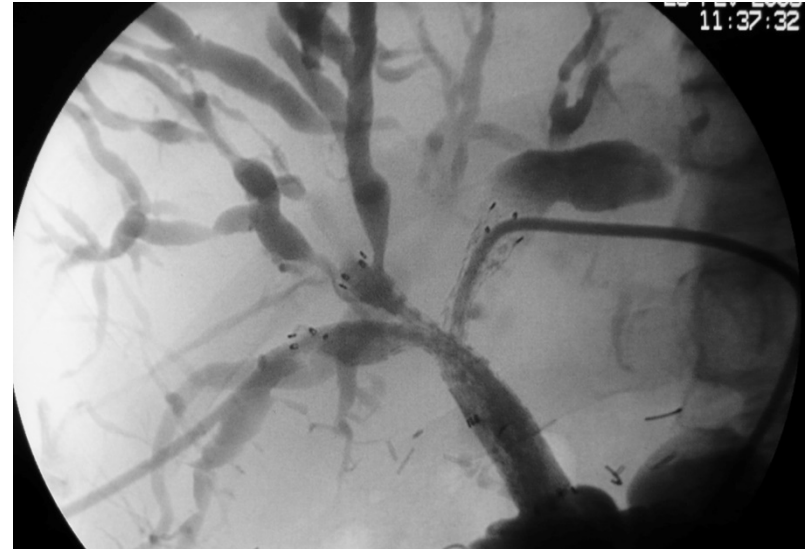


5

**Drainage – Stenting
En pré-opératoire ?**

Une situation (trop) fréquente ...

Le patient est déjà dérivé ...



Indication claires du drainage pré-opératoire

- Angiocholite
- Ictère sévère Bilirubine > 250
- Avant traitement néo-adjuvant (chimio)
- Chirurgie retardée
- Dénutrition sévère
- Insuffisance hépatique et/ou rénale
- Embolisation portale

Chen KJ. Hepatobiliary Pancreat Dis Int 2018

Huguet JM. World J Clin Cases 2019



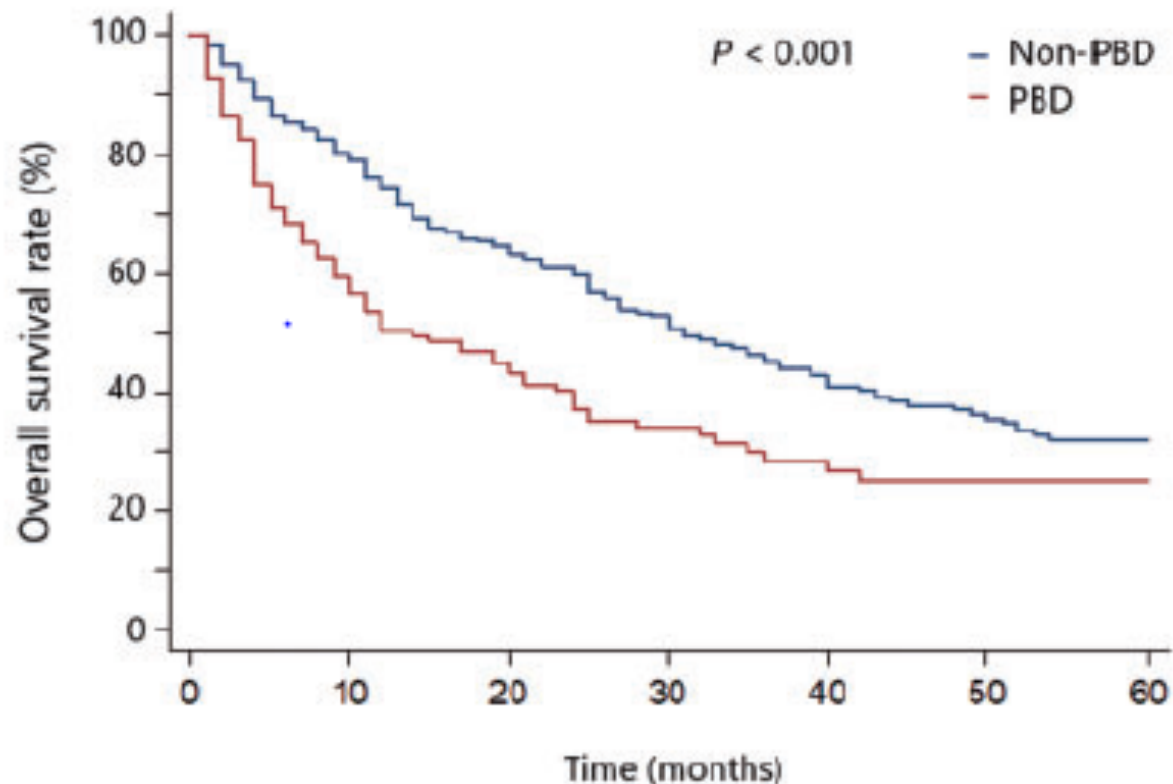
ORIGINAL ARTICLE

Pre-operative biliary drainage is associated with shortened survival time in patients with cholangiocarcinoma

Udayakumar Navaneethan^{1,*}, Xiang Zhu¹, Mansour A. Parsi²,
Shyam Varadarajulu¹

¹Center for Interventional Endoscopy, Florida Hospital, 601 E Rollins St, Orlando, FL 32803, USA; ²Department of Gastroenterology, The Cleveland Clinic, 9500 Euclid Ave, Cleveland, OH 44195, USA

Impact négatif du drainage pré-opératoire sur la survie, donc à éviter



Number at risk								
non-PBD	307	224	155	108	72	51	36	
PBD	126	72	47	32	17	12	9	

Figure 1. Comparison of 5-year overall survival curves in the PBD cohort ($n = 126$) and the no-PBD cohort ($n = 307$) among patients with cholangiocarcinoma who underwent curative surgery between 2001 and 2011

Drainage biliaire préopératoire du Futur Foie Restant ?

with the rationale that PBD reverses cholestasis-associated the time of percutaneous transhepatic cholang

© 2012 British Journal of Surgery Society Ltd
Published by John Wiley & Sons Ltd

British Journal of Surgery 2013;

Brit J Surg 2013

366 malades : 180 drainés en pré-op

Mortalité :

10.7%

Résections droites :

14.7%

Résections gauches :

6.6%

0.001

Haémorragie	2 (1.9)	1 (1)	1.000	2 (2)	2 (2.0)
Other	1 (1.0)	1 (1)	1.000	2 (2)	2 (2.0)
Overall	4 (3.9)	8 (10)	0.060	18 (22)	9 (8.9)

Values in parentheses are percentages. PBD, preoperative biliary drainage. *Fisher's exact test.

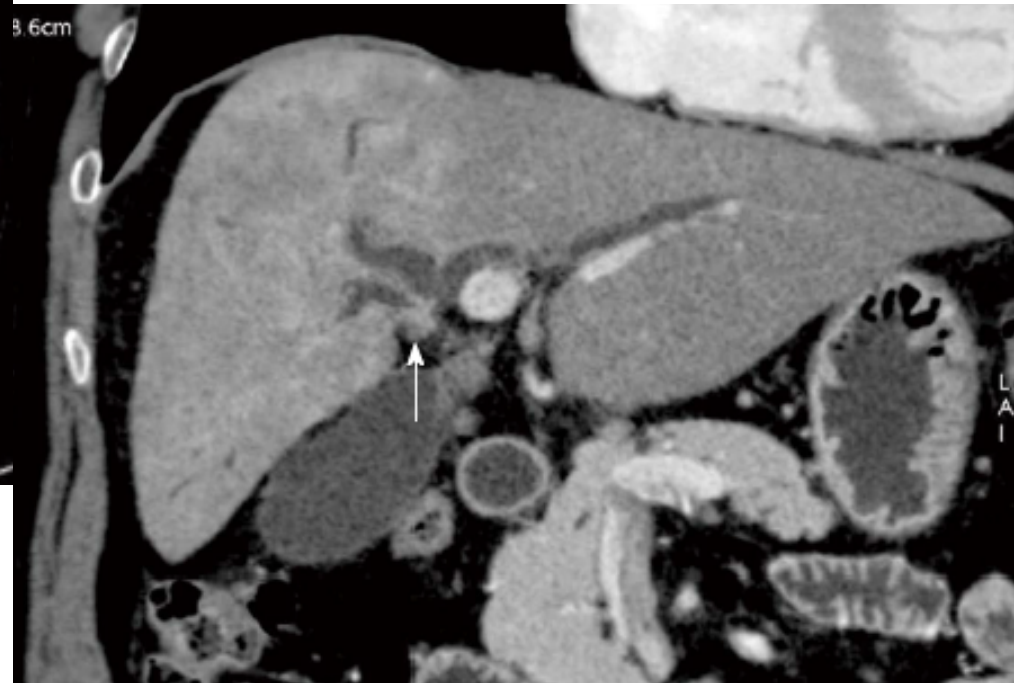
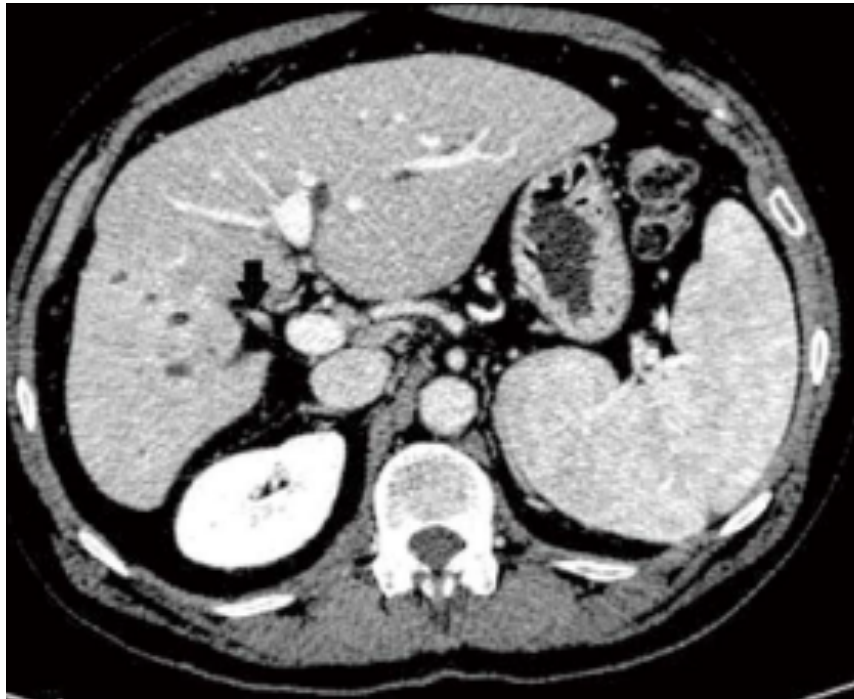


Drainer le FFR avant résection droite
Ne pas drainer avant résection gauche

EMBOLISATION PORTALE

Svt non indispensable

Embo portale + Drainage biliaire*



Embolisation portale préopératoire ?

