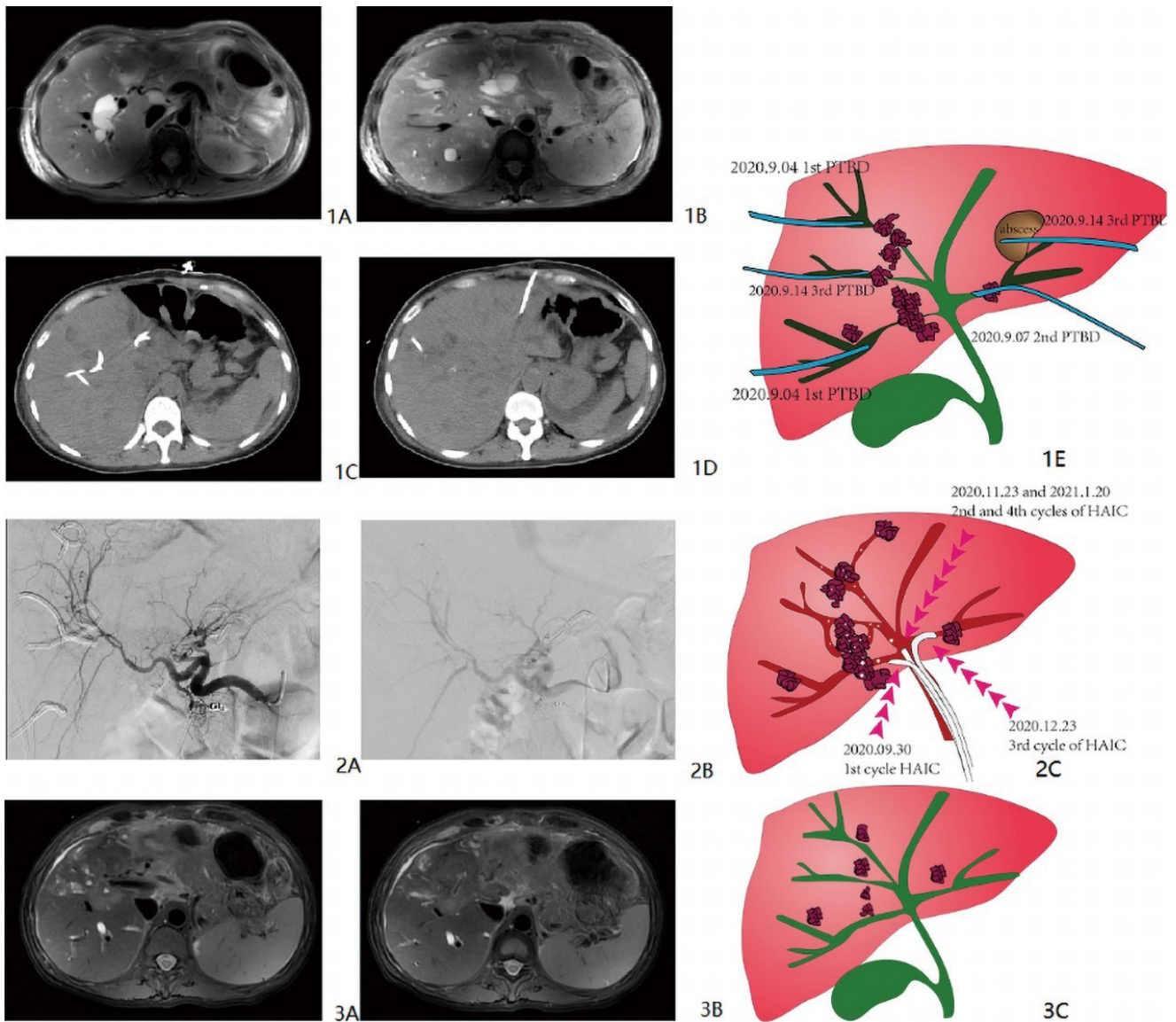


**Figure S1** Treatment history of an HCC patient with hyperbilirubinemia who received four cycles of HAIC. (A) Cholangiography shows two obvious tumor thrombi in the bile duct (bile duct thrombi pointed by green arrow). The schematic diagram illustrates that the tumor thrombi are the reason why the drainage lost its efficacy. (B) The HAIC operation involved superselective catheterization under digital subtraction angiography, followed by infusion of chemotherapy drugs to target the tumor thrombi emphatically. (C) The table and schematic diagram show the high levels of TBIL even after PTBD and HAIC were applied to treat the jaundice by eliminating the bile duct tumor thrombi. HCC, hepatocellular carcinoma; HAIC, hepatic artery infusion chemotherapy; PTBD, percutaneous transhepatic biliary drainage; TBIL, total bilirubin; AFP, alpha fetoprotein.



**Figure S2** Treatment history of an ICC patient with hyperbilirubinemia who received four cycles of HAIC. (1A,1B) Gadolinium-enhanced magnetic resonance imaging showed obvious cholangiectasis of the bile ducts by physical obstruction; the multiple intrahepatic metastases constricted several bile ducts. (1C,1D) A total of five drainage tubes were placed in the branch bile ducts and the abscess cavity formed by the bile duct. (1E) A diagram of the relationship between the tumors, bile ducts, and drainage tubes. (2A,2B) The HAIC operation involving superselective catheterization under digital subtraction angiography, followed by infusion of drugs (2C) to reduce the tumor load and put emphasis on different supply arteries of the intrahepatic metastatic tumors in different cycles. (3A,3B) Comparing 1A and 1B, the gadolinium-enhanced magnetic resonance imaging showed that the tumors shrank significantly and the bile ducts recovered from cholangiectasis after four cycles of HAIC. (3C) A diagram depicting the relationship between the tumor load and cholangiectasis. ICC, intrahepatic cholangiocarcinoma; HAIC, hepatic artery infusion chemotherapy; PTBD, percutaneous transhepatic biliary drainage.