Did I Do That?

Chief Complaint
Persistent, progressively worsening, epigastric pain for one week

HPI
50yo F with PMH HTN, ESRD on HD, HIV presents to the ED with persistent, progressively worsening, epigastric pain for one week. Her abdominal pain began as post-prandial, colicky and localized to the RUQ and has since progressed to a sharp, constant, generalized abdominal pain over the past day. Concurrently, she is experiencing fevers, chills, fatigue, nausea and endorsed one episode of non-bloody, non-biliary emesis earlier today.

Physical Exam, Pertinent Labs, POCUS Findings
BP 196/102 Pulse 127 T 100.4F (oral) Resp 22 100% O2 RA
Constitutional: Ill-appearing, clearly in acute distress, answering questions appropriately
CV: Tachycardic, regular rate and rhythm, 2+ distal pulses
Pulm: Normal Respiratory effort, equal chest rise without accessory muscle usage, no respiratory distress
Abdominal Exam: Soft, mild distension, generalized TTP most pronounced in RUQ. + Murphy’s sign on POCUS Biliary. + Guarding in RUQ. No CVA TTP bl
POCUS Biliary: + sonographic Murphy’s, + gallstones with shadowing, + CBD dilation - 68cm, No FF seen at Liver tip or morrison’s pouch
WBC 12.8 H/H 9.0/29.7
ALK Phos 324
Lytes/ Liver Enzymes WNL

Flow of Case
The above point-of-care biliary ultrasound images were taken by the same resident 30 minutes apart, on reassessment of the patient, after the patient began complaining of increasing pain despite Morphone and Tylenol administration. Given the significant change in appearance of the gallbladder, the resident questions- did I “pop” the gallbladder?

Questions
1. What is the arrow pointing to in the 2nd POCUS image?
2. What is the most sensitive imaging modality for acute cholecystitis?

Answers
1. Duodenum- A common cause of false positive biliary scans is an air filled duodenum. It is imperative that a biliary scan includes multiple views to avoid such false positives. In the hands of ER providers, POCUS has been proven to shorten ER visits due to shorter time to diagnosis and treatment.
2. HIDA Scan- Although HIDA has a higher sensitivity and specificity than ultrasound, it is not first-line and is reserved for cases when ultrasound results are negative or equivocal. CT scans are another possible imaging modality with a sensitivity of 92% and specificity of 99%.

Case Discussion
Acute cholecystitis is a common Emergency Department diagnosis, representing 3-10% of the pathology of those patients presenting with abdominal pain. Point of care ultrasound (POCUS) evaluation of the biliary system has emerged as a popular method of assessing biliary disease and greatly expedites the evaluation of patients. Common findings on POCUS suggestive of acute cholecystitis include distension of the gallbladder lumen, anterior gallbladder wall thickening, common bile duct dilation, a positive ultrasonographic Murphy sign, and the presence of pericholecystic fluid. As is the case with many diagnostic tools, errors can occur secondary to the clinician, the ultrasound machine, or anatomical variance. To avoid confusion and possible erroneous diagnoses, it is important, especially for the learner, to be aware of common causes of false positive findings. This case highlights one such finding in the setting of acute abdominal pain.

References