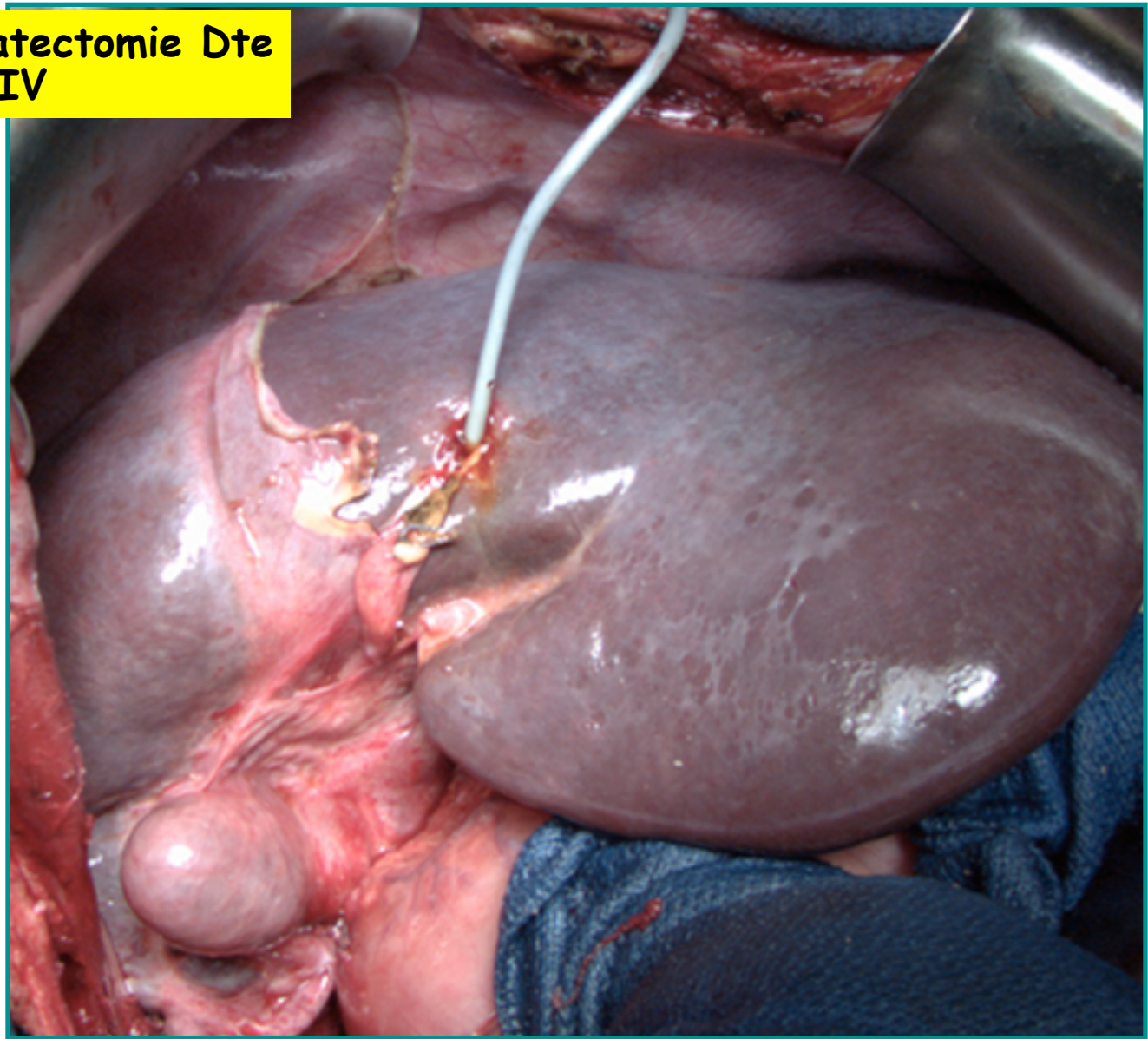
But : limiter le risque d'IHC

Pour les résections droites ou droites élargies +++
EP Dte, nécessite une dérivation biliaire du foie G
« Percutanée du seul FFR »



Kosuge, AnnSurg 1999, 230 : 663-71

**Avant résection : hépatectomie Dte
+ segment IV**



foie dysmorphique (atrophie droite + segment IV) ;
drainage pré opératoire percutané du « futur foie restant »

6

**Drainage – Stenting
Quels résultats ?**

Original Article | Intervention

<https://doi.org/10.3348/kjr.2018.19.4.597>

pISSN 1229-6929 · eISSN 2005-8330

Korean J Radiol 2018;19(4):597-605

Korean Journal of Radiology

KJR



Percutaneous Metallic Stent Placement for Palliative Management of Malignant Biliary Hilar Obstruction

Dong Jae Shim, MD¹, Dong Il Gwon, MD², Kichang Han, MD³, Yook Kim, MD⁴, Gi-Young Ko, MD², Ji Hoon Shin, MD², Heung Kyu Ko, MD, PhD², Jin Hyoung Kim, MD², Jong Woo Kim, MD², Hyun-Ki Yoon, MD², Kyu-Bo Sung, MD²

Table 1. Patient Characteristics of 415 Patients Treated with Stent Placement

Classifications	No. of Patients
Sex	
Male	261
Female	154
Mean age (range)	65 ± 11 (29–92) years
Underlying disease	
Klatskin tumor	241
Intrahepatic cholangiocarcinoma	62
Gallbladder cancer	57
Advanced gastric cancer	29
Colorectal cancer	9
Hepatocellular carcinoma	8
Others*	9
Bismuth type	
II	43
III	152
IV	220

*Includes pancreatic cancer and metastasis from other primary tumors.

January 2007 to December 2014

784 stents were successfully placed in **415 patients (65yo)**.

13% complications.

Hemobilia (n = 19), cholangitis (n = 13), cholecystitis (n = 11), bilomas (n = 10), peritonitis (n = 1), and hepatic vein-biliary fistula (n = 1).

Clinical success was achieved in 370 patients **(89.1%)**.

Stent dysfunction due to tumor ingrowth **(14%)**, sludge incrustation (n = 44), and other causes (n = 3).

The median **overall survival** and the **stent occlusion-free** survival were **212 days** (95% confidence interval [CI], 186–237 days) and **141 days** (95% CI, 126–156 days), respectively.

The stent type and its configuration did not affect technical success, complications, successful internal drainage, overall survival, or stent occlusion-free survival.

**Stent
Uni
Bilatéral**

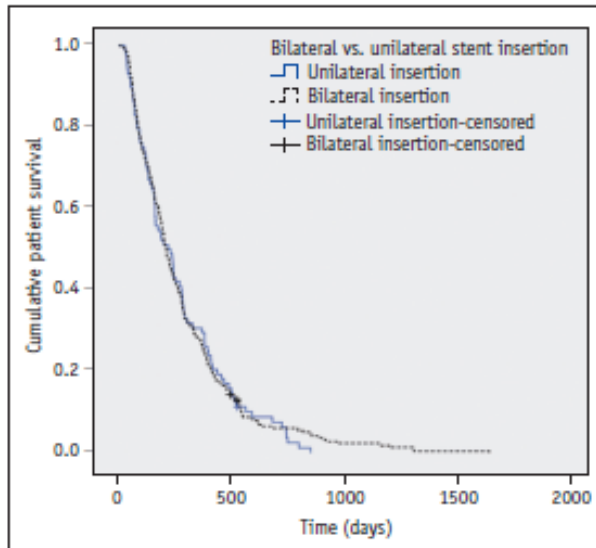


Fig. 2. Comparison of overall patient survival between unilateral and bilateral stent placement groups (adjusted hazard ratio; 0.964 [95% CI = 0.741–1.256] with baseline of unilateral stenting, $p = 0.788$). CI = confidence interval

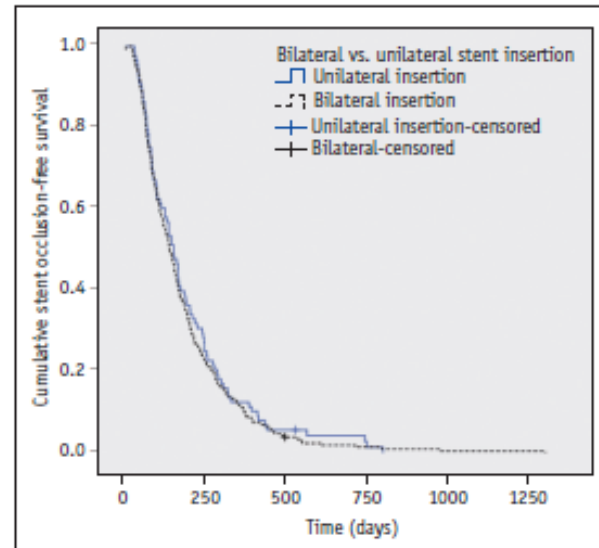


Fig. 4. Comparison of stent occlusion-free survival between unilateral and bilateral stent groups (adjusted hazard ratio; 1.062 [95% CI = 0.817–1.381] with baseline of unilateral stenting, $p = 0.653$).

**Stent
Couvert
Non Couvert**

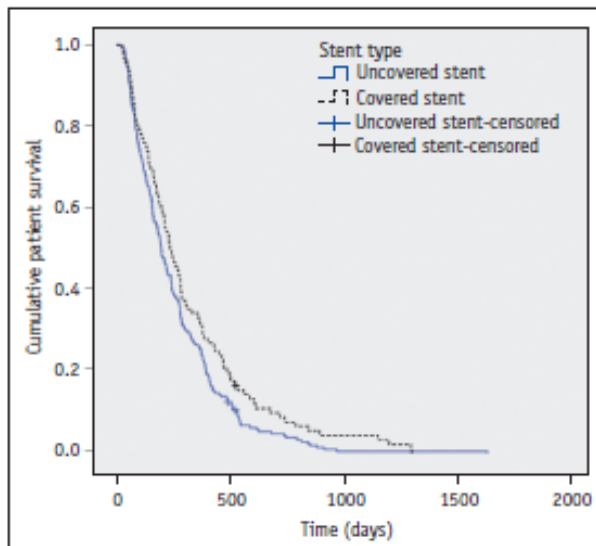


Fig. 3. Comparison of overall patient survival between covered and uncovered stent groups (adjusted hazard ratio; 0.795 [95% CI = 0.611–1.034] with baseline of uncovered stent, $p = 0.087$).

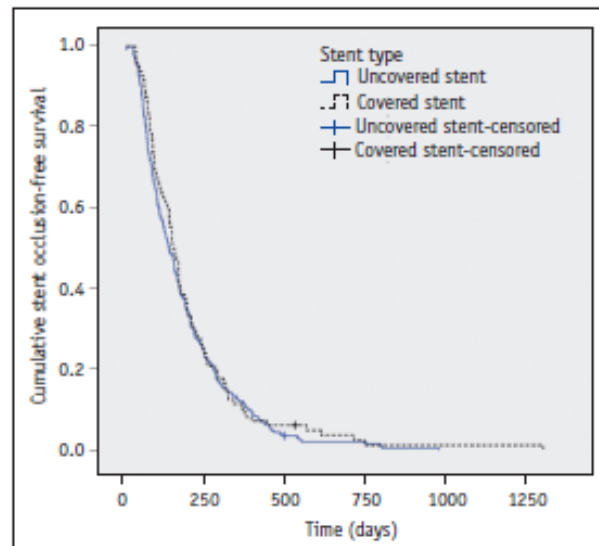


Fig. 5. Comparison of stent occlusion-free survival between covered and uncovered stent groups (adjusted hazard ratio; 0.952 [95% CI = 0.733–1.236] with baseline of uncovered stent, $p = 0.700$).



Complications

Douleurs (Anesthésie générale)

Chute du drain ext ou int-ext

Obstruction prothèse (tumeur, sang...)

Infectieuses : septicémie

Pancréatites : drainage trans-papillaire

Hémorragiques :

