



Robotic Approach for Perihilar Cholangiocarcinoma IIIA Type: Step-by-Step Procedure

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ABSTRACT

Background. Perihilar cholangiocarcinoma is a challenging technique to be performed by minimally invasive approach being the type III among the most complex procedure. Nowadays, the robotic approach is gaining increasing interest among the surgical community, and more and more series describing robotic liver resection have been reported. However, few cases of minimally invasive Bismuth type IIIA cholangiocarcinoma have been reported. Robotic approach allows for a better dissection and suture thanks to the flexible and precise instruments movements, overcoming some of the limitations of the laparoscopic technique. Therefore, robotic technique can facilitate some of the critical steps of a technically demanding procedure, such as the extended right hepatectomy for perihilar cholangiocarcinoma Bismuth IIIA type.

Methods. In this multimedia video we describe, for the first time in the literature, a full robotic surgical step-by-step technique with some tips and tricks for treating a perihilar cholangiocarcinoma Bismuth IIIA type, performing a radical extended right hemihepatectomy, including segment I combined with regional lymphadenectomy and left bile duct reconstruction. A 55-year-old woman with obstructive jaundice (10 mg/dl) was referred to our center. The endobiliary brushing confirmed adenocarcinoma, and MRI/CT showed a focal perihilar lesion of 2 cm, including the main biliary

duct bifurcation and extending up to the right duct (Bismuth Type IIIA hilar cholangiocarcinoma). After endoscopic biliary stents placement and 6 weeks after right portal vein embolization, the future liver remnant, including segments II and III, reached an enough hypertrophy volume with a ratio of 30%. A right hemihepatectomy with caudate lobe, including standard standard lymphadenectomy and left biliary duct reconstruction was performed.

Results. The operation lasted 670 min with an estimated blood loss of 350 ml. Postoperative pathological examination revealed a moderately differentiated adenocarcinoma pT1N0 with 15 retrieved nodes and free margins. The patient experienced a type A biliary fistula and was discharged on the 21st postoperative day without abdominal drainage.

Conclusions. Through the tips and tricks presented in this multimedia article, we show the advantages of the robotic approach for performing correctly one of the most complex surgeries.¹⁻⁷

Keywords Cholangiocarcinoma · Robotic · Hepatectomy · Klatskin hilar cholangiocarcinoma

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