Silent Hemoperitoneum and MRSA Bacterascites – An Unusual Presentation of Gallbladder Perforation

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Background

Gallbladder perforation (GBP) is an uncommon, life-threatening event, most often seen as a complication of acute cholecystitis. Occurrence of GBP in the absence of cholecystitis is exceedingly rare, but may occur in those with cholelithiasis. We report a case of spontaneous GBP presenting as painless hemoperitoneum and methicillin-resistant *Staphylococcal aureus* (MRSA) bacterascites in a patient with decompensated cirrhosis.

Case Description

A 63 year old female with history of NASH cirrhosis (MELD 27, Child-Pugh C), esophageal varices, and ascites requiring weekly therapeutic paracentesis presented with encephalopathy. A paracentesis on admission was negative for spontaneous bacterial peritonitis (SBP) by cell count and culture. CT imaging on admission revealed a partial small bowel obstruction (pSBO) and cholelithiasis with an otherwise normal gallbladder and biliary tree (figure 1, 3). The pSBO resolved with conservative management. One week into the hospitalization, her ascites worsened. A second paracentesis showed 253,290 RBC/mm^3 with associated 3 gram serum hemoglobin drop. This was negative for SBP by cell count. A repeat abdominal CT scan showed a non-inflamed gallbladder with her known gallstones now layering in the pelvis, suggestive of GBP (figure 1, 2, 3). She was initially started on piperacillin-tazobactam, but her ascitic fluid culture later grew MRSA. Based on her surgical risk and overall clinical stability, she was managed non-operatively. She was transitioned to indefinite therapy with amoxicillin-clavulanate and doxycycline, and later discharged home.

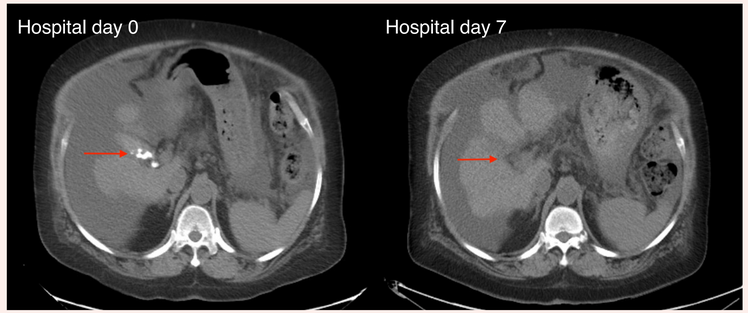

Figure 1: Left axial CT with intact gallbladder and gallstones without evidence of cholecystitis. Right axial CT demonstrating new absence of gallstones, suggesting rupture.

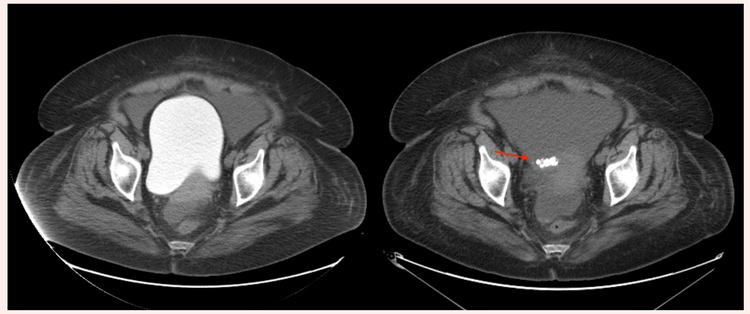

Figure 2: Left axial CT cut of normal pelvis on pre-rupture gallbladder study. Right axial CT cut on post-rupture study, demonstrating gallstones in patient's pelvis.

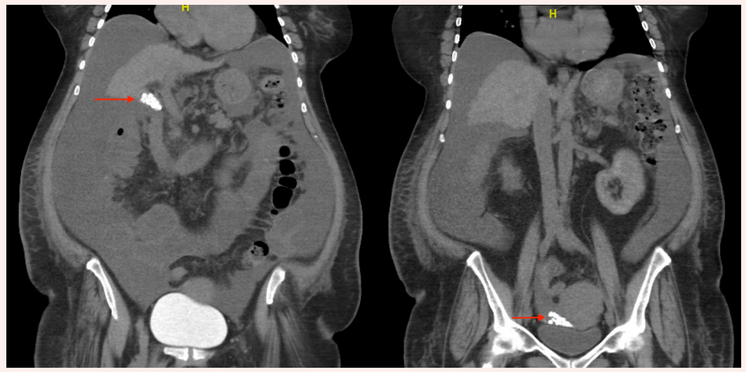

Figure 3: Left coronal CT with intact gallbladder and gallstones without cholecystitis. Right coronal CT demonstrating gallstones in the pelvis.

Discussion

Most GBPs are due to severe inflammation or trauma [1]. Risk factors for spontaneous GBP include cholelithiasis, congenital obstruction [1], and anticoagulant therapy [2]. Although rare, patients with cirrhosis may have a higher risk for GBP due to venous congestion from portal hypertension and their propensity for cholelithiasis [3]. The patient's MRSA bacterascites may have been from iatrogenic seeding during the first paracentesis, but the timeline to discovery raised concerns that it originated from the GBP. MRSA is rarely a biliary pathogen, but may result from bacteremia that seeds the gallbladder [5, 6]. Regardless, the patient began indefinite antibiotic therapy, as her gallstones posed as persistent nidi for infection. This case highlights the rare possibility of silent GBP as a cause for worsening ascites, as well as the therapeutic dilemma of retained peritoneal gallstones in a poor surgical candidate.

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