- . Hématome

- . Hémobilie (passagère, lésion veineuse, artérielle)

peuvent se manifester au retrait du drain +++

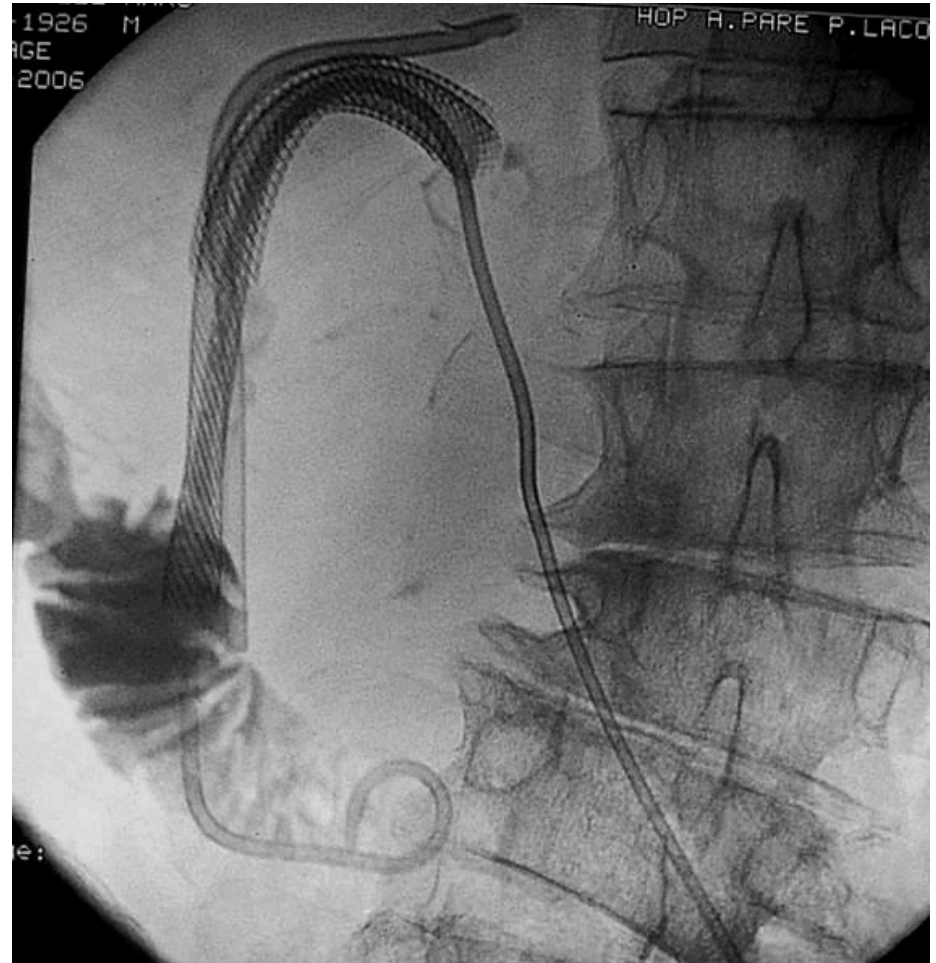
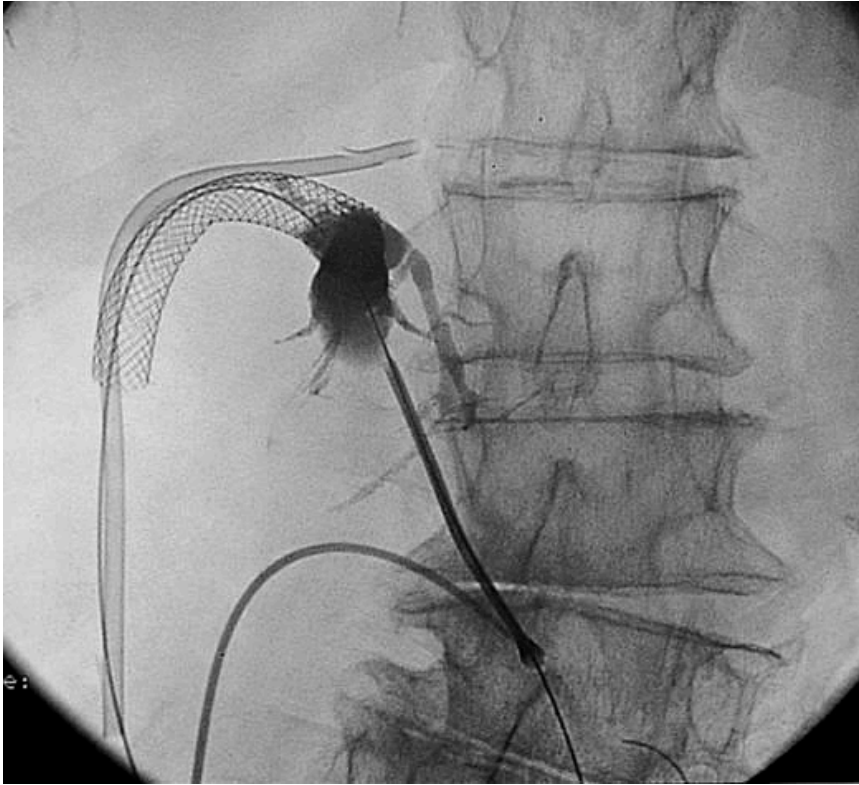
Fistule bilio-pleurale voire bronchique

Cholépéritoine

Essaimage tumoral sur trajet du drain

Perméabilité de la prothèse métallique ?

2 mois - 1 an

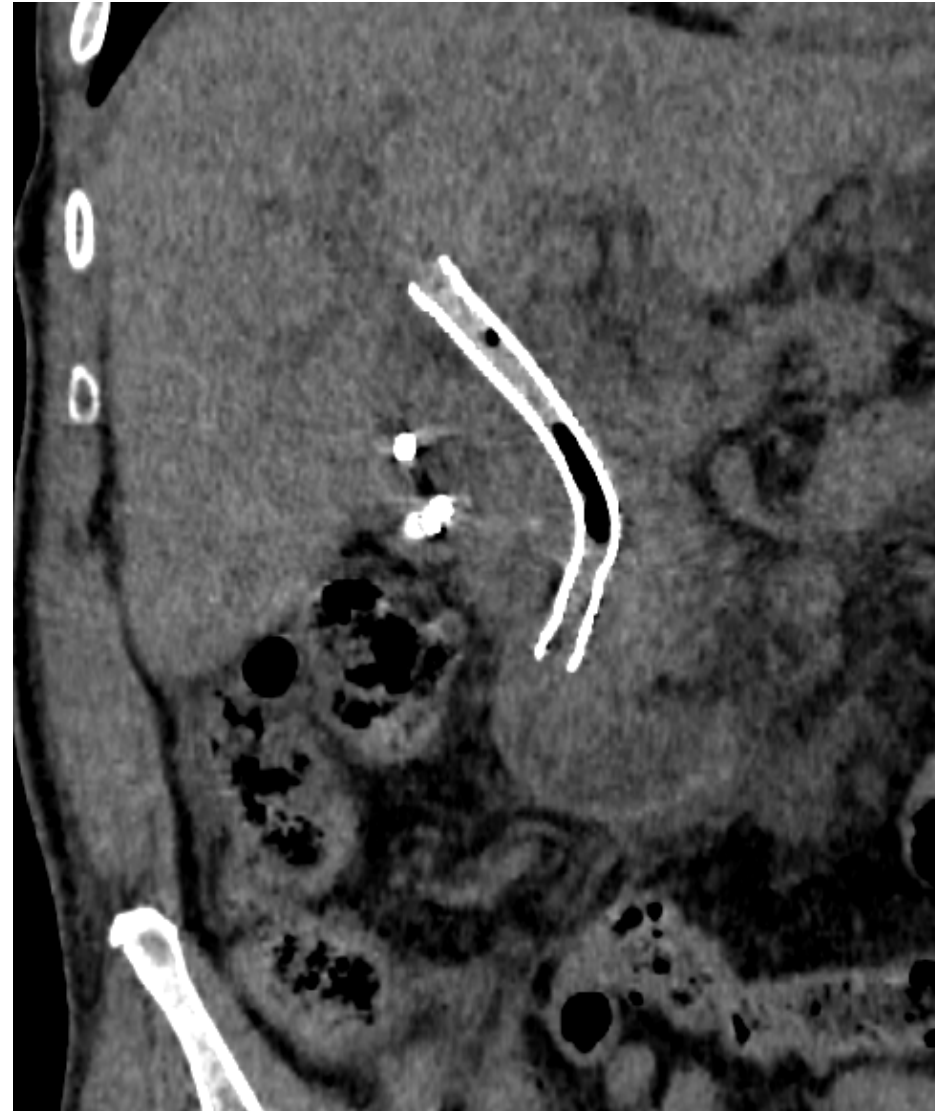
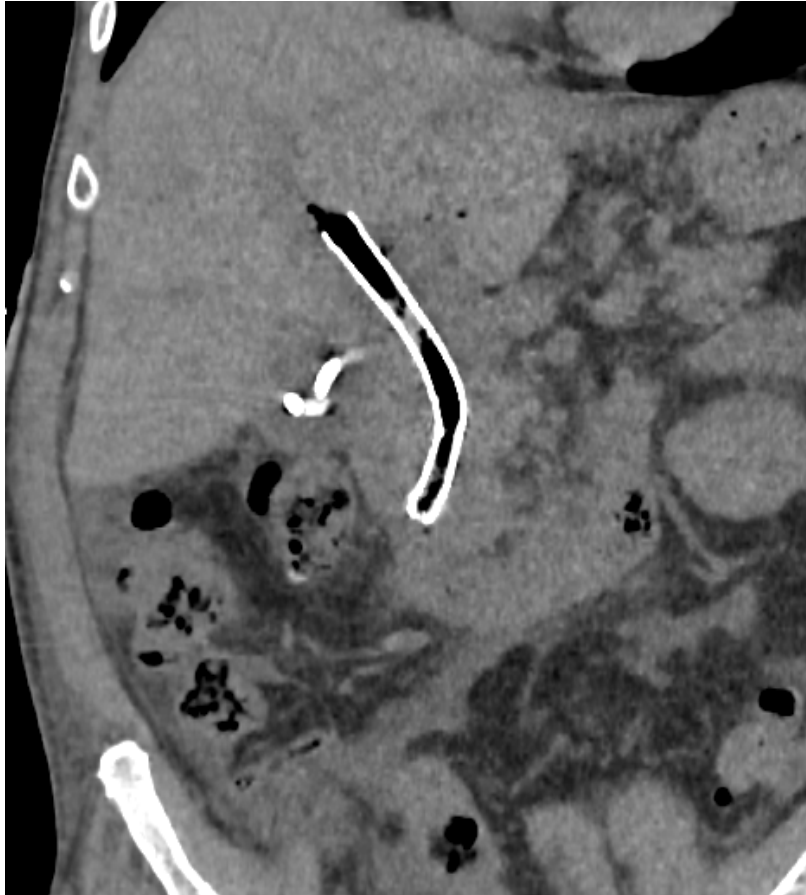


Obstruction 2 mois après pose

Prothèse perméable



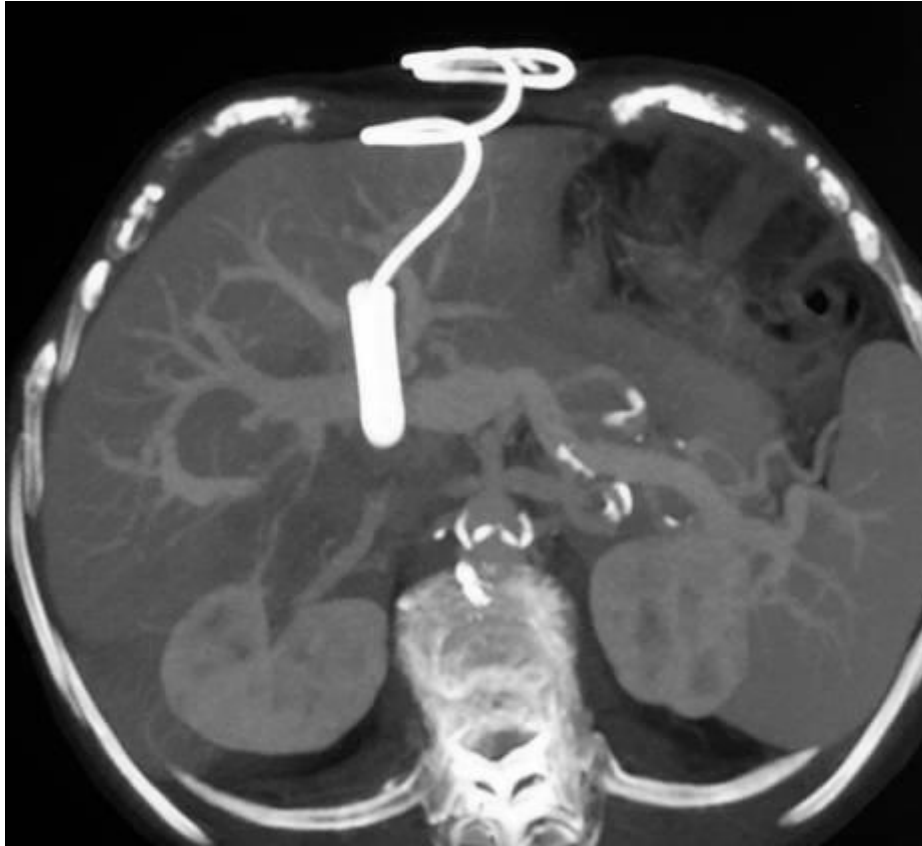
Prothèse obstruée brutalement par hémorragie tumorale



