

### **Do we really need to find the CBD?**

As an intern in my program, we get the opportunity to do an ultrasound (US) rotation, which allows us to learn useful bedside skills for our future practice. One of the ultrasounds that we learn is the biliary or gallbladder scan. In completing this exam, ACEP guidelines state that finding and measuring the common bile duct (CBD) is an essential component at the bedside. This poses a problem as finding the CBD, especially for a novice, can be time-consuming and hard-to-do. With this in mind, I began to think, “Do we really need to find the CBD”? The paper I summarize here, aims to answer that question.

*Emergency Biliary Sonography: Utility of Common Bile Duct Measurement in the Diagnosis of Cholecystitis and Choledocholithiasis*

#### **Question Being Answered:**

What is the prevalence of isolated sonographic CBD dilation in Emergency Department patients with cholecystitis or choledocholithiasis without laboratory abnormalities or other pathologic findings on biliary ultrasound?

#### **Methods:**

- Retrospective chart review
- Cohort 1: Patients who underwent cholecystectomy and also had a preoperative radiology performed biliary ultrasound as well as postoperative pathology report
- Cohort 2: Patients with a diagnosis of choledocholithiasis who had radiology performed biliary ultrasound
- CBD > **6 mm** is defined as dilated
- Ultrasounds were evaluated as being positive or negative. Positive US is  $\geq 1$  of the following: gallbladder wall thickness (GWT) > **3mm**, Pericholecystic fluid (PCF), or sonographic Murphy’s sign (SMS)
- Laboratory values were also evaluated and included: WBC, AST, ALT, AlkPhos, TBili, direct bilirubin, and lipase.
  - Abnormal labs were defined as  $\geq 1$  of the above values exceeding the defined upper limit of normal

#### **Results:**

- Cohort 1 included 666 patients, 251 of which had dilated CBD
  - Of 251, only 72 (28.7%) had otherwise negative US
  - **Of those with dilated CBD and negative US, only 2 had normal labs**
- In Cohort 1, only 0.3% of patients had isolated CBD dilation in the presence of both negative ultrasound and normal labs
- Cohort 2 included 111 patients, 80 of which had dilated CBD
  - Of 80, there were 46 (57.5%) patients with negative US
  - **Of those with dilated CBD and negative US, only 1 had normal labs**
- In Cohort 2, only 0.9% of patients had isolated CBD dilation in the presence of both negative US and normal labs

### Conclusions/Discussion:

- In the setting of an US without GWT, SMS, or PCF and normal lab values, results of the study suggest that CBD measurement has **limited use in diagnosing cholecystitis and choledocholithiasis**
- One of the major limitations of this study is that the US was performed by a radiologist rather than an emergency physician at the bedside
  - Other limitations include that data was obtained from only one center, the relatively small sample size, and most patients enrolled were female (70.8% in Cohort 1 and 73.5% in Cohort 2)

### Will this change my practice?

Yes. Ultimately I will continue to attempt to find and measure the CBD, but if time restricts, I will perform the other aspects of the exam, as well as obtain laboratory values and not worry about my limited US exam.

### References / Further Reading:

1. ACEP Board of Directors. *ACEP Policy Statement: Emergency Ultrasound Imaging Criteria Compendium*. April 2006. Accessed March 3, 2015. Available at: <http://www.acep.org/Clinical---Practice-Management/Ultrasound/>
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