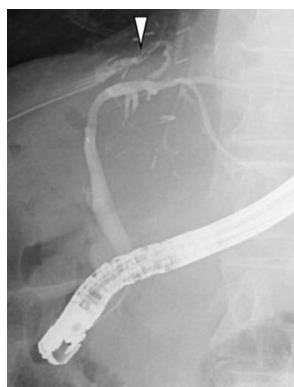
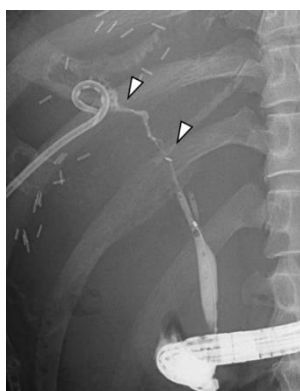


Supplementary



a



b



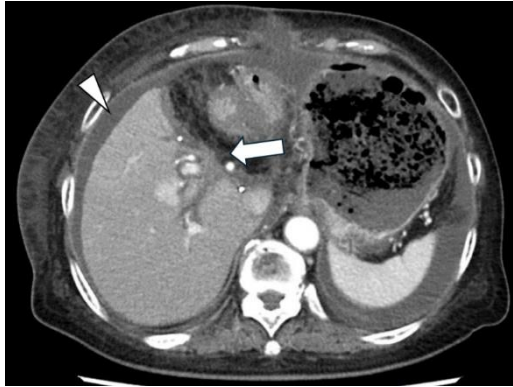
c

Supplemental Figure S1. Severity of bile leaks

A: A low-grade case. A bile leak is observed after filling of the intrahepatic bile duct with contrast agent (arrowhead) (a).

B: A high-grade case. A bile leak is observed before filling of the intrahepatic bile duct

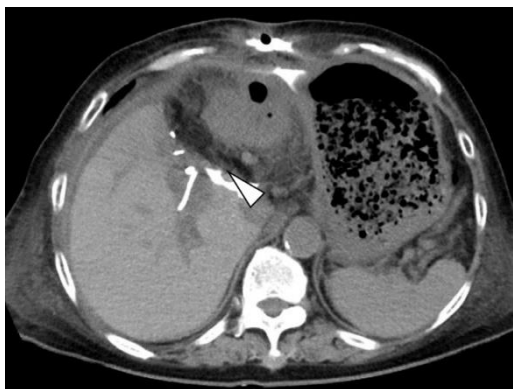
with contrast agent (arrowhead). (b)Before filling with contrast agent. (c)After filling with contrast agent.



A



B



C



d

Supplemental Figure S2. Case presentation

A woman in her 70s underwent a left lobectomy for hepatocellular carcinoma. On postoperative day 45, she presented with a fever. CT showed fluid accumulation around the cut surface of the liver (arrow) and a small amount of ascites on the liver surface (arrowhead) (a). Suspecting a bile leak, ERC was performed. Cholangiography showed a high-grade leak from the hilar duct (arrowhead), and a bridging 7-Fr plastic stent was placed (b). The fever and inflammation subsided within a week. Subsequently, a PTBD was placed for fluid accumulation, but no new leaks were observed. Three months later, CT shows improvement of fluid accumulation (c). A follow-up ERC confirms the disappearance of the leak, and the stent is removed (d).

Supplemental Table S1. Patients' characteristics and technical and clinical failure

Age (y)	Sex	Diagnosis	Surgery/ Procedure		Leak	Initial treatment	Cause of TF	Bridge stenting	Salvage treatment	Clinical success after salvage treatment	Outcomes
60s	M	HCC	HR	Right lobe resection	HG	TF	GW Seeking		PTBD	Success	Death, other reason
60s	M	HCC	HR	Right lobe resection	LG	TF	Stent placement		PTBD	Success	Stent-free
60s	M	MLT	HR	Left lobe resection	HG	TF	GW Seeking		Reoperation	Success	Death, other reason
70s	M	HCC	HR	Left lobe resection	HG	TF	GW Seeking		PTBD	Success	Stent-free
70s	M	CCA	HR	Left lobe resection	HG	TF	Stent placement		PTBD	Success	Stent replacement
80s	F	CCA	HR	Left lobe resection	LG	TF	Stent placement		PTBD	Success	Stent-free
60s	M	HCC	HR	Segmentectomy	HG	TF	Stent placement		PTBD	Success	Death, other reason
60s	M	HCC	HR	Segmentectomy	LG	TF	Stent placement		PTBD	Success	Stent-free
50s	M	LF	LT	Right lobe graft	HG	TF	Stent placement		PTBD	Success	Stent-free
40s	M	LF	LT	Right lobe graft	HG	TF	GW Seeking		Reoperation	Failure	Death, uncontrolled bile leak
60s	F	LF	LT	Right lobe graft	HG	TF	GW Seeking		Reoperation	Success	Stent-free
50s	M	LF	LT	Left lobe graft	HG	TF	GW Seeking		Reoperation	Success	Death, other reason
30s	M	LF	LT	Left lobe graft	HG	TF	GW Seeking		PTBD	Success	Death, other reason
70s	M	HCC	HR	Segmentectomy	HG	CF		No	Reoperation	Success	Stent-free
60s	M	HCC	HR	Segmentectomy	LG	CF		No	PTBD	Success	Stent replacement
70s	M	MLT	HR	Segmentectomy	LG	CF		No	PTBD	Success	Stent-free
50s	M	HCC	LT	Right lobe graft	HG	CF		Yes	Reoperation	Success	Lost to follow-up
50s	F	HCC	LT	Right lobe graft	HG	CF		Yes	PTBD	Failure	Death, uncontrolled bile leak
50s	F	LF	LT	Right lobe graft	HG	CF		No	PTBD	Success	Stent-free
50s	M	LF	LT	Right lobe graft	HG	CF		Yes	Reoperation	Success	Stent-free
60s	F	LF	LT	Left lobe graft	HG	CF		Yes	Reoperation	Success	Stent-free
30s	M	LF	LT	Left lobe graft	HG	CF		No	PTBD	Failure	Death, uncontrolled bile leak

HCC, hepatocellular carcinoma; MLT, metastatic liver tumor; CCA, cholangiocarcinoma; LF, liver failure; HR, hepatic resection; LT, liver transplantation; HG, high grade; LG, low grade; TF, technical failure; CF, clinical failure; GW, guide wire; PTBD, percutaneous transhepatic biliary drainage