Bile Leak after Blunt Liver Injury
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History
Teenager in motor vehicle accident 1 week ago with increasing bilirubin and jaundice.

Diagnosis
Bile Leak after Blunt Liver Injury

Additional Clinical
Known hepatic laceration.

Discussion
Extrahepatic duct injuries may occur at sites of anatomic fixation, such as the intrapancreatic portion of the common bile duct, frequently after blunt impact or acute deceleration, possibly with compression against the spine. Elevation of the liver following blunt trauma may cause stretching of the relatively fixed common duct. Injuries to the intrahepatic bile ducts can be seen in patients with severe liver lacerations.

Hepatobiliary scintigraphy is a sensitive method for detection of biliary leak in patients with suspected biliary injuries. Delayed scanning at 4 hours is essential, as slow leaks may not be detected with earlier imaging. Scintigraphy is sensitive for detecting intraperitoneal bile leaks as well as intrahepatic and extrahepatic bilomas. Extrahepatic bile duct injury is difficult to diagnose at surgery. Bile is sterile and results in minimal symptoms with peritoneal leak. Signs and symptoms are related to chemical irritation of the peritoneum by bile and include vague abdominal pain, nausea and vomiting (related to ileus), and occasionally jaundice. Infection of the bile, usually related to contamination by gut organisms, results in bile peritonitis (the infection is accentuated by the detergent effects of the bile).

Findings
CT-Coronal reconstructed images of the abdomen show grade 4 laceration through the hepatic hilum. Note the "shock bowel" appearance of the proximal small intestine. NM-0-60 and 60-120 minute composite images and 4 hour delayed static image 1 week after initial injury show excretion radiopharmaceutical into the peritoneal cavity.

Reference
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