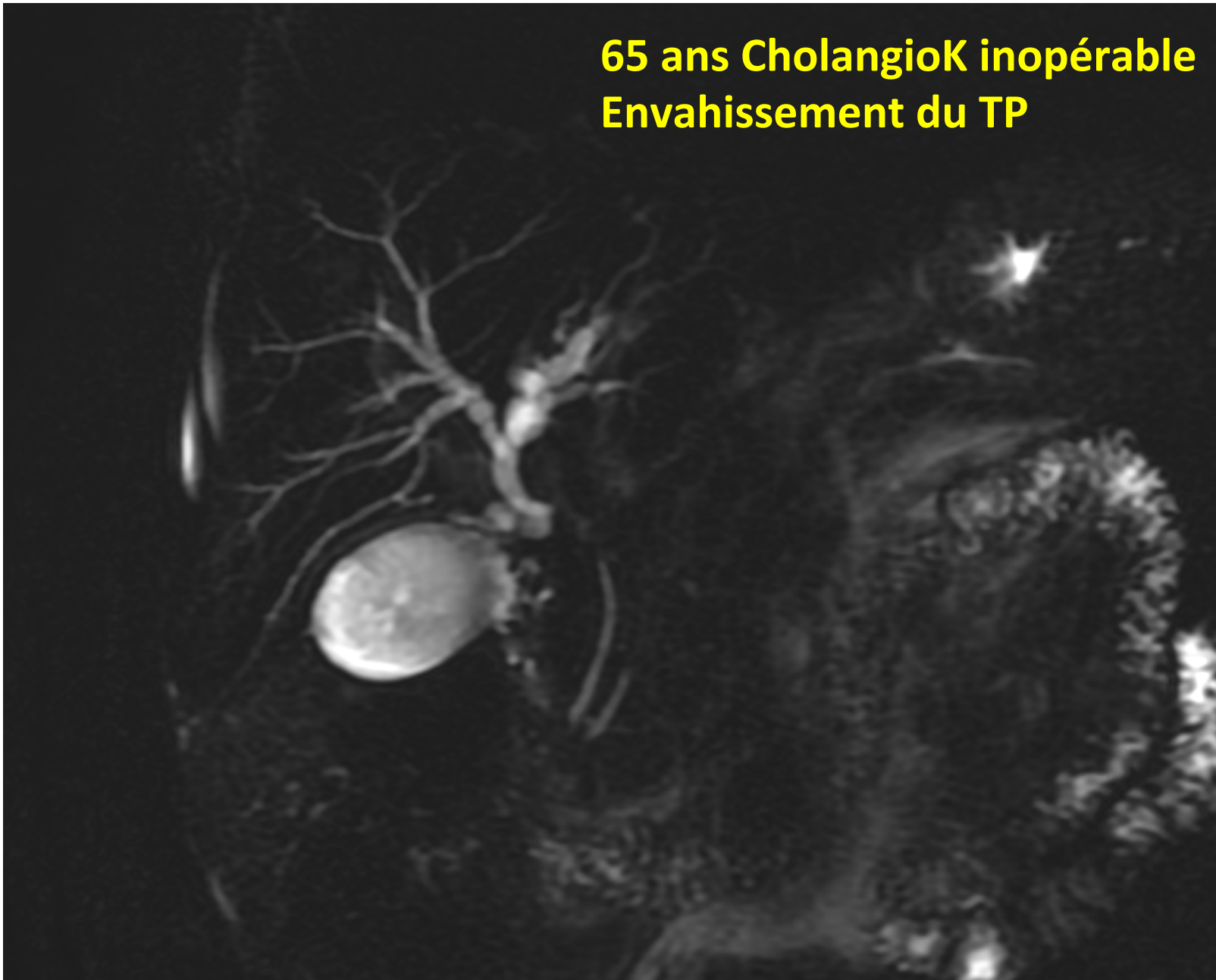
Fistule bilio-pleurale



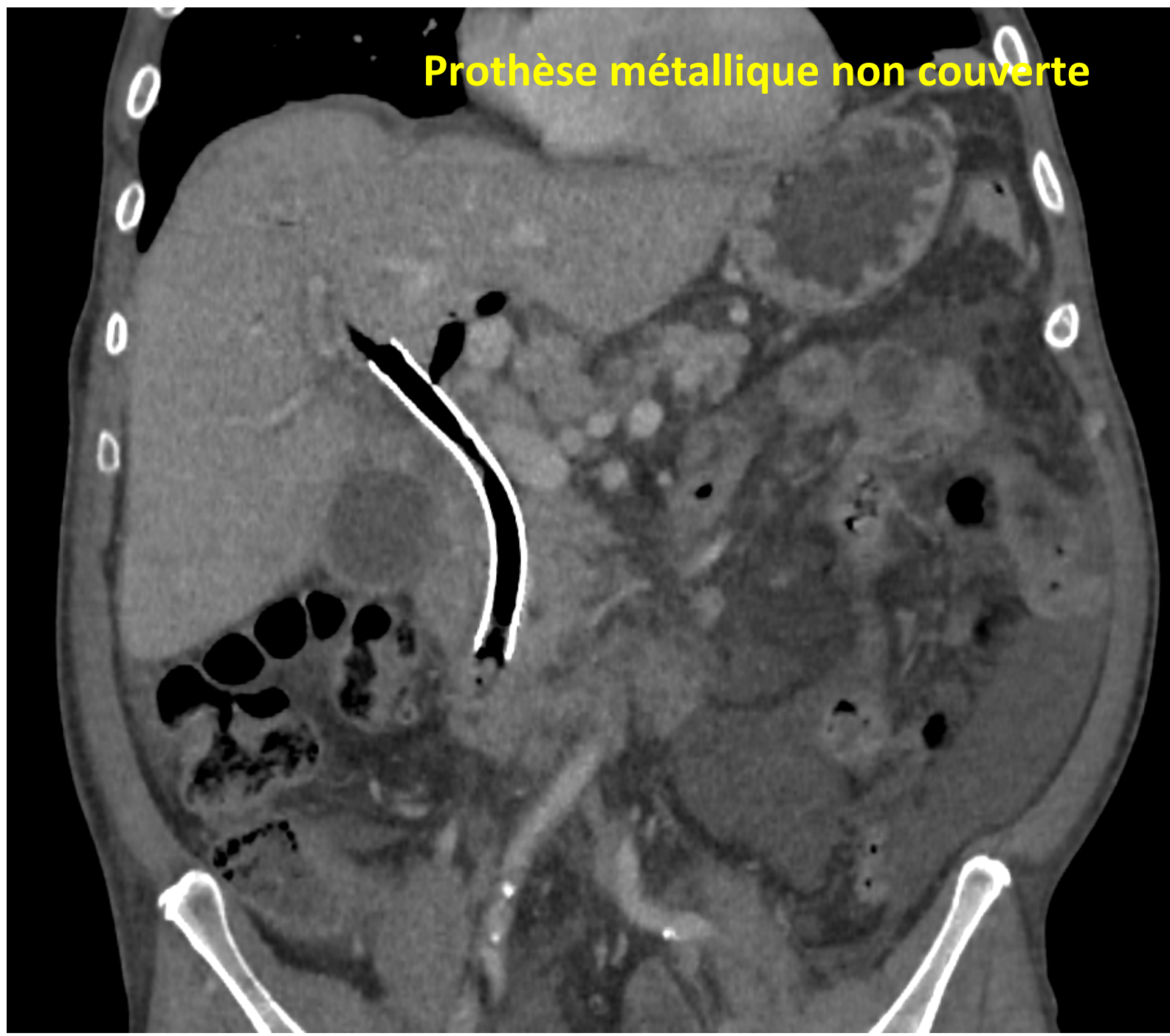
Péritonite biliaire



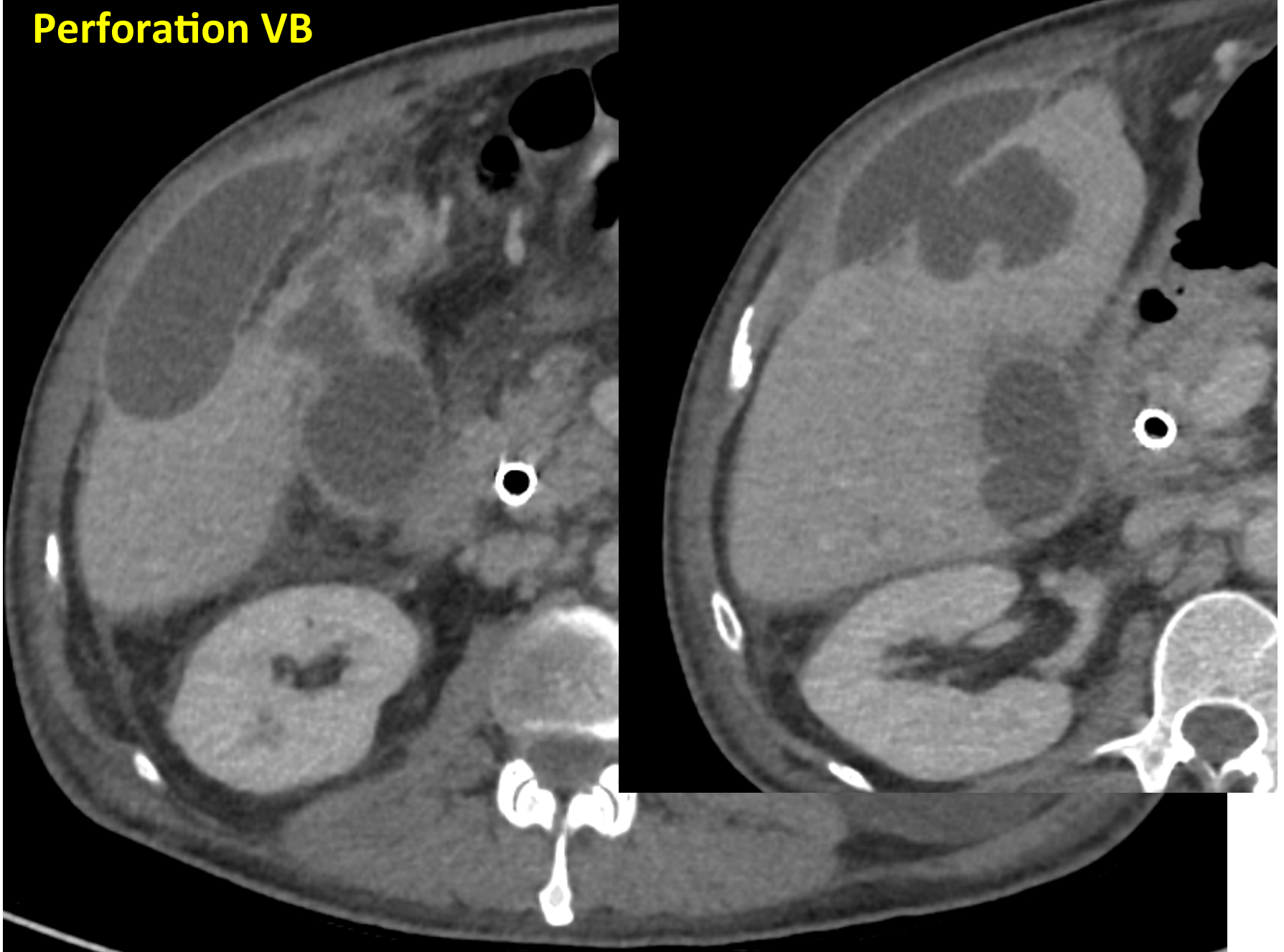
**65 ans CholangioK inopérable
Envahissement du TP**



