

UNIVERSITAIR MEDISCH CENTRUM GRONINGEN

Tumoren van de galwegen: diagnostiek en therapeutische opties

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**Cursorisch onderwijs MDL
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umcg



- Geen disclosures

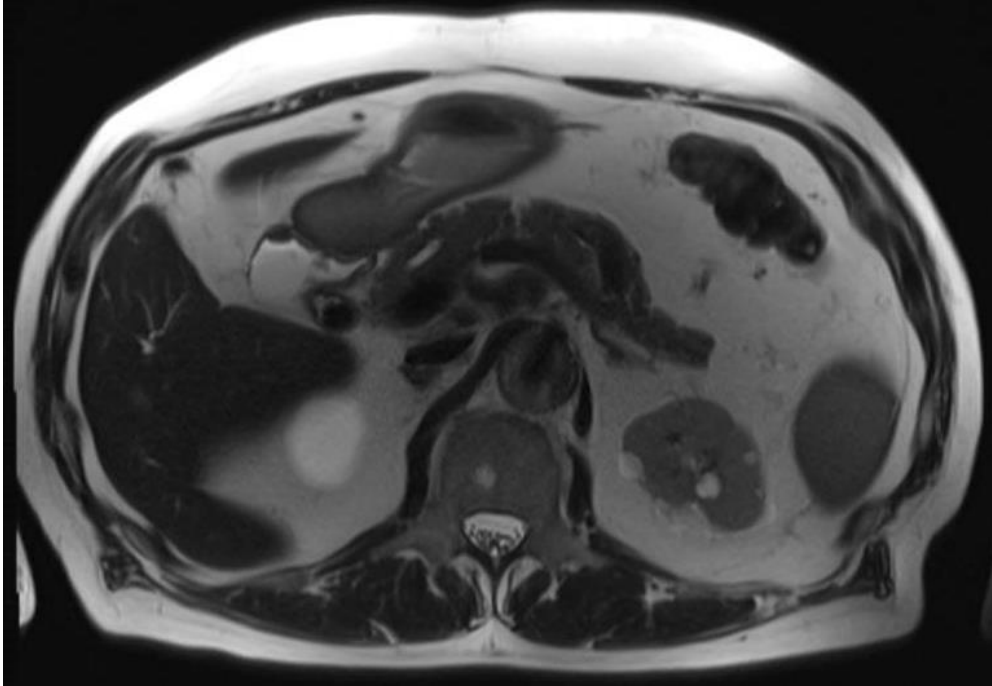
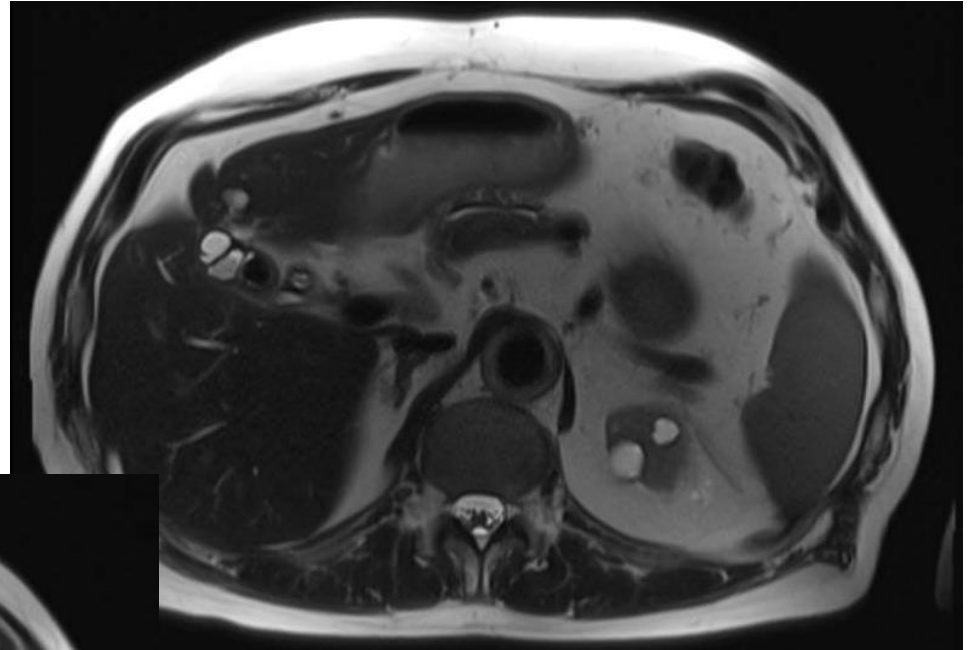
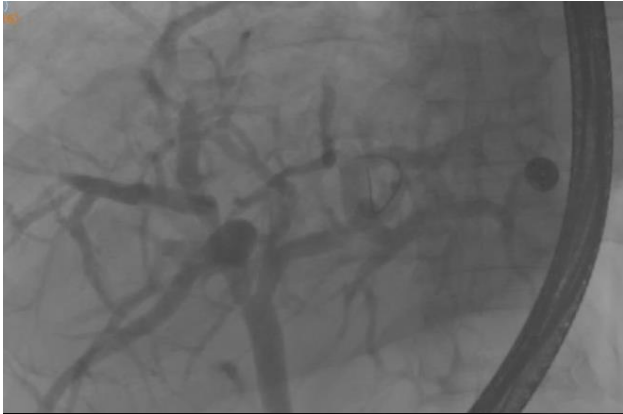
Casus

