



## Klatskin's Tumor Resection Aided by 3-D Modeling and Printing

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### Clinical Image

Surgical management of Klatskin's tumor is technically challenging due to the variable anatomy and proximity to vital structures. 3D reconstruction and printing provide an unparalleled view of the anatomy for oncologic resections. Patient is a 52 years-old man presented with painless jaundice and weight loss. CT imaging revealed a 2.2 cm mass in the porta hepatis with intrahepatic ductal dilatation (Figure 1). ERCP confirmed invasive adenocarcinoma. Patient underwent IOUS of liver, left hepatic lobectomy, bile duct resection, and right intrahepatic Roux-en-Y hepaticojejunostomy. 3D reconstruction and model printing were performed preoperatively (Figure 2 and 3), which aided



Figure 1:

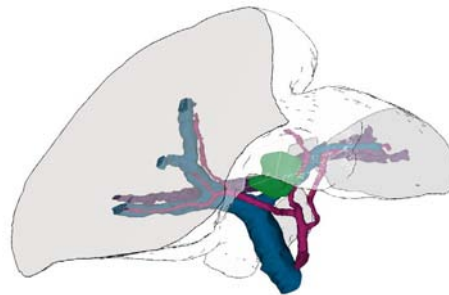


Figure 2:



Figure 3:

### OPEN ACCESS

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in the successful procedure with no complications. The posterior and anterior secondary branching bile ducts were sutured together and anastomosed to the Roux-en-Y hepaticojejunostomy with all gross

tumor resected completely. He was discharged on post-operative day 5. Patient was placed on Xeloda and Gemzar chemotherapy and had no evidence of disease at 6 months.