Prothèse métallique non couverte



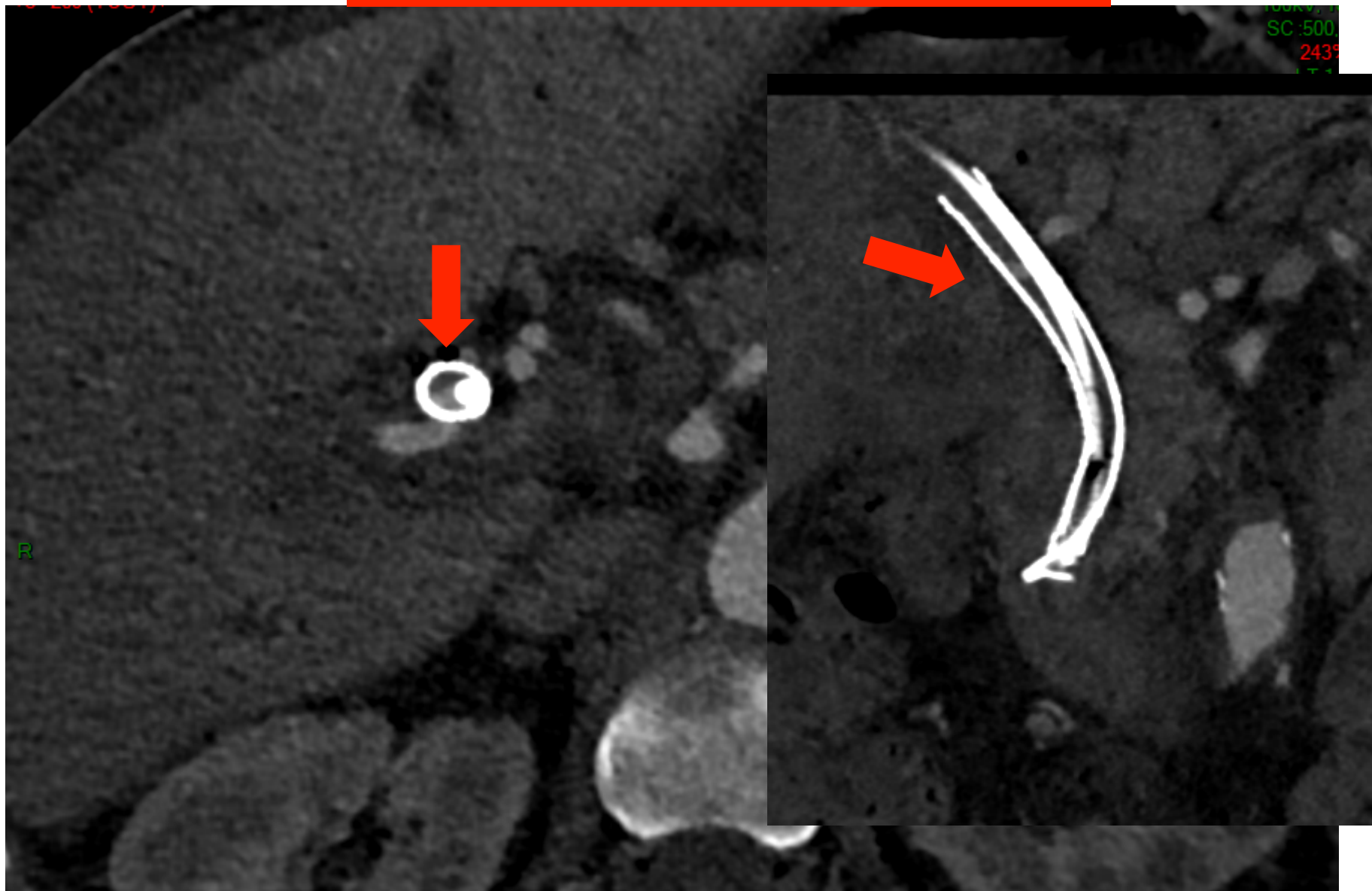
Perforation VB



Drainage VB et collection



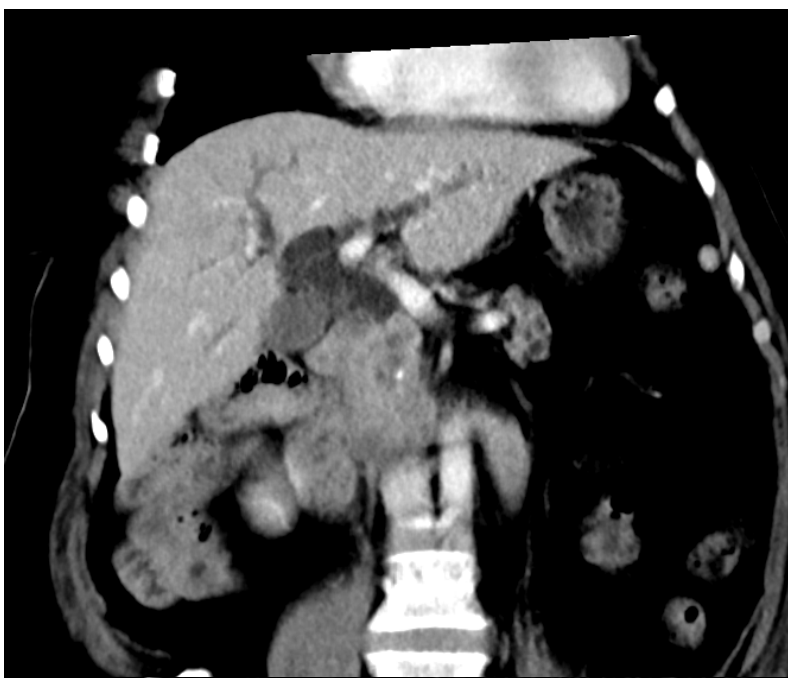
Faux anévrisme de l'artère hépatique droite



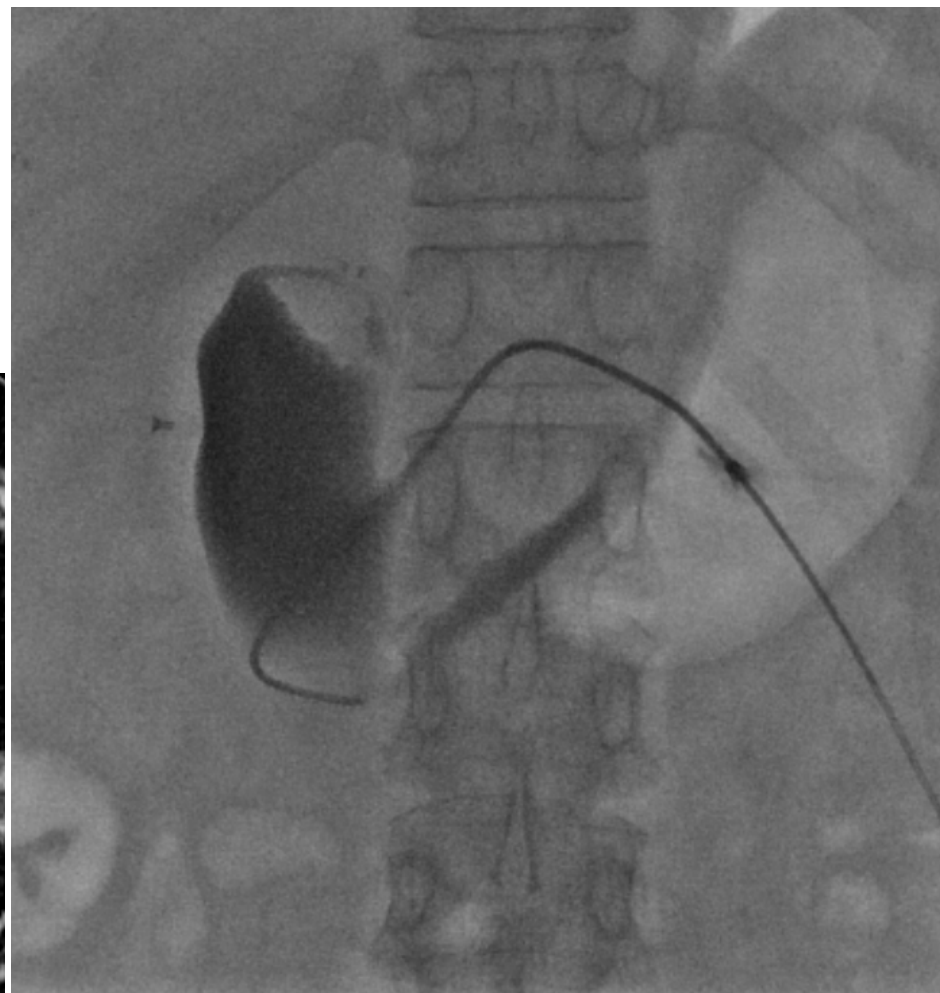
Artéριο-Embolisation hépatique droite

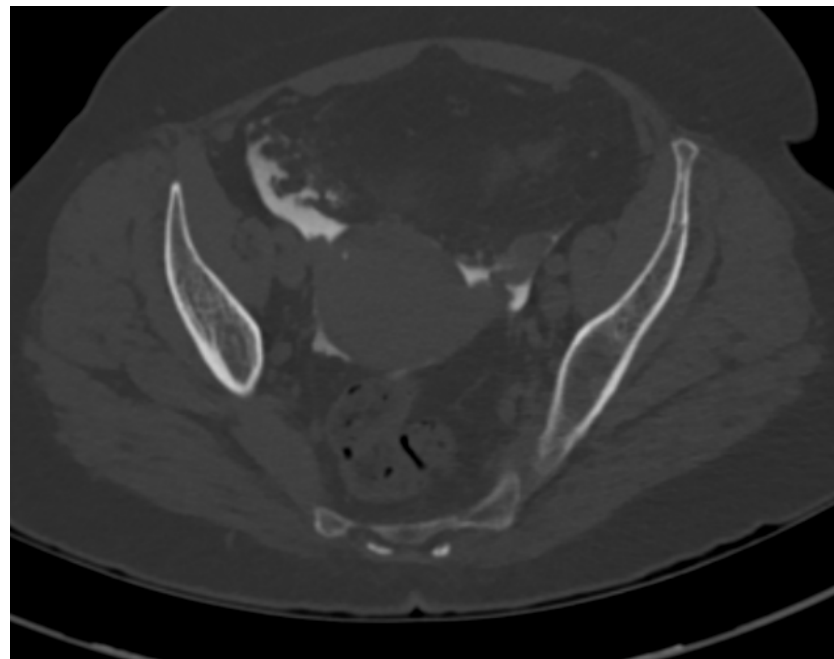
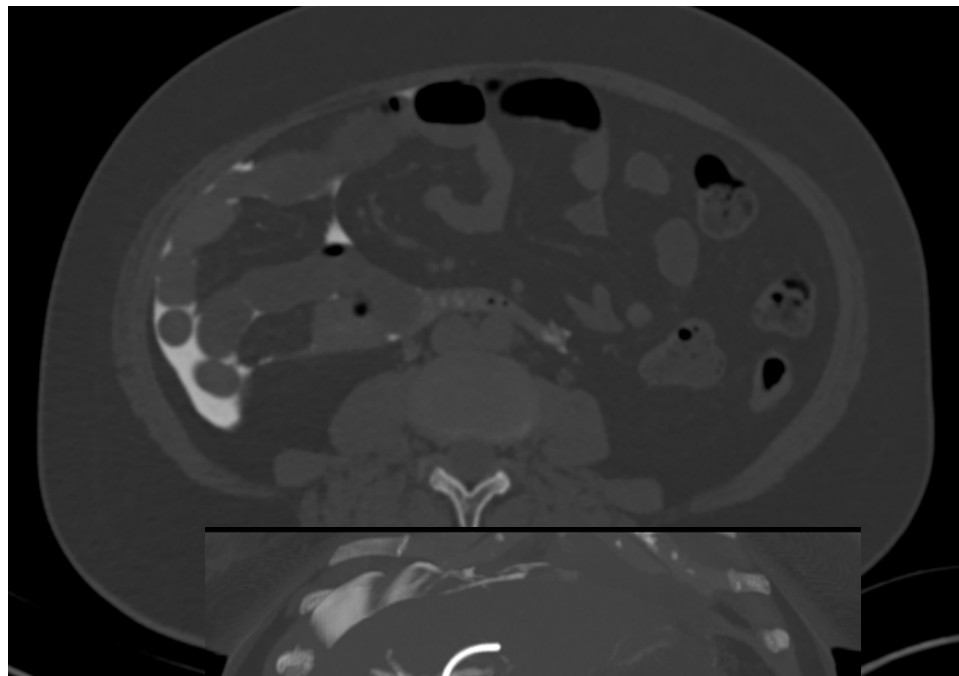
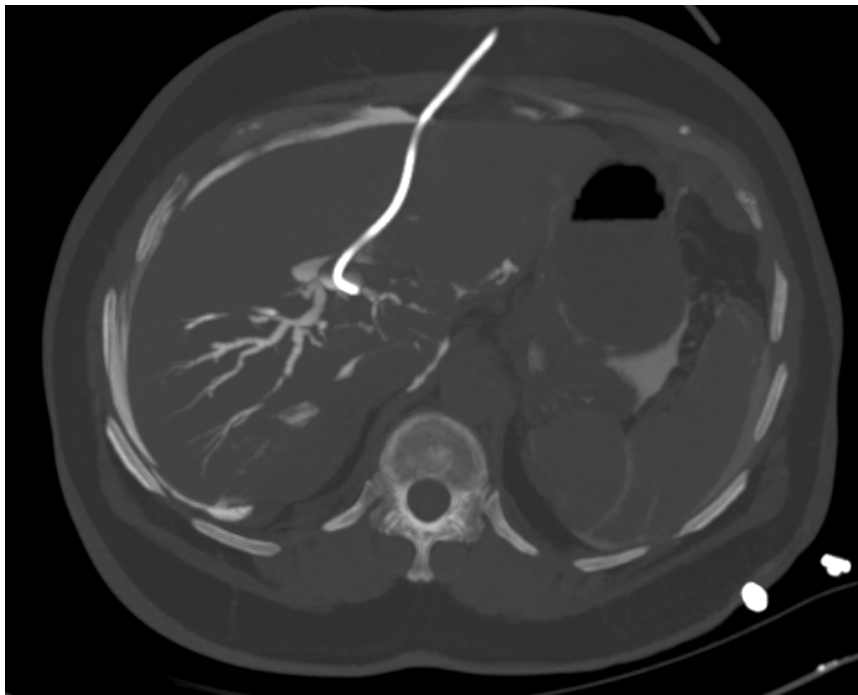






