

Initial Experience Of Minimal Invasive PPPD Using The New daVinci SP System: Case Report With Video

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Background : With the advances of laparoscopic techniques and instruments, many efforts to reduce the number of the trocar site in abdominal surgery has been made. The da Vinci surgical system released its new pure single-port platform, the da Vinci SP, offering improvements and refinements for established robotic single-site procedures. We report our initial experience of minimal invasive PPPD using the da Vinci SP system.

Methods : A fifty-one-year-old female was referred to our department for a 6 cm pancreas cystic mass located in the head. IPMN with worrisome feature was suspected and minimal invasive PPPD was performed using the hybrid method (laparoscopic pancreaticoduodenectomy followed by robotic anastomosis using the da Vinci SP system). 4 trochars and 1 glove port (for robot cannula insertion and duodenojejunostomy) were inserted. The resected specimen was delivered through the glove port site (umbilicus).

Results : The total operation time was 415 minutes. During robotic anastomosis, the docking time was 5 minutes and the console time was 140 minutes. During anastomosis, the so called “cobra view” function – the ability to view the operation field from above in a 30 degree angle – of the flexible robot camera unique to the da Vinci SP system was useful for precise anastomosis especially during pancreaticojejunostomy. Also, robotic suturing was more comfortable than expected. The pathological diagnosis was IPMN with low grade dysplasia. There was no clinically relevant postoperative pancreatic fistula. Length of hospital stay was 9 days after surgery.

Conclusions : Robotic anastomosis using the da Vinci SP system during minimal invasive PPPD via the hybrid method is safe and feasible with additional advantages and acceptable perioperative outcomes. Due to the unique structure of the da Vinci SP system, eventually we believe that our method may have potential to reduce the number of the trocar sites and provide a gateway for “more minimal invasive” PPPD. However, further experiences are mandatory.

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