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Penetrating Gallbladder Trauma: A Case Report

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Describe role of Submitting/Presenting Trainee in this project (limit 150 words):

Gathering of data, writing, and editing.

Background, Objectives/Goal, Methods/Design, Results, Conclusions limited to 500 words

Background:

Penetrating gallbladder injury to the abdomen is uncommon in the pediatric population. Treatment varies with the degree of injury and the patient's hemodynamics. The EAST Trauma guidelines state that for penetrating injuries isolated to the right upper abdominal quadrant management can include observation or surgical intervention depending on the patient's vital signs and physical exam findings.

Objectives/Goal:

To describe a rare case of isolated penetrating gallbladder injury in a pediatric patient, the surgical management, and subsequent outcomes.

Methods/Design:

This is the case of an 11-year-old male patient who sustained an accidental gunshot wound to the right upper abdominal quadrant with a pellet gun. The patient was hemodynamically stable with no peritoneal abdominal signs. However, he was tender to palpation at the right upper abdominal quadrant where an entry wound was identified. Laboratories were remarkable for transaminitis and reactive leukocytosis. Abdominal X-ray demonstrated a metallic object at the right upper abdominal quadrant with no evidence of pneumoperitoneum. Abdominal CT scan with IV contrast was remarkable for a grade III liver laceration measuring 3.8 cm in length and extending from the anterior liver surface to the gallbladder fossa. A small

metallic object was observed adjacent to the gallbladder fundus with associated pericholecystic fluid and thickening of the colon at the hepatic flexure. In view of a penetrating abdominal injury with associated abdominal pain and suspicion of intestinal injury, the decision was made to perform a diagnostic laparoscopy.

Results:

Upon entry to the abdomen and inspection of the colonic hepatic flexure, no intestinal perforation was identified. However, there was bile spillage and damage to the anterior gallbladder wall. Intra-operative x-ray was used to localize the pellet which was observed to be inside the gallbladder. The decision was made to perform a laparoscopic cholecystectomy which was uneventful. An x-ray of the surgical specimen confirmed the presence of the metallic pellet inside the gallbladder lumen. The patient recovered well with no complications and was discharged home on postoperative day three.

Conclusions:

Penetrating trauma to the gallbladder can be managed with laparoscopic cholecystectomy in stable patients. Gallbladder repair for small perforations has been proposed in the past, but the literature shows a high risk of re-rupture and necrosis with this treatment modality.