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# The Overall Poor Specificity of MRCP in the Preoperative Evaluation of the Jaundiced Patient will Increase the Incidence of Non-Therapeutic ERCP

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# The overall poor specificity of MRCP in the preoperative evaluation of the jaundiced patient will increase the incidence of nontherapeutic ERCP

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Disclosure Statement of Financial Interest

- Andrew M. O'Neill M.D.
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- Lorinda K. Baker
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**Nothing To Disclose**

# Background: Gallbladder Disease

- Cholecystectomy - approx. 750,000 annually in U.S.
- 10-20% of those with symptomatic cholelithiasis have choledocholithiasis
- Work up: Labs, US, MRCP, Cholecystectomy + IOC

## Research question

Does MRCP yield an obvious benefit over IOC, the previous gold standard, in diagnosis of choledocholithiasis?

# Choledocholithiasis: Diagnostic Imaging Modalities

## Intraoperative Cholangiogram



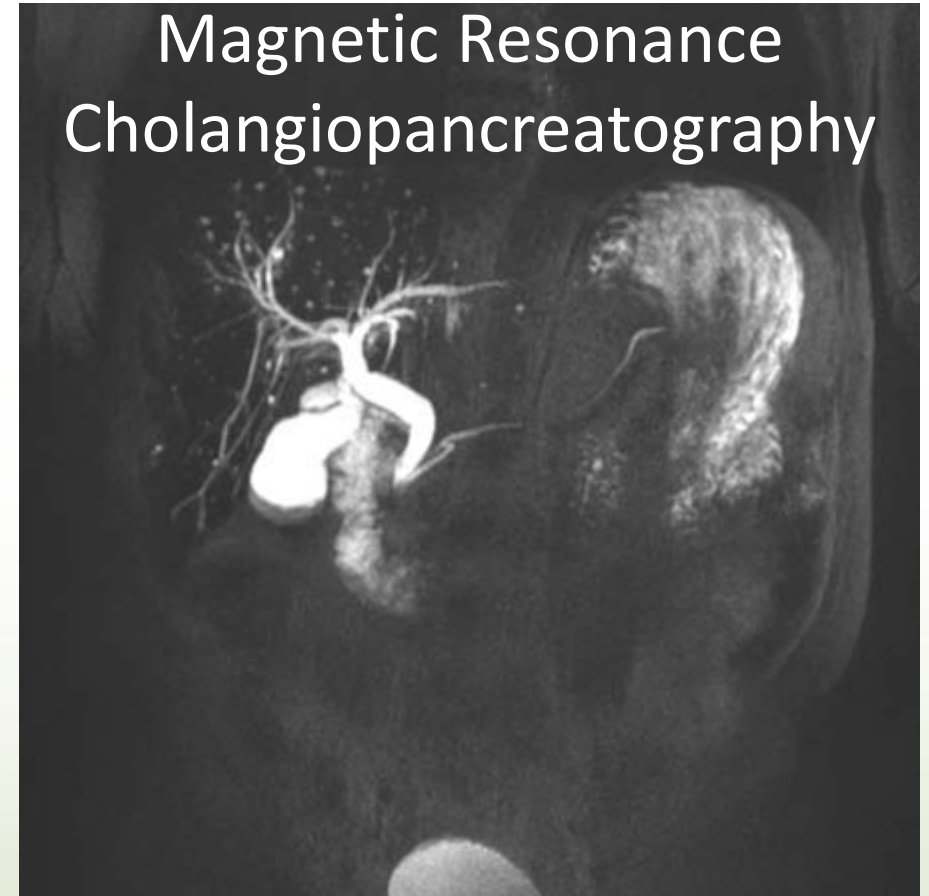
Fig 1. Method of cholangiography using a cystic ductotomy.



Fig 2. Method of cholangiography using a percutaneously placed spinal needle.



Mourot J., <https://slideplayer.com/slide/10261403/2>



<https://www.radiologyinfo.org/en/gallery/index.cfm?image=403><sup>3</sup>

# Methods

- Retrospective single institution study at Mission Hospital, 15-month period from 2017 to 2018
- Criteria: Adult inpatients who underwent laparoscopic cholecystectomy
- 460 patients total
- 146 underwent either MRCP or IOC
  - 76 MRCP
  - 70 IOC

# Results

Preoperative MRCP (N=76)				
Presence of Choledocholithiasis	Yes		No	
	31		45	
ERCP Presence of Choledocholithiasis	Positive	Negative	Positive	ERCP Not Performed
	20	11	2	56

Intraoperative Cholangiogram (N=70)				
Presence of Choledocholithiasis	Yes		No	
	12		58	
ERCP Presence of Choledocholithiasis	Positive	Negative	Positive	Negative/Not Done
	10	2	2	56

	MRCP	IOC
<b>Sensitivity</b>	97%	83%
<b>Specificity</b>	80%	97%
<b>Positive Predictive Value</b>	65%	83%
<b>Negative Predictive Value</b>	96%	97%

# Conclusions

- MRCP and IOC have unique advantages and disadvantages
- MRCP has greater sensitivity, but appears to result in more unnecessary ERCPs at our institution
- The use of MRCP as a screening tool for CBDS resulted in increased ERCP procedures, with potential for associated morbidity and greatly increased costs to the patient
- There are other factors that account for decision-making for diagnostic modality of choice: surgeon comfort, lab values, patient comorbidities, patient goals, available resources



# Next Steps

- Expand patient population to multicenter analysis
- Assess nuances that influence choice of MRCP vs. IOC
- Review long term outcomes for complications s/p IOC or ERCP for risk stratification

# References

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## Questions?