Preferred Criterion for Deciding Laparoscopic Cholecystectomy for Patients with Chronic Cholecystitis Using Radio-Nuclide Tc99m Hepatobiliary Mebrofenin

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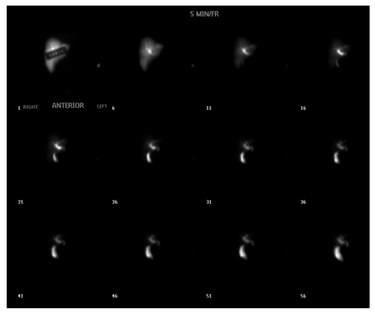
Background

Laparoscopic cholecystectomy has been effective in treating gallstone related diseases in which the gallbladder is removed. The surgeon will make a small incision in the right upper quadrant of the abdomen to remove the gallbladder. Hepatobiliary scintigraphy plays a significant role in determining whether or not the gallbladder is functioning adequately and if the gallbladder is needed to be removed by laparoscopic cholecystectomy.

Objective

To determine what gastroenterologist prefer for laparoscopic cholecystectomy when using Tc99m hepatobiliary scintigraphy.

Method



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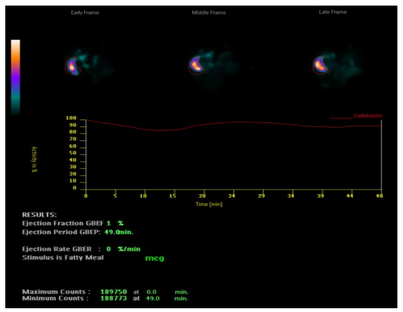


Gallbladder ejection fraction chart

33 patients who were diagnosed with chronic cholecystitis from 2013-2017 were randomly selected to see whether or not they underwent laparoscopic cholecystectomy. The 33 patients with chronic cholecystitis fell within 3 categories:

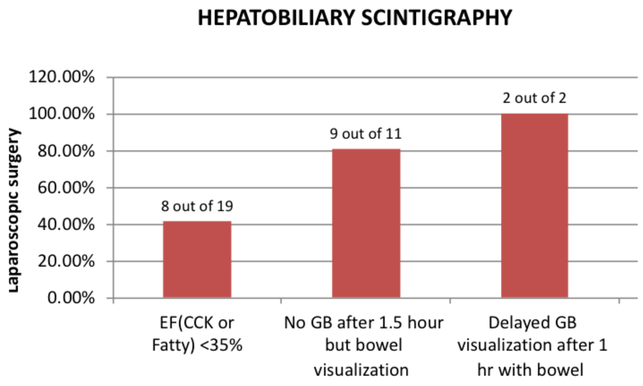
1: Gallbladder ejection fraction (GBEF) <35%

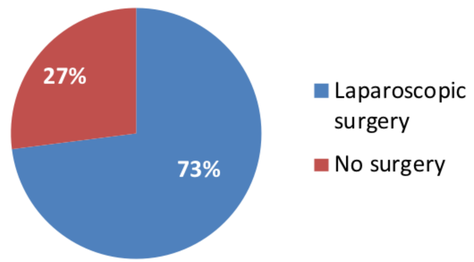
2: No Gallbladder (GB) visualized after 1.5 hour but bowel visualized

3: Delayed Gallbladder visualization after 1 hour with bowel activity

Results

- 24 out of 33 patients with acute or chronic cholecystitis ended up with laparoscopic cholecystectomy.
- 9 of out the 33 patients had no data or follow up on whether they had surgery.
- 8 out of 19 patients with GBEF <35% ended up with laparoscopic cholecystectomy.
- 9 out of 11 patients with NO GB after 1.5 hour but bowel visualization ended up with laparoscopic cholecystectomy.
- 2 out of 2 patients with delayed GB visualization with bowel had laparoscopic cholecystectomy





Discussion

- 73% of the time a positive Hepatobiliary scan for acute or chronic cholecystitis would end up having the patient undergo laparoscopic surgery.
- No data or follow ups could be collected for the reminding 27% of patients due to our electronic medical record transition in spring of 2017.
- No gallbladder after 1.5 hour but bowel visualization had the highest percentage (81%) of the 3 categories for gastroenterologist in electing laparoscopic surgery.
- Delayed GB visualization with bowel was at 100% but due to the small sample size (N=2), results from this category is limited.
- Of note, there was no observed difference between CCK or fatty meal that determined laparoscopic surgery

Conclusion

- Use of Tc99m hepatobiliary scintigraphy is pertinent on whether or not patients undergo laparoscopic cholecystectomy.
- Of the 3 categories, No GB after 1.5 hour but bowel visualization seems to be the highest choice for gastroenterologist.

Reference

- Fuller RA, Kuhn JA, Fisher TL, Newsome TW, Smith BA, Jones RC. Laparoscopic Cholecystectomy for Acalculous Gallbladder Disease. *Baylor University Medical Center Proceedings*. 2000;13(4):331-333. doi:10.1080/08998280.2000.11927698

Disclosure

All authors have no financial or non-financial competing interests to declare