- 78 years old man, silent icterus

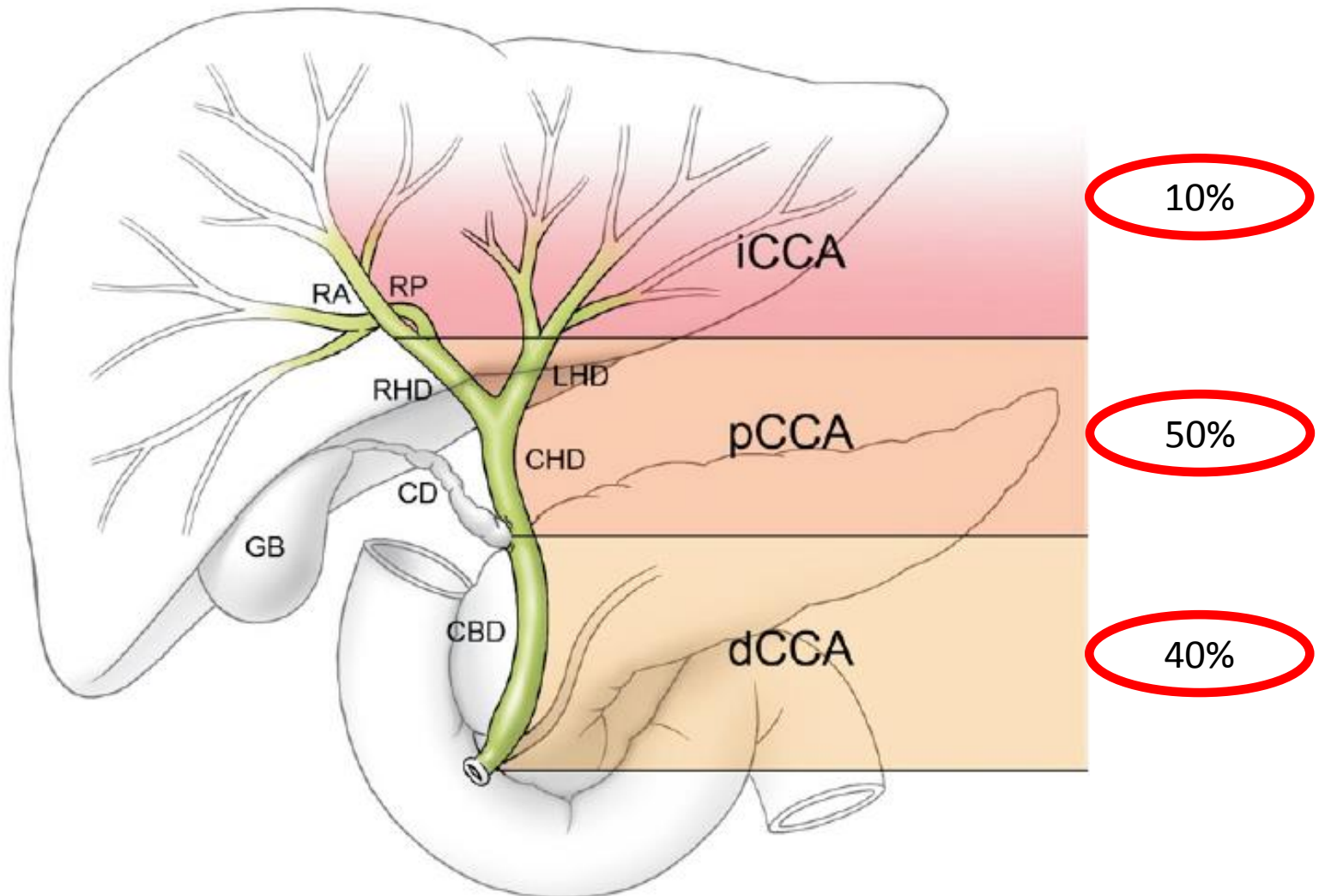


- Spybite biopsies: atypical proliferative epithelium. Suspicious for malignancy, no definite diagnosis
- Brush: atypical cells, suspicious for adenocarcinoma
- Stent: no malignancy

6 months later: no complaints, normal lab



Cholangiocarcinoma



Visual Art: © 2014 The University of Texas MD Anderson Cancer Center

Table 1. Risk Factors for Cholangiocarcinogenesis

Established risk factors

Primary sclerosing cholangitis

Hepatobiliary parasites (*Opisthorchis viverrini*, *Clonorchis sinensis*)

Hepatolithiasis

Caroli's disease

Choledochal cysts (types I and IV)

Thorotrast

- Patients with PSC have an increased lifetime risk to develop CCA.

This risk is:

– GREEN: lower than 5%

– RED: higher than 5%

Diagnostics

MRI/MRCP before ERCP

- Diagnosis?
 - wall thickening/ asymmetry/ luminal irregularity
- Imaging bile duct wall blurred by stents
- Resectability

- Surgical plan:
 - which liver lobe to resect?
 - Porta embolisation?
- Endoscopic plan

DD

- Up to 15% of suspicious biliary strictures are postoperatively found to be benign
- Benign causes:
 - Mirrizi's syndrome
 - primary sclerosing cholangitis
 - previous biliary surgery
 - IgG4-related biliary strictures
 - IgG4 in serum is increased in more than 80% of patients with IgG4 disease
 - True is green
 - False is red

DD

- Up to 15% of suspicious biliary strictures are postoperatively found to be benign
- Benign causes:
 - Mirrizi's syndrome
 - primary sclerosing cholangitis
 - previous biliary surgery
 - IgG4-related biliary strictures
 - men/ >60 yrs/ blue collar workers
 - serum IgG4 > 1.4 g/l in 65-80%
 - qPCR serum IgG4:IgG RNA ratio AMC

ERCP: diagnostics

| | Pooled Sensitivity | Pooled Specificity |
|-----------------------------|---------------------------|---------------------------|
| Brush | 0.45 | 0.99 |
| Fluoroscopy guided biopsies | 0.48 | 0.99 |
| Combined | 0.59 | 1.00 |

How often do you brush?

