



Intraoperative Air Leak Test to Prevent Bile Leak After Right Posterior Sectionectomy with En Bloc Diaphragm Resection for Metastatic Teratoma

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ABSTRACT

Background. The intraoperative air cholangiogram, or “air leak test” (ALT), at the time of hepatectomy can significantly reduce the rates of bile leak and symptomatic fluid collection after high-risk procedures.^{1,2} Because a bile leak in the setting of an en bloc diaphragm resection and mesh reconstruction would be a particularly dreaded complication, this video shows the technique for resection, reconstruction, and ALT.

Presentation. The video presents the case of a 29-year-old woman who had metastatic teratoma with an 8 × 7-cm liver metastasis in segment 7 and diaphragm invasion to the level of the right hepatic vein.

Operation. The authors performed a formal right posterior sectionectomy with en bloc diaphragm resection. The 12 × 8-cm diaphragmatic defect was reconstructed using biologic mesh (Surgimend, Integra LifeSciences, Plainsboro, NJ). An intraoperative ALT (air injection into the cystic duct with finger compression of the distal bile duct)

identified several areas of bubbles from biliary radicles on the cut surface of the liver, which were ligated with 4-0 polypropylene. The ALT was repeated until no bubbles remained. Because no evidence of bubbles was observed, no surgical drain was needed. The patient did well postoperatively with no complications.

Conclusion. In cases of combined liver and diaphragmatic resection, prevention of bile leak, with subsequent contamination of the diaphragm repair and even the thoracic cavity, is particularly vital. An easily replicated intraoperative air leak test can mitigate the risk of bile leak and organ-space infection, as well as associated sequelae on quality of life, return to intended oncologic therapy, and oncologic outcomes.

DISCLOSURE There are no conflicts of interest.

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