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TECHNICAL NOTE

USEFULNESS OF PERCUTANEOUS CHOLANGIOGRAPHY COMBINED WITH CT IN POST-OPERATIVE PATIENTS WITH HEPATO-BILIARY SURGERY

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Hepato-biliary surgery for malignancies has a high mortality rate (7,3%) with also a high rate of readmitted patients within the first 30 days of discharge (14,3-15,5%) (1). After hepato-biliary surgery medical imaging is essential: computed tomography (CT) is required to detect collections, ultrasonography to assess dilatated biliary ducts and percutaneous cholangiography (PC) to ensure safe withdrawal of biliary drain or Kehr's drain.

A recent paper published in the JBR-BTR depicted the interest of double contrast percutaneous transhepatic cholangiographic CT (DC-PCT-CT) to explore bile duct obstruction, combining PC and CT with iodine injection (2). We would like to report on our experience with a recent procedure combining PC and CT without iodine injection, demonstrating anastomotic leak in jejuno-biliary anastomosis.

An 80-year-old female patient was diagnosed with intra-hepatic right cholangiocarcinoma (type IIIa of Bismuth-Corlette classification). There was no sign of left hepatic nor extra-hepatic dissemination. After multidisciplinary consultation, right portal embolization was performed before right enlarged hepatectomy with lymph nodes dissection, main biliary duct and gall bladder resection and jejuno-biliary anastomosis four months later. A biliary drain was placed in the anastomotic region. One week after procedure CT with iodine injection demonstrated a large hydroaeric collection in the site of the right hepatectomy. Two weeks after procedure we were asked to perform PC before drain withdrawal. PC showed jejunal and left biliary ducts opacification without any sign of leak. This exam was completed by CT without iodine injection, which demonstrated an important anastomotic leak feeding the collection seen one week earlier (Fig. 1). This result directly impacted on patient's care: the drain was kept in place with satisfying evolution under medical monitoring.

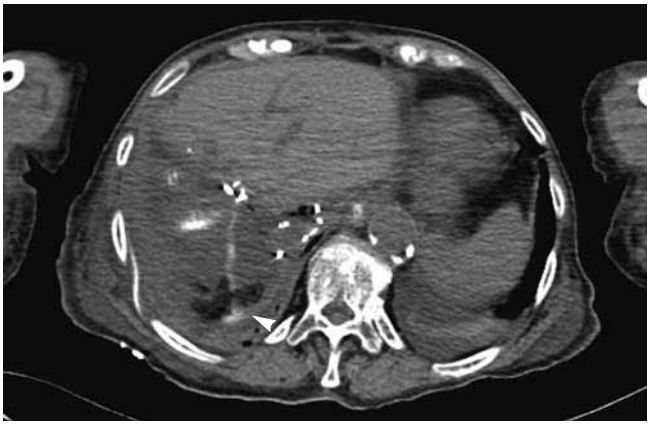

Fig. 1. — CT without iodine injection performed directly after the conventional percutaneous cholangiography (PC) demonstrating the anastomotic leak feeding the collection (arrowhead). The leak was not visible during PC.

CT after IV administration of a cholangiographic agent (iodipamide) was a very good method for biliary ducts exploration until contrast agent has been withdrawn from circulation because of higher risk of anaphylactic reaction (3). With new liver-specific contrast agent, MRI would be a great alternative in patients after hepato-biliary surgery, but unfortunately the availability of MRI in case of post-operative emergencies is not sufficient. Anastomotic leak diagnosis cannot be made without PC and biliary ducts opacification, but PC alone can easily be falsely negative. CT with or without iodine injection can demonstrate with precision fluid collections, but cannot show the origin of the leak if there is no biliary opacification. With this case we would like to emphasize the interest of combining PC and CT with or without iodine injection in patients after hepato-biliary surgery, especially if complications such as fluid collection and/or anastomtic leak are suspected.

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