GREEN ABOUT 5 TIMES

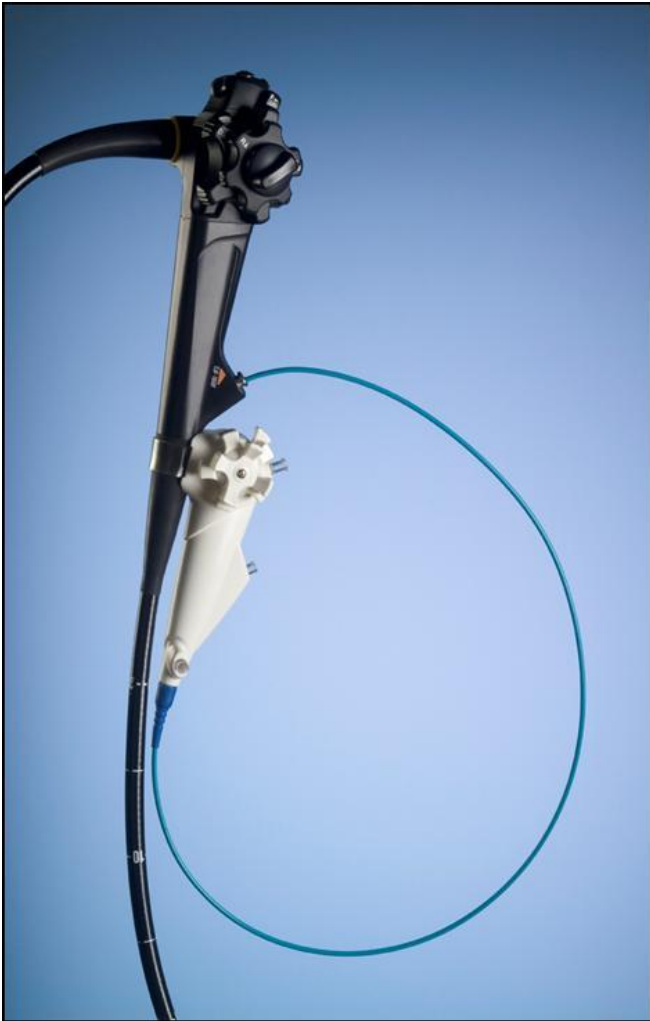
RED ABOUT 10 TIMES

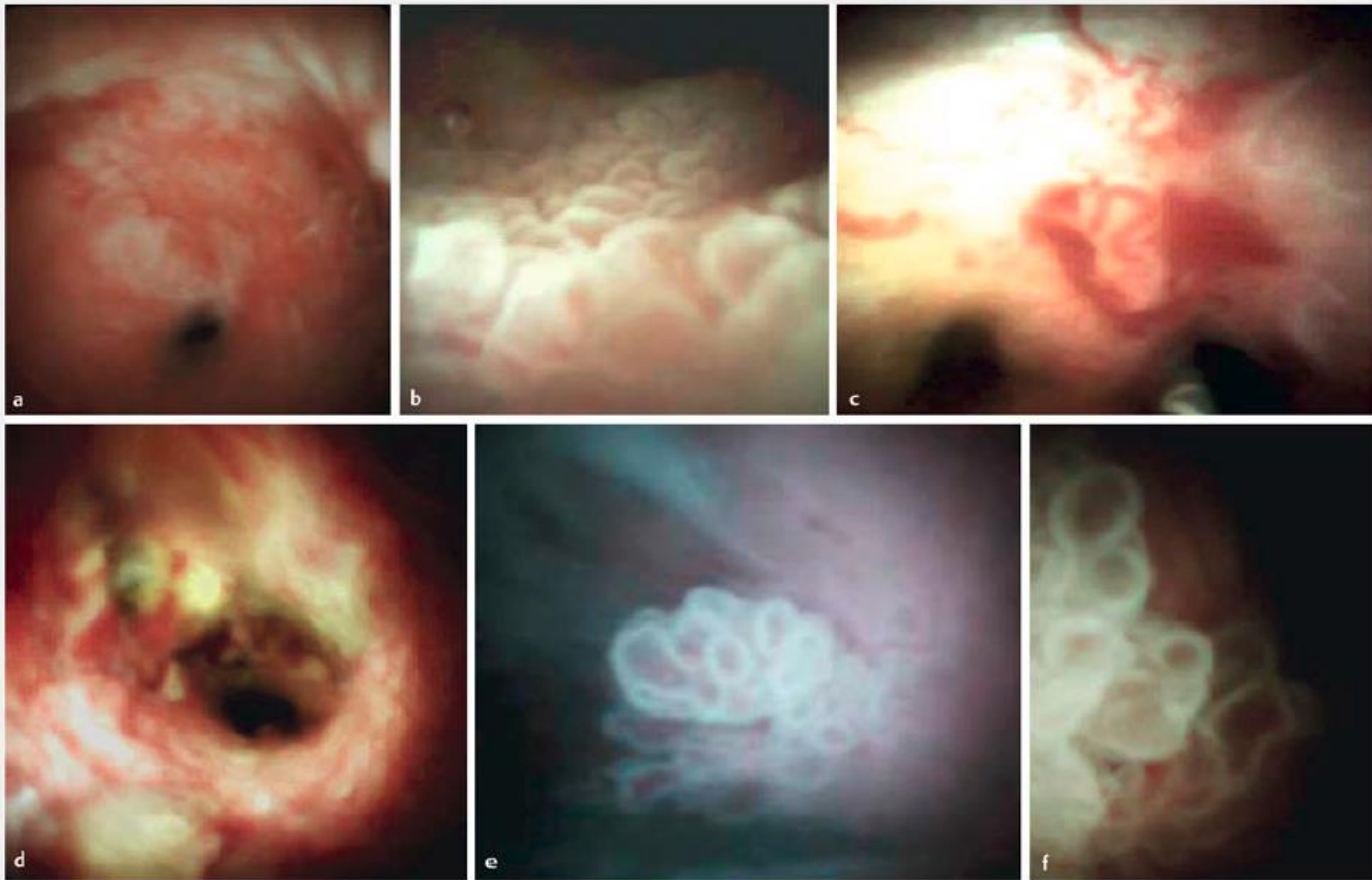
TABLE 2. Characteristics of brushings, intraductal biopsies, and cytological interpretations

