Interesting image

Bile ascites after T-tube removal in liver transplantation: A hepatobiliary scintigraphy finding

Ascitis biliar tras retirada de tubo de Kehr en transplante hepático: un hallazgo de la gammagrafía hepatobiliar


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A 56-year-old man underwent liver transplantation for alcoholic chronic liver disease. End-to-side anastomosis of inferior vena cava and end-to-end anastomosis of common hepatic artery, portal vein, and common bile duct were performed. A T-tube drainage was placed in the common bile duct. The patient had a favorable postoperative course with the only development of mild ascites. Following T-tube removal, the patient developed fever, leukocytosis, acute renal failure, and abdominal distention. Ultrasonography showed the presence of large amount of fluid in the peritoneal cavity. Repeat abdominal paracentesis revealed a dark brown ascitic fluid raising the clinical suspicion of bile ascites. The patient’s general condition was critical, and did not allow for invasive procedures, so endoscopic retrograde cholangiopancreatography was not performed. Dynamic ⁹⁹ᵐTc-Mebrofenin hepatobiliary scintigraphy showed good liver uptake with progressive and intense extravasation of the radiotracer in the subhepatic region, moving into the lesser sac. At 40 min post-injection, the radiotracer diffused into the left paracolic gutter (Fig. 1). At 90 min post-injection, anterior and posterior abdominal planar images delineated the pooling of extravasated bile into the subphrenic and subdiaphragmatic spaces, bilateral paracolic gutters, the inframesocolic space, and the pouch of Douglas. No bowel activity was observed at any time (Fig. 2). At

Fig. 1. Selected ⁹⁹ᵐTc-Mebrofenin hepatobiliary scintigraphy sequential images show intense extravasation of the radiotracer in the subhepatic region moving into the lesser sac (arrow) and the left paracolic gutter (arrowheads).

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At laparotomy, eleven liters of dark brown-colored ascitic fluid were evacuated. Also, a small perforation at the common bile duct, below the anastomosis, was repaired. After surgery, bile ascites was resolved and no further presence of bile leakage was evidenced.

Bile leaks related to T-tube removal account for a significant number of liver transplant patients. Hepatobiliary scintigraphy is a well-recognized technique for the detection of biliary leakage. Usually, scintigraphic appearance of bile leak is the visualization of extravasated activity in the subhepatic region moving toward the right paracolic gutter to reach the pouch of Douglas. Although the activity may be located anywhere in the peritoneum, the detection of the extravasated bile into the lesser sac and the general peritoneal cavity is a very uncommon finding on hepatobiliary scintigraphy. This distribution pattern represents a combination of bile leak and ascites and highlights the relevance of hepatobiliary scintigraphy in liver transplant patients presenting with bile ascites after T-tube removal. In the present case, hepatobiliary scintigraphy provided functional diagnostic information of the physiopathological process; the peritoneal distribution of the bile leak, explained both the progressive abdominal distention and the large volume of bilious ascitic fluid evacuated during the surgery.

References