North Carolina Society of Gastroenterology 2025 Annual Meeting

PSC – What does the endoscopist look for and what is the latest on management?

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Disclosures:
-None

Outline

- PSC
- Role of ERC in PSC
- Endoscopic Management of PSC
- Future Directions

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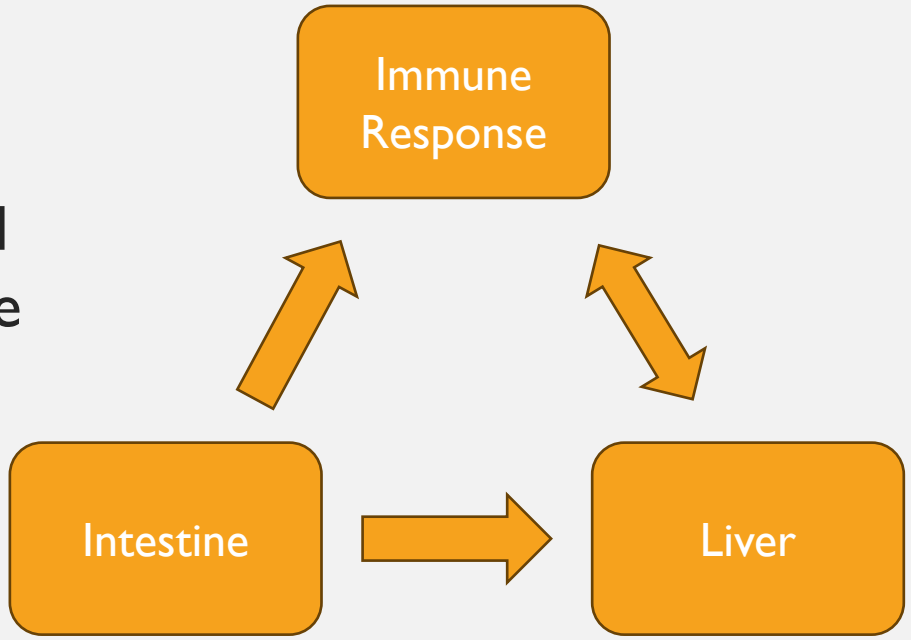
Primary Sclerosing Cholangitis

- Cholestatic liver disease characterized by inflammation and fibrosis of the bile ducts
- 70-80% concurrent IBD
- 5% overlap with autoimmune hepatitis

Primary Sclerosing Cholangitis

- Multiple mechanisms implicated in PSC and progression of disease



Role of Endoscopy In Diagnosis

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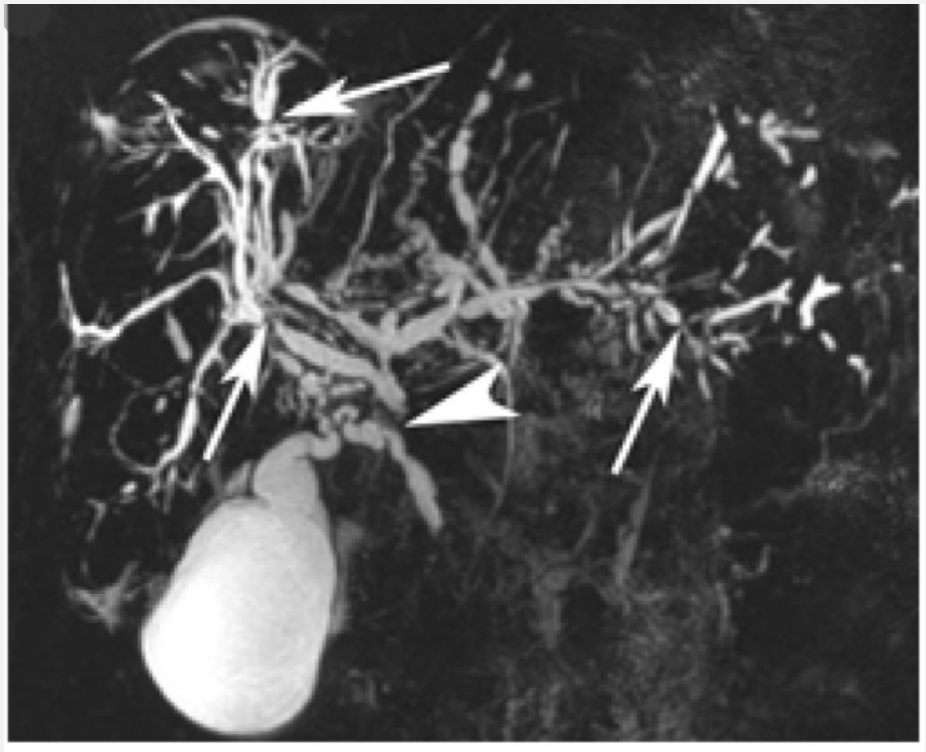
Role of Endoscopy in PSC

- Strictures
- Choledocholithiasis
- Malignancy

Role of Endoscopy in PSC

Can you take a look at this MRI?