| Study | No. of brush passes, tissue bites | Cytological interpretation of FNA test |
|------------------------------------|--|---|
| Pugliese et al, 1987 ²⁰ | NR, NR | |
| Pugliese et al, 1995 ²¹ | Multiple, 2-3 | |
| Ponchon et al, 1995 ¹⁹ | NR, NR | |
| Howell et al, 1996 ¹⁶ | NR, NR | Only positive |
| Sugiyama et al, 1996 ²³ | NR, 1-5 | |
| Jailwala et al, 2000 ¹⁷ | 10-15, 1-2 | Only positive |
| Rösch et al, 2004 ²² | 2, 6 | |
| Kitajima et al, 2007 ¹⁸ | ≥5, 2-5 | High-grade |
| Weber et al, 2008 ²⁴ | Multiple, NR | |

NR, Not reported.

Cholangioscopy





► **Fig. 1** Findings on digital, single-operator, intraductal cholangiopancreatography. **a** Benign concentric stenosis. **b** Benign coarse granular mucosal changes. **c** Dilated tortuous tumor vessels in patient with cholangiocarcinoma (CCA). **d** Infiltrative stricture with tumor vessels in patient with CCA. **e** Villous mass in patient with biliary intraductal papillary mucinous neoplasm (IPMN). **f** Fish-egg lesion in patient with IPMN.

Neoplasia

► **Table 2** Digital, single-operator, intraductal cholangiopancreatoscopy findings in patients with confirmed neoplasia (n = 29).

| Findings* | n (%) |
|-----------------------------------|---------|
| Tumor vessels | 13 (45) |
| Infiltrative stricture | 12 (41) |
| Villous mass | 9 (31) |
| Finger-like villiform projections | 5 (17) |
| Low papillary mucosal projections | 3 (10) |
| Concentric stenosis | 2 (7) |
| Coarse granular mucosa | 1 (3) |

* More than one finding may exist per patient.

Benign

► **Table 3** Digital, single-operator, intraductal cholangiopancreatography findings in patients with benign disease (n = 45).

| Findings* | n (%) |
|-----------------------------------|---------|
| Concentric stenosis | 14 (31) |
| Normal/erythematous changes | 12 (27) |
| Coarse granular mucosa | 6 (13) |
| Low papillary mucosal projections | 5 (11) |
| Infiltrative stricture | 4 (9) |
| Nodule(s) | 4 (9) |
| Biliary sludge | 3 (7) |
| Finger-like villiform projections | 2 (4) |
| Tumor vessels | 1 (2) |
| Villous mass | 1 (2) |
| Unknown | 7 (16) |

* More than one finding may exist per patient.