F 63 ans, Lésion bas cholédoque
Pb de voie d'abord +++







**Comment améliorer
L'efficacité du drainage ?**

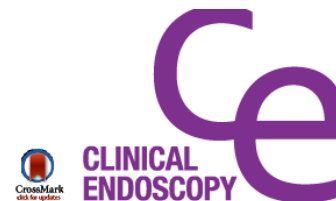
FOCUSED REVIEW SERIES:

Past, present and future of gastrointestinal stents

Clin Endosc 2016;49:124-130

<http://dx.doi.org/10.5946/ce.2016.023>

Print ISSN 2234-2400 • On-line ISSN 2234-2443



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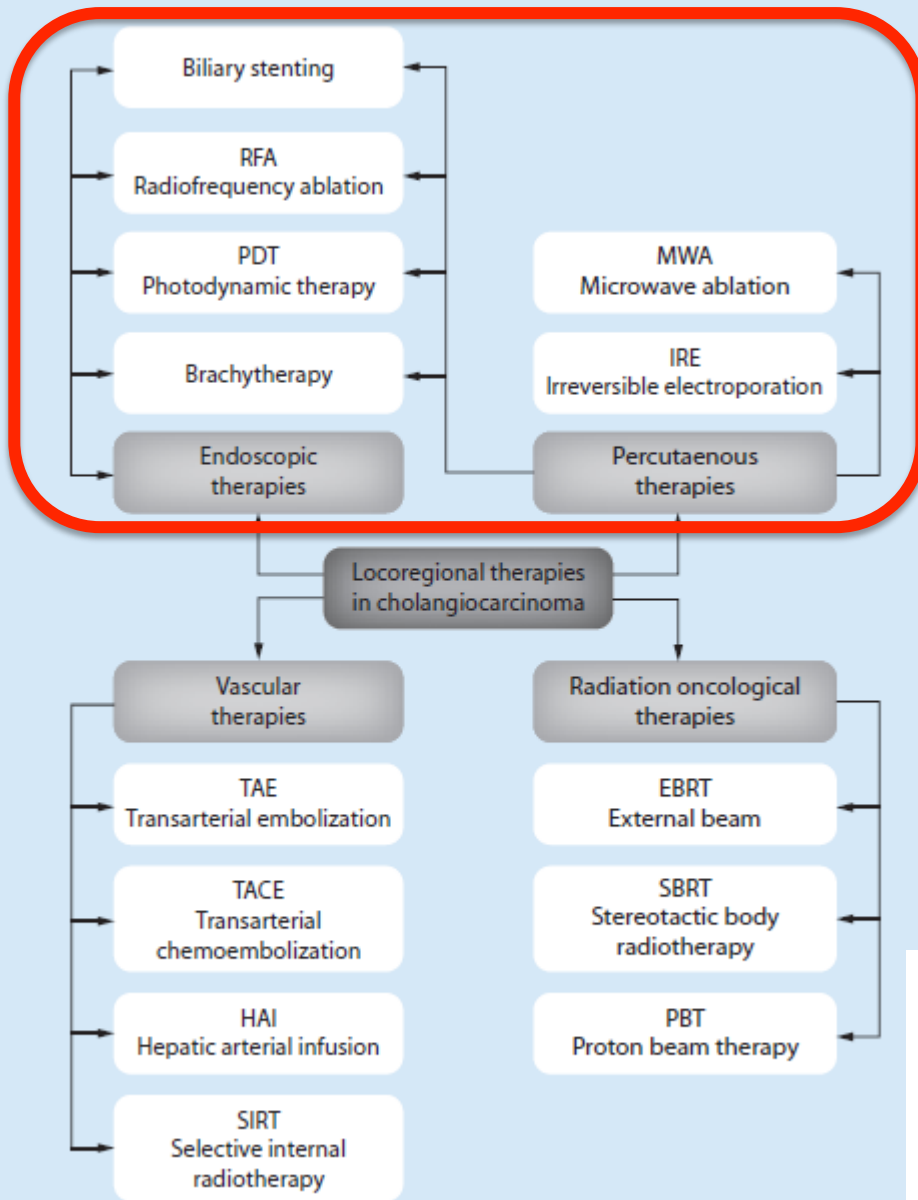
Current Status of Biliary Metal Stents

Hyeong Seok Nam and Dae Hwan Kang

Department of Internal Medicine, Pusan National University School of Medicine and Research Institute for Convergence of Biomedical Science and Technology, Pusan National University Yangsan Hospital, Yangsan, Korea

Amélioration des stents

- Stents anti-migration
- Stents anti-reflux
- Drug-eluting stent
- Stent radioactifs
- Stent bioabsorbable
- Stents couverts totalement ou partiellement
- Stents couverts et perforés (VB, canal biliaire segmentaire ou controlatéral)

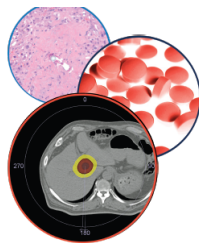


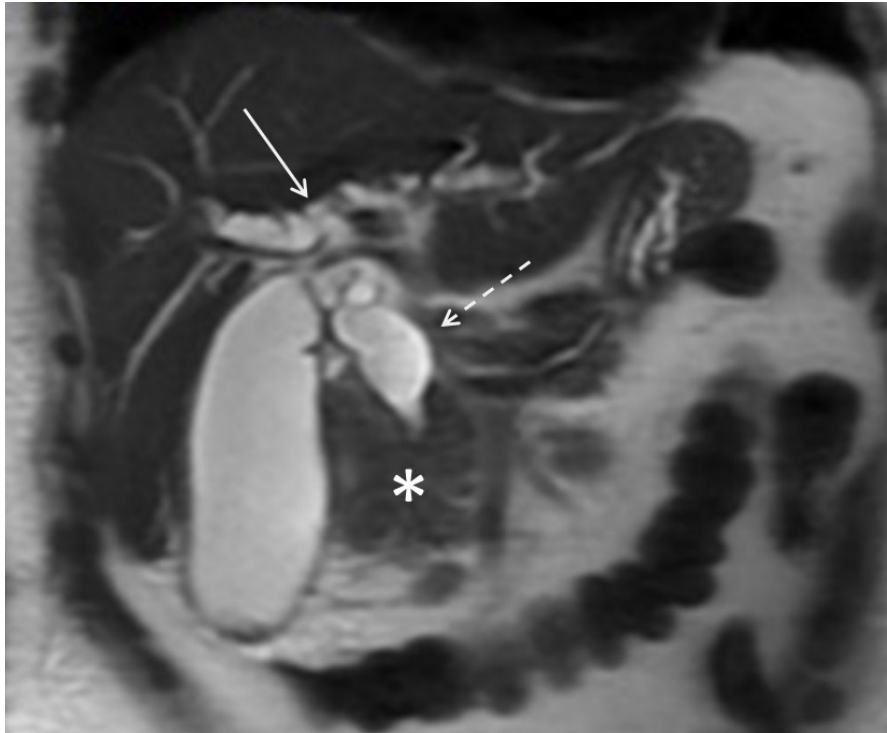
REVIEW

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Locoregional therapies in cholangiocarcinoma

Peter L Labib¹, Brian R Davidson², Ricky A Sharma³ & Stephen P Pereira^{*1}





A newly designed temperature-controlled ERFA catheter (ELRA- STARTmed, Seoul, Korea)



EPIC - STENT

Endobiliary radiofrequency ablation and percutaneous biliary stent placement for choledocal invasion of renal cell carcinoma

Ercan Ayaz¹ , Murat Aşık² 

Turk J Gastroenterol 2019

Research Paper

Interventional radiofrequency ablation: A promising therapeutic modality in the management of malignant biliary and pancreatic duct obstruction

M Mizandari^{1✉}, J Kumar³, M Pai³, T Chikovani², T Azrumelashvili¹, I Reccia³, N Habib³

1. Department of Radiology, Tbilisi State Medical University (TSMU), Tbilisi, Georgia

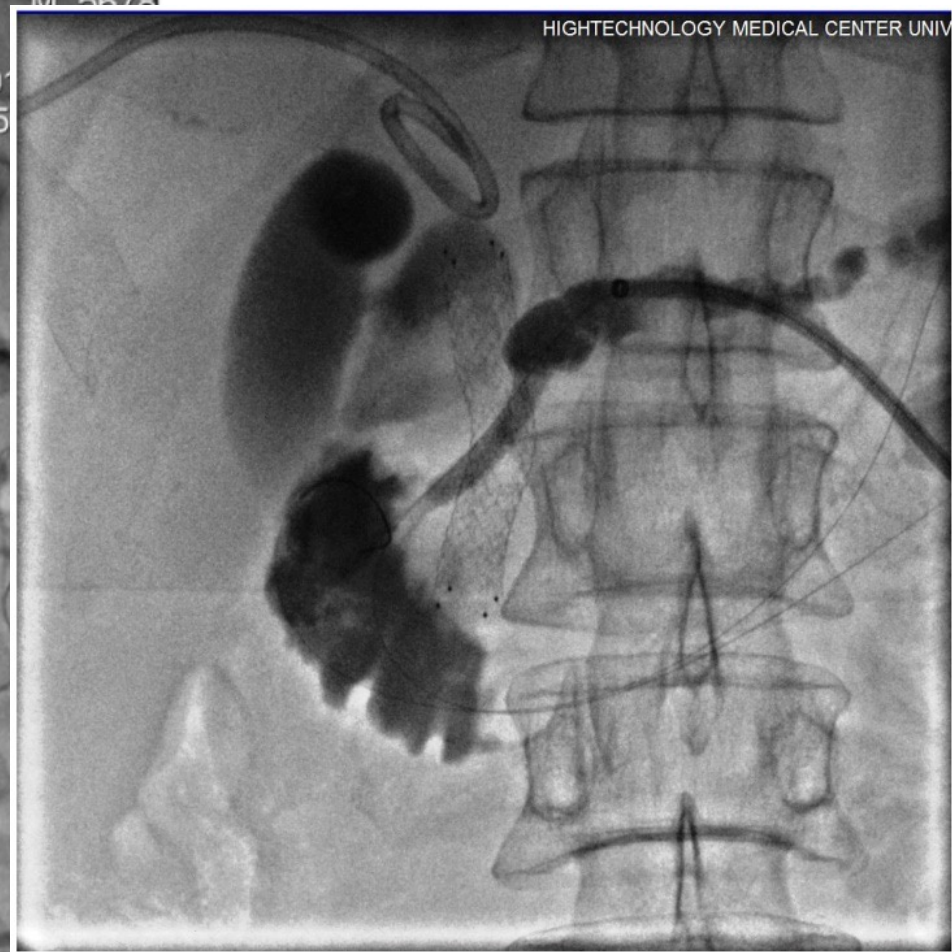
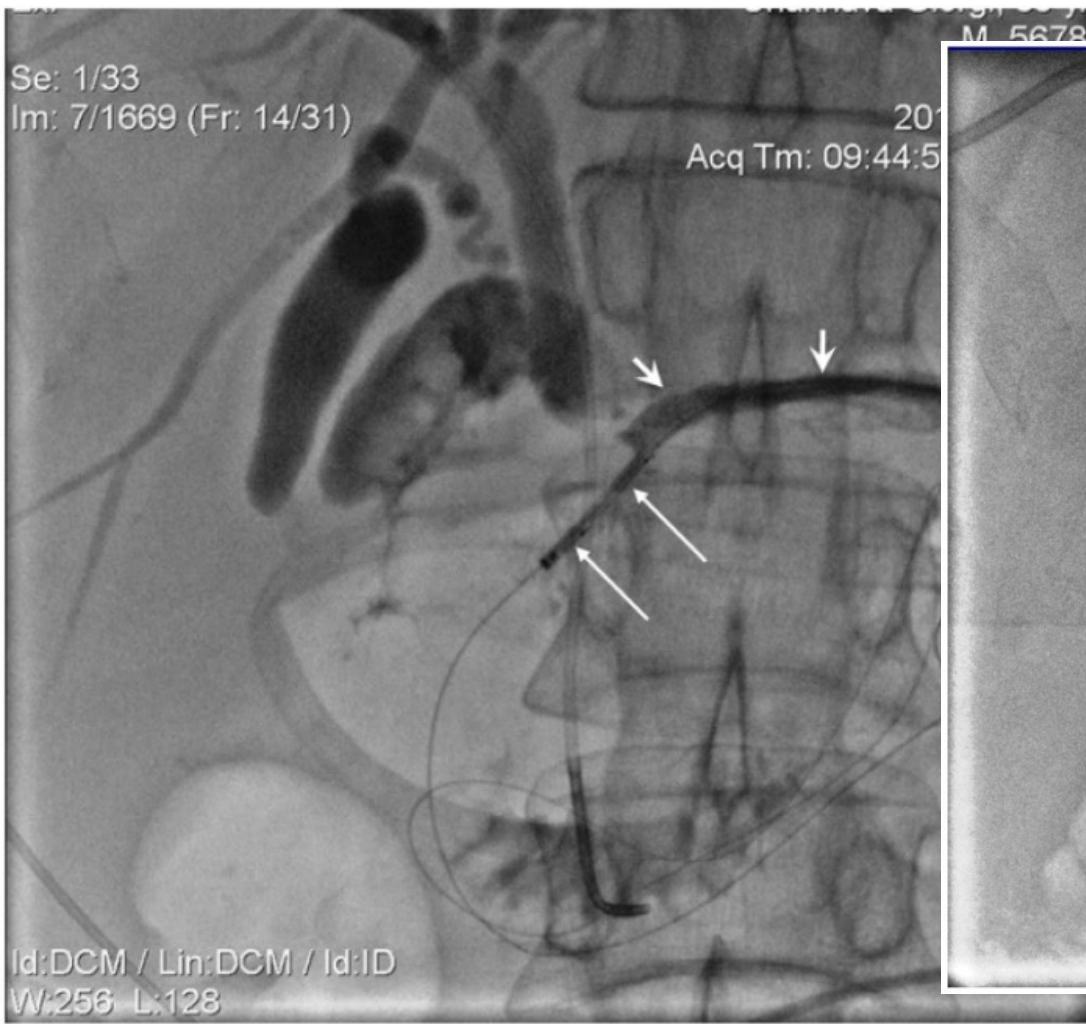
The HabibTM Percutaneous HPB probe (EMcision Ltd, London, UK) , bipolar 8 French (Fr) catheter with a working length of 90 cm, approved by FDA & CE.