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Bowlus CL, Arrivé L, Bergquist A, Deneau M, Forman L, Ilyas SI, Lunsford KE, Martinez M, Sapisochin G, Shroff R, Tabibian JH, Assis DN. AASLD practice guidance on primary sclerosing cholangitis and cholangiocarcinoma. Hepatology. 2023 Feb 1;77(2):659-702. doi: 10.1002/hep.32771. Epub 2022 Oct 20. PMID: 36083140.

ERC?

- Jaundice, RUQ pain, fevers, chills and/or pruritus
- Laboratory testing
- Imaging findings

Strictures

- Dominant
  - ≤ 1.5 mm in the CBD
  - ≤ 1.0 mm in the hepatic ducts within 2 cm of the bifurcation
- Relevant
  - Clinically significant stricture

ERC

- Drainage
  - Dilate
  - Stent
- Tissue
  - Brush
  - FISH
  - Direct Biopsies

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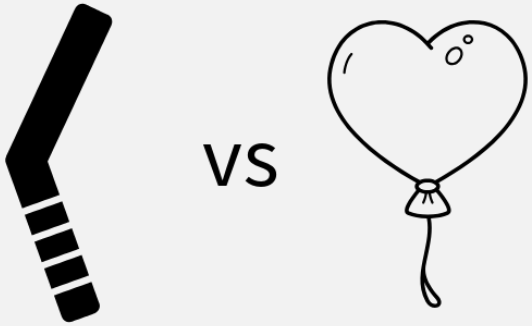
Fung BM, Tabibian JH. Biliary endoscopy in the management of primary sclerosing cholangitis and its complications. Liver Res. 2019 Jun;3(2):106-117. doi: 10.1016/j.livres.2019.03.004. Epub 2019 Apr 3. PMID: 31341699; PMCID: PMC6656407.

Drainage

- What is the optimal approach?



Stenting

Table 3. Procedure-Related SAEs

Procedure	Balloon dilatation n = 30[a]	Short-term stenting n = 33[a]	OR (95% CI)	*P* value
All cause, n (%)	2 (6.7)	15 (45.4)	11.7 (2.4–57.2)	.001
Cholangitis/cholecystitis, n (%)	1 (3.3)	4 (12)	4.0 (0.42–38.0)	.36
Post-ERCP pancreatitis, n (%)	1 (3.3)	8 (24)	9.3 (1.1–79.4)	.03
Postprocedural pain, n (%)	0	2 (4.5)	n.a.	—
Ascites	0	1 (3)	n.a.	—

n.a., not applicable; OR, odds ratio.
[a]One patient in each group was left out from the comparison because they did not receive an attempt at their allotted treatment due to failure to pass the dominant stricture with a guidewire.

Figure 1. Cumulative recurrence-free patency of treatment. Short-term stenting, n = 34; balloon dilatation, n = 31. Log-rank test, *P* = 1.0.

Ponsioen CY, Arnelo U, Bergquist A, Rauws EA, Paulsen V, Cantú P, Parzanese I, De Vries EM, van Munster KN, Said K, Chazouillères O, Desaint B, Kemgang A, Färkkilä M, Van der Merwe S, Van Steenbergen W, Marschall HU, Stotzer PO, Thorburn D, Pereira SP, Aabakken L. No Superiority of Stents vs Balloon Dilatation for Dominant Strictures in Patients With Primary Sclerosing Cholangitis. Gastroenterology. 2018 Sep;155(3):752-759.e5. doi: 10.1053/j.gastro.2018.05.034. Epub 2018 May 24. PMID: 29803836.