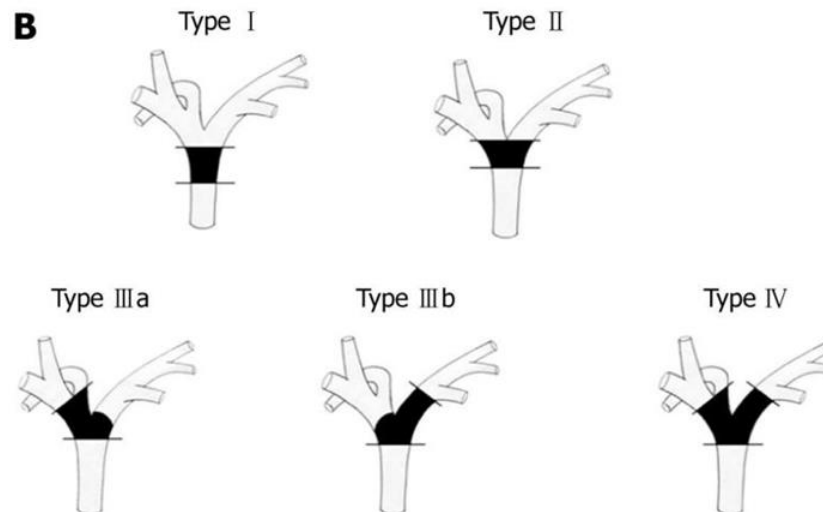
ERCP: diagnostics

| | Pooled Sensitivity | Pooled Specificity |
|---------------------------------|----------------------------|----------------------------|
| Brush | 0.45 | 0.99 |
| Fluoroscopy guided biopsies | 0.48 | 0.99 |
| Combined | 0.59 | 1.00 |
| Cholangioscopy guided biopsies | 0.60 (2015) 0.86 (2017) | 0.98 (2015) 1.00 (2017) |
| Visual cholangioscopic findings | 0.84 (2015) 0.97 (2017) | 0.83 (2015) 0.93 (2017) |

Navaneethan, Gastrointestinal Endoscopy, 2015
Shah, Endoscopy, 2017

Therapy

- Which site to drain?
- 1 or 2 stents?
- Plastic or metal stents?
- Endoscopic or percutaneous drainage?