134 patients: Tumeurs biliaires et pancréatiques non opérables

Abord percutané biliaire et pancréatique

Succès technique 130 = 97%

Perméabilité biliaire 124 = 92.5%

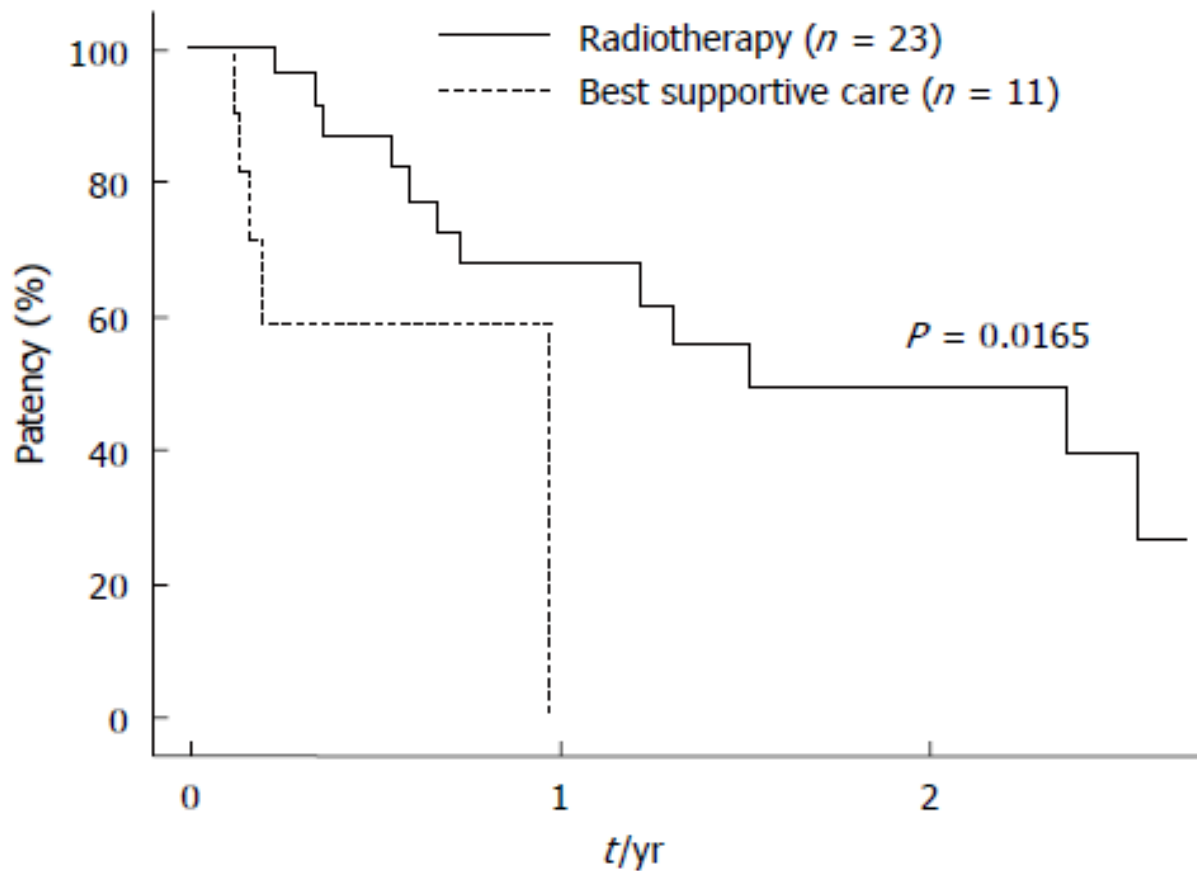




Clinical benefit of radiation therapy and metallic stenting for unresectable hilar cholangiocarcinoma

Hiroyuki Isayama, Takeshi Tsujino, Yousuke Nakai, Takashi Sasaki, Keiichi Nakagawa, Hideomi Yamashita, Taku Aoki, Kazuhiko Koike

Figure 3 Cumulative metallic stent patency. Stents were patent significantly longer in the radiotherapy than in the BSC group ($P = 0.0165$). BSC: Best supportive care.



Patient at risk

Radiotherapy	18	12	9	7	3
BSC	2	0			

La radiothérapie associée au stenting améliore la survie et la perméabilité du stent

The role of percutaneous transhepatic biliary biopsy in the diagnosis of patients with obstructive jaundice: an initial experience

Papel da colangiobiópsia trans-hepática percutânea no diagnóstico de pacientes com icterícia obstrutiva: experiência inicial

Tiago Kojun Tibana^{1,a}, Renata Motta Grubert^{1,b}, Vinicius Adami Vayego Fornazari^{2,c}, Fábio Colagrossi Paes Barbosa^{1,d}, Bernardo Bacelar^{3,e}, Amauri Ferreira Oliveira^{4,f}, Edson Marchiori^{5,g}, Thiago Franchi Nunes^{1,h}

Radiol Bras. 2019 Jul/Ago;52(4):222–228.

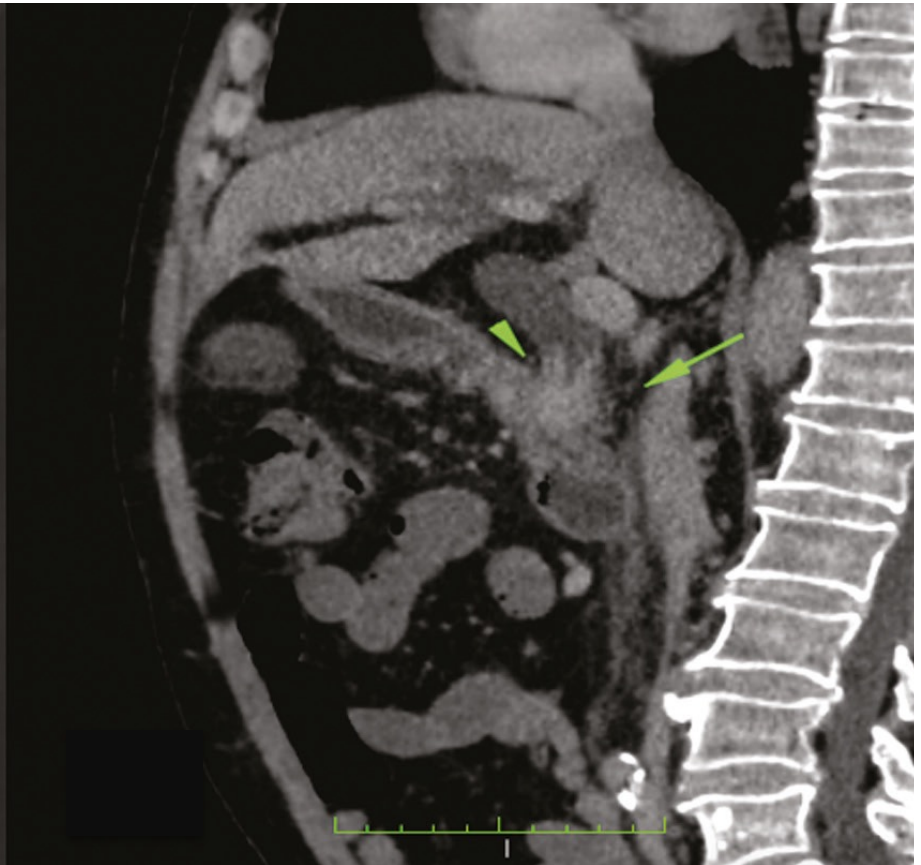
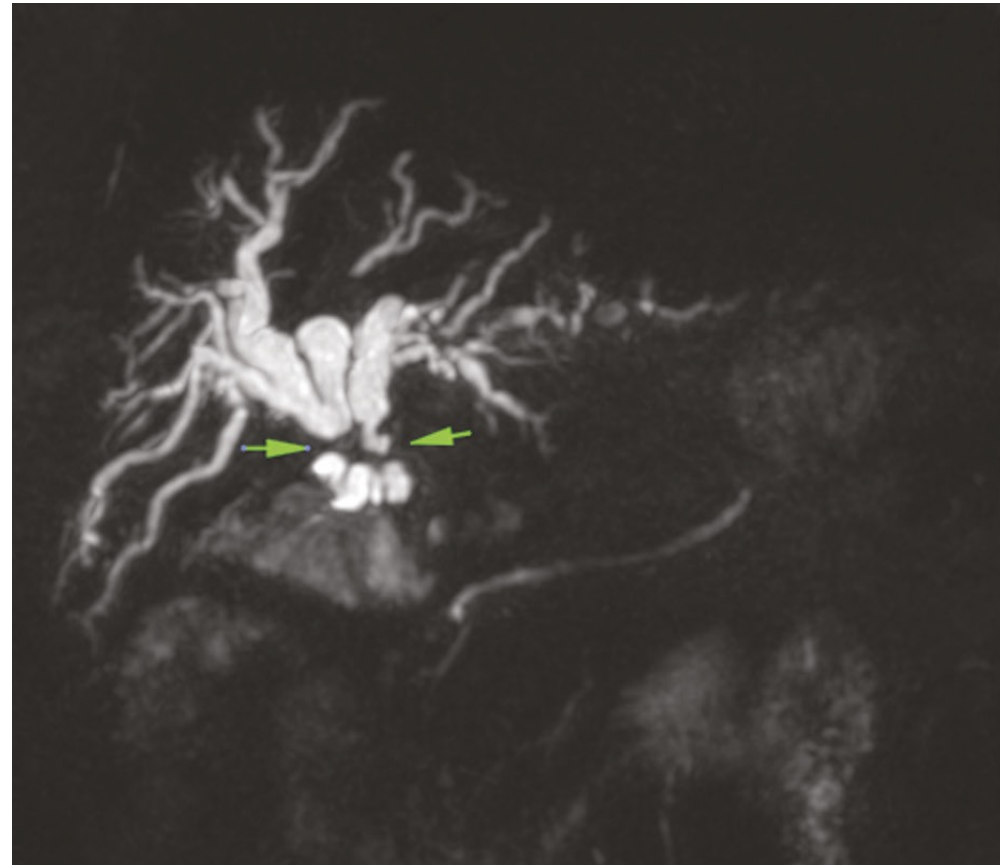
18 patients