Stenting

- Meta-Analysis
  - Ferreira et al 2021
    - 5 Studies with 467 patients
      - Clinical success no difference
      - AE Risk Difference -0.34 favoring dilation
  - Dhaliwal et al 2022
    - 10 studies with 456 patients
      - Clinical success 86.5% vs 70.8% favoring dilation
      - AE 11.2% vs 26.9% favoring dilation

Drainage

- Stones
  - Common
  - Intrahepatic and extrahepatic
  - May not be well visualized on MRCP

Gluck M, Cantone NR, Brandabur JJ, Patterson DJ, Bredfeldt JE, Kozarek RA. A twenty-year experience with endoscopic therapy for symptomatic primary sclerosing cholangitis. J Clin Gastroenterol. 2008 Oct;42(9):1032-9. doi: 10.1097/MCG.0b013e3181646713. PMID: 18580600.

Drainage

- Dilate dominant/relevant strictures
- Dilate to the size of the duct
- Consider short term stenting with plastic stents in refractory cases
  - No clear evidence to support metal stents
- Higher risk of stones

Tissue

- Brushing
  - Cytology
  - FISH
- Direct biopsies
  - Imaging directed
  - Cholangioscopy

Brushings

- Cytology
  - Sensitivity 43% (95% CI, 35-52%)
  - Specificity 97% (95% CI, 95-95%)
- FISH
  - Sensitivity 57.6% (95% CI, 49.4-65.4%)
  - Specificity 87.8% (95% CI, 79.2-93.2%)

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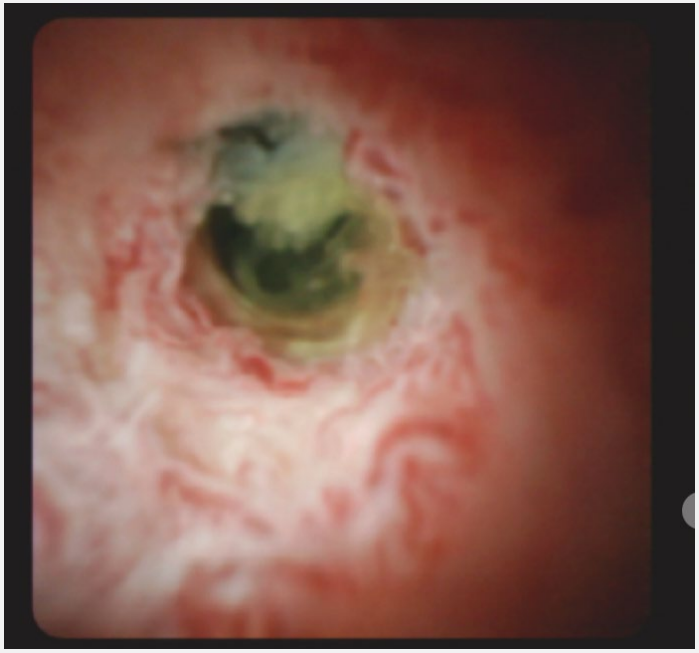
Trikudanathan G, Navaneethan U, Njei B, Vargo JJ, Parsi MA. Diagnostic yield of bile duct brushings for cholangiocarcinoma in primary sclerosing cholangitis: a systematic review and meta-analysis. Gastrointest Endosc. 2014 May;79(5):783-9. doi: 10.1016/j.gie.2013.09.015. Epub 2013 Oct 18. PMID: 24140129.
Aggarwal M, Simadibrata DM, Kipp BR, Prokop LJ, Barr Fritcher EG, Schneider A, Cooley MA, Gores GJ, Eaton J, Roberts LR, Chandrasekhara V. Diagnostic Accuracy Performance of Fluorescence In Situ Hybridization (FISH) for Biliary Strictures: A Systematic Review and Meta-Analysis. J Clin Med. 2024 Oct 28;13(21):6457. doi: 10.3390/jcm13216457. PMID: 39518600; PMCID: PMC11546496.

Fluoroscopic Biopsies

- Similar sensitivities and specificity
- Technically challenging
- Tube assisted biopsies

Single Operator Cholangioscopy

- Clear role for SOC in indeterminate strictures
- More limited data in PSC
- Recommended if suspicion for CCA



