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A Novel Technique For Dissection And Closure Of Multiple Bile Duct Openings In Pure 3D Laparoscopic Living Donor Hepatectomy

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Background : The dissection and closure of multiple bile ducts in pure 3D laparoscopic living donor hepatectomy pose a significant challenge, requiring precise maneuvering with laparoscopic instruments due to the narrow room for error. In this video, we present a novel technique for the careful dissection and closure of multiple bile duct openings during a laparoscopic living donor hepatectomy procedure.

Methods : In this video, we successfully executed the dissection of multiple bile ducts for the right liver graft and accomplished the closure of three distinct bile duct openings during a laparoscopic living donor hepatectomy.

Results : The case involved a 30-year-old female patient with bile duct variation, who underwent a pure 3D laparoscopic living donor right hemihepatectomy. Preoperative MRI revealed a complex bile duct variation scenario, with the right posterior duct draining into the left intrahepatic duct, B5 connecting to the common hepatic duct, and B8 merging into the proximal right anterior duct. The procedure incorporated the use of ICG fluorescence cholangiography for delineating the right bile duct division. As anticipated, the operation necessitated the division of three bile duct openings. Subsequent to the dissection, the right posterior duct was securely closed utilizing clips, while the B5 and B8 ducts were meticulously closed using 6-0 Prolene continuous sutures.

Conclusions : In the realm of pure 3D laparoscopic living donor hepatectomy, where precision and accuracy are paramount, our novel technique for dissecting and closing multiple bile duct openings proves to be effective. This method, showcased in a complex case of bile duct variation, underlines the importance of innovative approaches to ensure the success of intricate laparoscopic procedures. Further validation and adoption of this technique may pave the way for enhanced outcomes in laparoscopic living donor hepatectomies and similar procedures.

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