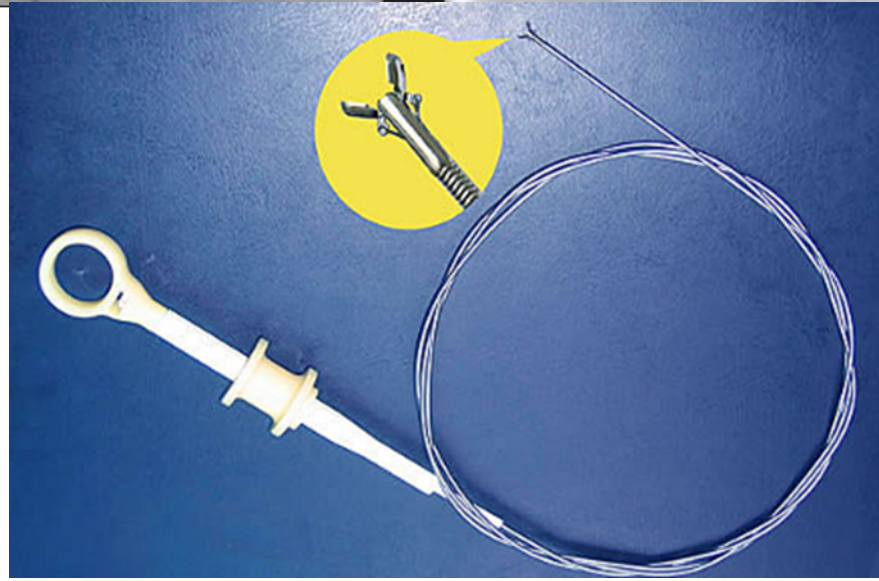
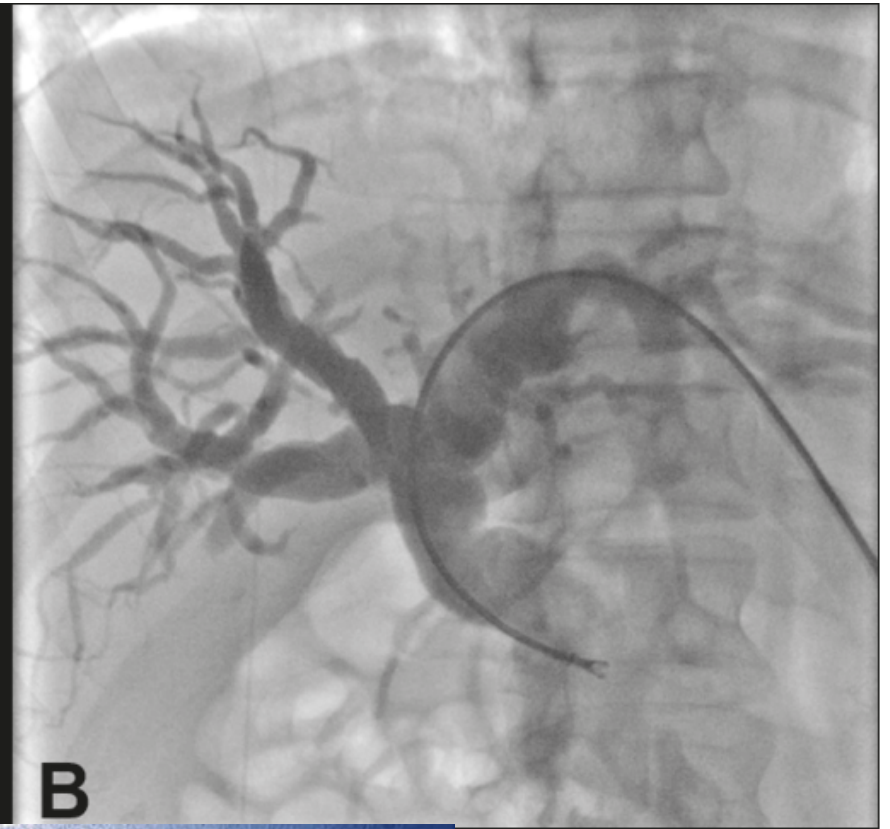
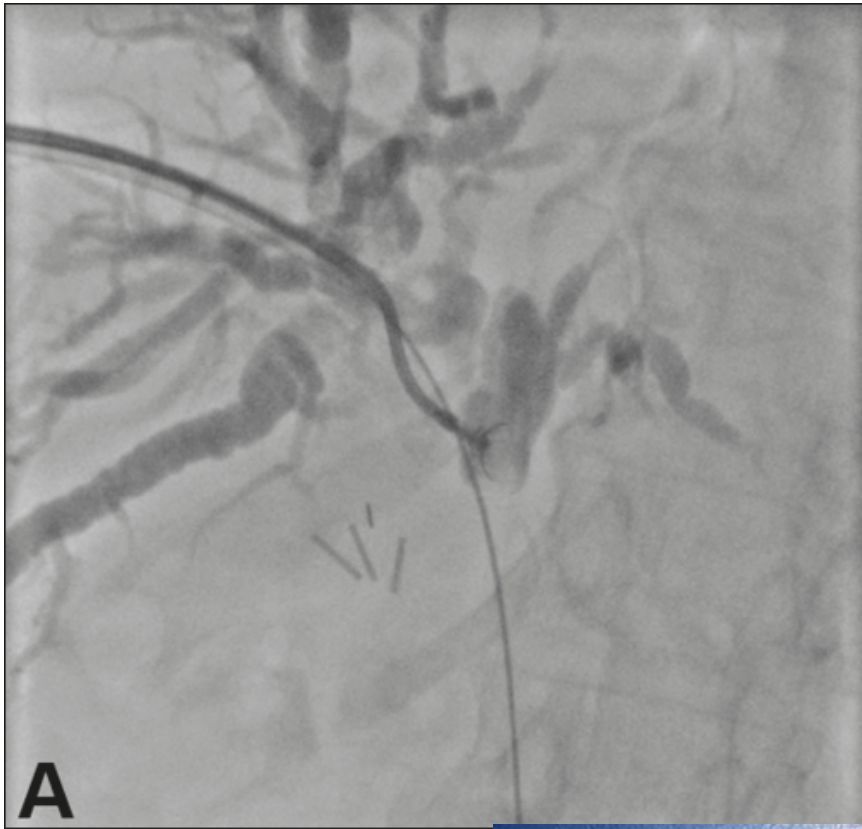
Succès technique 100%

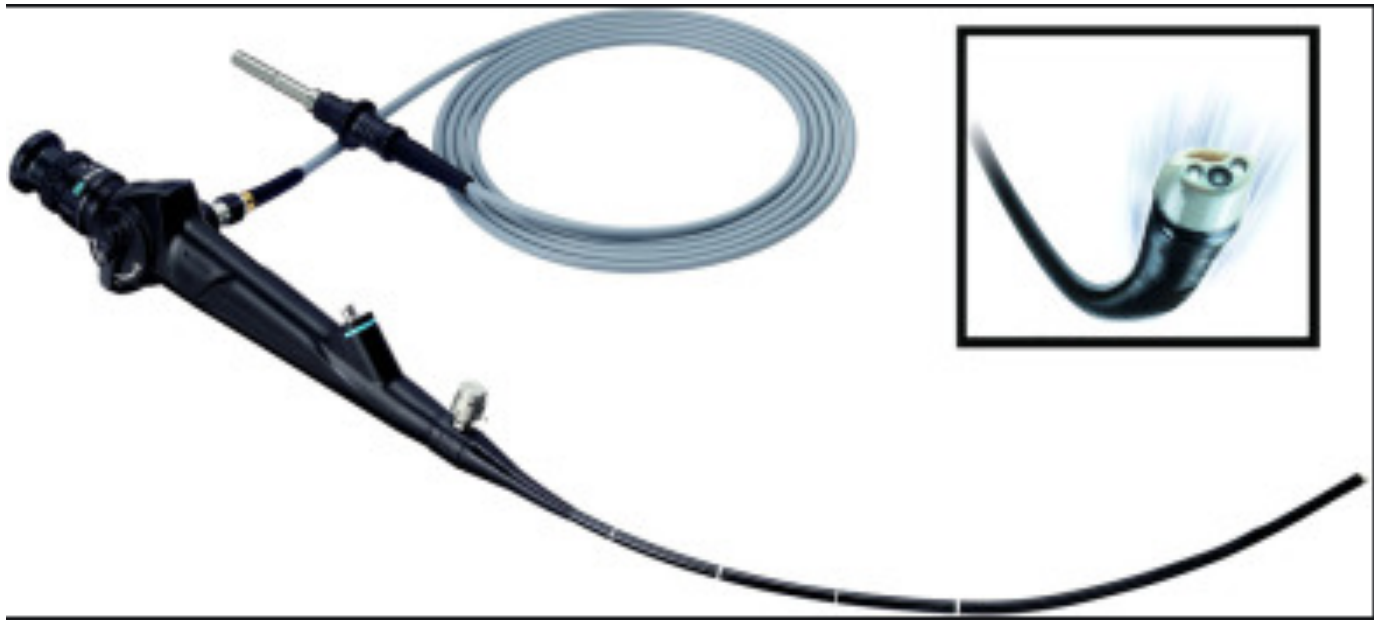
Confirmation histologique 17 fois

Cholangiocarcinome 50%

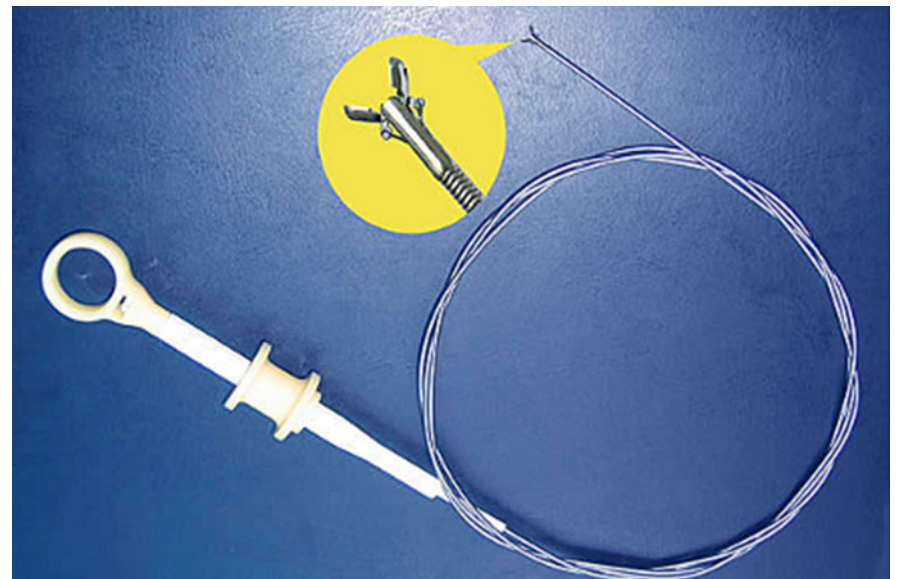
Complications 2 patients (Hémobilie, angiocholite)







**Et pourquoi pas
Une endoscopie percutanée
Et une biopsie ?**



CONCLUSION

La désobstruction des voies biliaires par voie trans-hépatique est essentiellement palliative

Elle s'adresse aux patients non opérables en cas d'impossibilité de la voie endoscopique