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Robotic right hepatectomy for a central liver tumor- A video of the surgical technique -

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ABSTRACT

Background: Robotic surgery is gaining momentum in liver resection. Instrumentation of the surgical robot is articulated, movements are scaled and the view of the operative field is 3-dimensional and magnified[1, 2]. Thus, these technical enhancements allow for a more precise dissection and curved work axes, as needed in liver resection. Aim of this video was to demonstrate the feasibility of fully robotic right hepatectomy with dissection of the variant right hepatic pedicles for a centrally located liver tumor.

Methods: This video illustrates robotic right hepatectomy in a 77-year-old male. A liver tumor in segment 5/8 with concurrent biliary dilation was detected on a CT-scan made in the course of his cardiac history. An additional MRI scan suggested the diagnosis of hepatocellular carcinoma or intrahepatic cholangiocarcinoma for which a right hepatectomy was indicated.

Results: After anesthesia, the patient was placed supine on a split-leg table in anti-Trendelenburg and left lateral tilt position. Four robotic trocars were placed and the da Vinci Xi robotic system was docked. Two laparoscopic ports were placed for tableside assistance. Right hepatectomy was performed including separate dissection of the posterior and anterior pedicles. The robotic Vessel Sealer was employed as main parenchymal transection device. Postoperative hospital stay was unremarkable. The patient was discharged on postoperative day 6.

Conclusion: This video illustrates the feasibility of a robotic approach to right hepatectomy. The increased surgical dexterity, as provided by the articulating robotic instrumentation, allows for precise dissection of the liver hilum, as needed in resection of centrally located tumors.

Disclosures

Declarations of interest: Dr. I.Q. Molenaar and Dr. J. Hagendoorn are proctor for Intuitive Surgical (Intuitive Surgical Inc., Sunnyvale, CA, USA). The content of this study is solely the responsibility of the authors and does not necessarily represent the official views of Intuitive Surgical. Dr. Nota and prof. Borel Rinkes have declared no conflict of interest.

Authorship statement

All authors have made substantial contributions to all of the following: (1) the conception and design of the study, or acquisition of data, or analysis and interpretation of data, (2) drafting the article or revising it critically for important intellectual content, (3) final approval of the version to be submitted.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.suronc.2019.06.009.

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