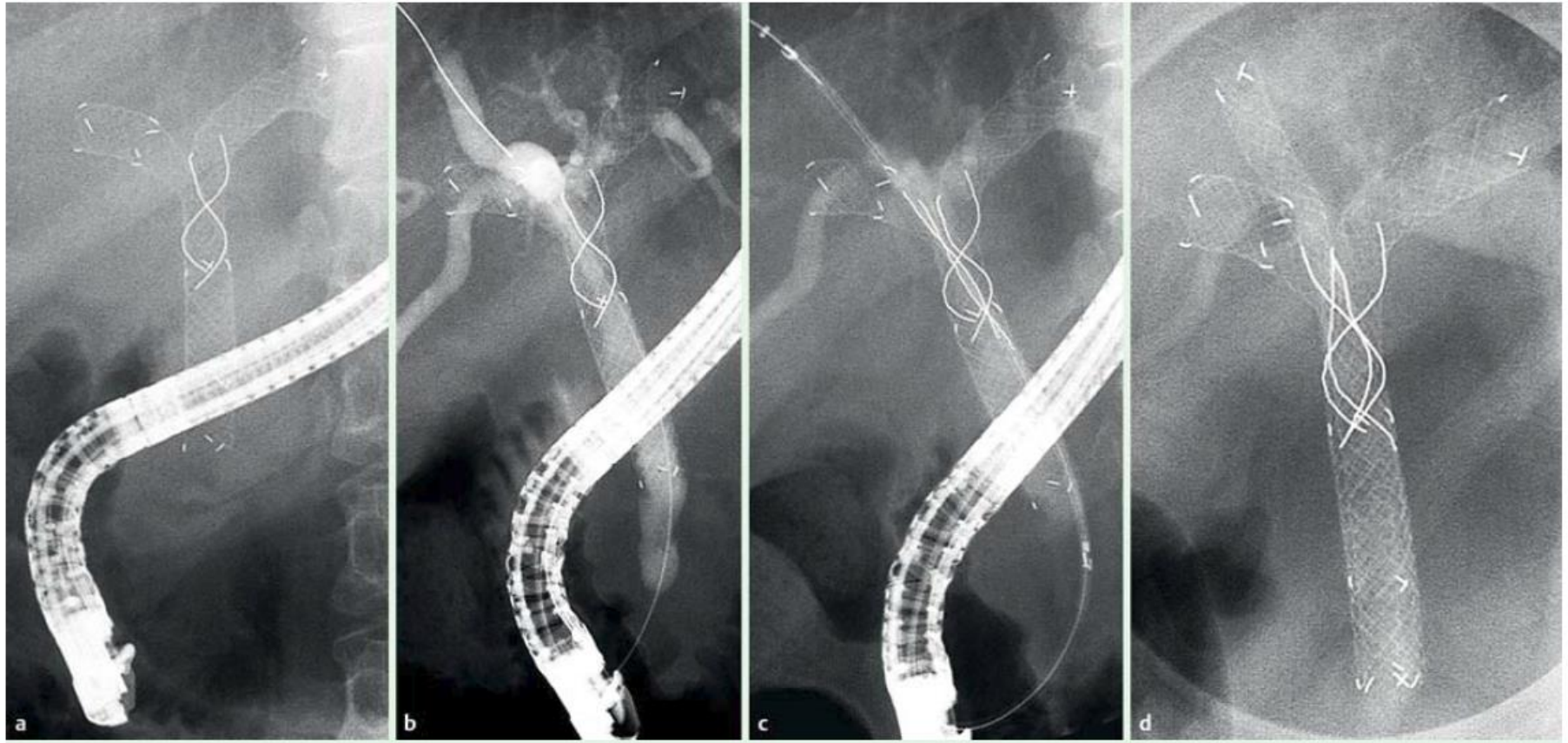


Guidelines

- ASGE (2013):
 - **Unilateral** endoscopic biliary stent placement directed by prior imaging achieved palliation of jaundice **equal to bilateral stents**, but with lower risk of cholangitis (Hintze 2001, De Palma 2001) and lower cost (Harewood 2002)
 - Endoscopic palliation of jaundice should be performed by using **MRC as a guide** for **unilateral** drainage to minimize the risk of cholangitis
- ESGE (2012):
 - **Resectability** evaluated by imaging techniques in **absence** of stents
 - Aim: draining **>50%** of liver volume
 - **Single stent** in most accessible biliary system proposed for palliation
 - Drain **duct(s) unintentionally opacified**

ESGE 2012: plastic vs SEMS

- Similar short-term results
- SEMSs provide a longer patency
- SEMSs recommended if:
 - life expectancy >3 months
 - biliary infection



Stent-in-stent or side-by-side

Other developments

- CLE
- NBI
- Fluorescence In Situ Hybridization (FISH)
- Next-generation sequencing

- RFA
- Stenting with photodynamic therapy (PDT)
- Liver transplantation

Liver transplantation

Table 1. Mayo clinic criteria for inclusion in the transplantation protocol for hilar cholangiocarcinoma [15–17].

| | |
|------------------------------|---|
| Diagnosis | Pathologically confirmed hilar cholangiocarcinoma <i>or</i> CA19-9 >100 ng/ml in the presence of a radiographically malignant stricture |
| Tumor | Tumor size < 3 cm |
| Distant metastases | Absence of distant metastases on CT (and/or MRI) and isotope bone scan |
| Lymph node metastases | Negative EUS-FNA of regional lymph nodes <i>and</i> negative staging laparotomy/hand-assisted-laparoscopy with biopsy of regional lymph nodes |

Abbreviations: CA 19–9; carbohydrate antigen 19–9, EUS-FNA; Endoscopic ultrasonography-fine needle aspiration.

Summary

- Hard to make a definite diagnosis
- Be aware of IgG4
- Be aware of PA in presence of a stent
- First MRCP and MDO
- Therapy:
 - 1 stent in remaining liver lobe
 - SEMS or plastic?
 - in difficult cases => PTCD

Suggested readings

- Blechacz, Cholangiocarcinoma: Current Knowledge and New Developments, Gut and Liver, 2017
- Culver, IgG4-related hepatobiliary disease: an overview. Nature reviews Gastro & Hepatol, 2016



Cholangioscopy

- [video afw slijmvlies.mp4](#)