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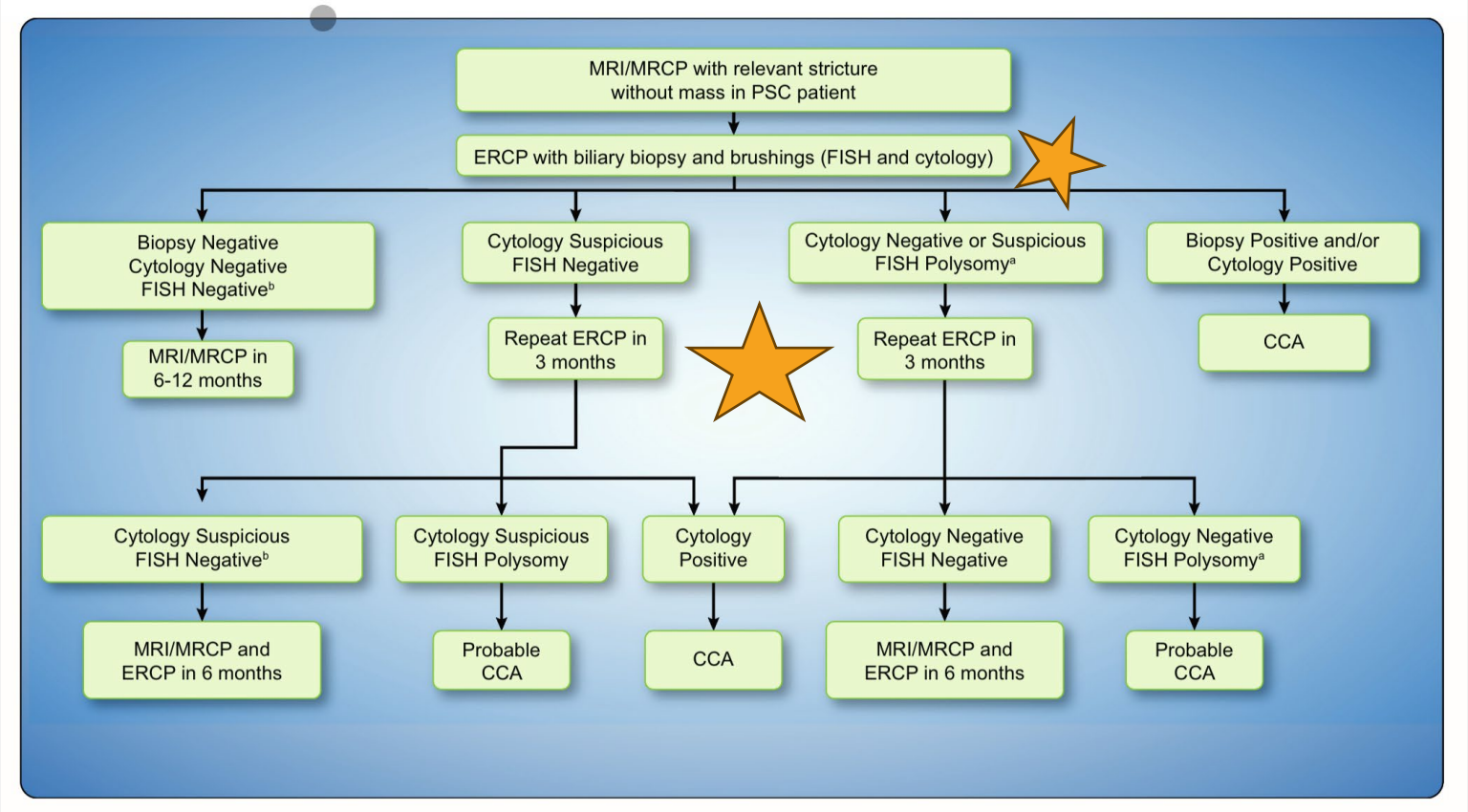
Waldthaler A, Schramm C, Bergquist A. Present and future role of endoscopic retrograde cholangiography in primary sclerosing cholangitis. Eur J Med Genet. 2021 Jun;64(6):104231. doi: 10.1016/j.ejmg.2021.104231. Epub 2021 Apr 24. PMID: 33905896.

The PSC Roadmap



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Complications

- At an increased risk for adverse events
  - Cholangitis
  - PEP
- Antibiotics
- Rectal NSAIDs

FUTURE DIRECTIONS

- Artificial intelligence
- Overlying imaging during ERCP
- Next generation sequencing of bile and tissue
- Liquid biopsies

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CME/MOC Question:

In the setting of a new high-grade stricture seen on MRI, updated AASLD guidance recommends what at the time of ERC?

A. Cholangioscopy without biopsy

B. FISH alone

C. Cytology alone

D. Cytology and FISH

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CME/MOC Answer

- D. Cytology and FISH
  - Diagnosis of CCA in PSC patients remains a challenge. The sensitivity of cytology is low. Compared to cytology, the sensitivity of FISH is improved, with similar specificity. In conjunction, they can be used to better risk stratify patients regarding the need for more intensive surveillance.

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Thank you!

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