

Does Robotic Surgery Have Any Roles in Current HBP Practice? : Unclear, more on the experimental side

Jin-Young Jang

Seoul National University, Korea

Minimally invasive surgery has been widely popularized even in HBP surgery in spite of many obstacles compared to other GI tract surgery. Unlike other GI tract surgery, HBP surgery requires sophisticated surgical techniques as well as anatomic/functional consideration to get a good short-term and long-term result after pancreatectomy. Currently minimal invasive surgery on HBP is mainly indicated in distal pancreatectomy for benign or borderline pancreatic lesions. Although some surgeons have tried to broaden indication of surgery and perform more complicated surgery using laparoscopic techniques, minimally invasive surgery on HBP has not been popularized due to technical difficulty especially in anastomosis, long operation time and difficult/dangerous dissection.

After the successful application of robotic surgery on urology and gynecology, the da Vinci surgical system comes into wide use in many fields of surgery due to the freedom of motion which enables articulated dissection and suture, magnified 3D-vision with reducing surgeon's tremor which are promoted by the Intuitive Surgical Company. However it also has many drawbacks like as no tactile sense during dissection or suture which provokes tissue injury, longer operation time, limitation of serviceable instruments and high medical cost.

To say the superiority of robot surgery over conventional laparoscopic surgery on HBP, we still have limited evidence on that issue. We must consider technical comparability/superiority, safety, easy accessibility to surgeons and cost effectiveness to select optimal surgical modality. I will talk about each point in this lecture comparing two operative options (laparoscopic vs robotic) in HBP surgery.

The benefits of robotic surgery on HBP may differ between nations/centers according to medical insurance system as well as skill level of laparoscopic surgery. At present we could not find strong superiority of robotic pancreas surgery over conventional laparoscopic surgery considering above mentioned factors. More technical advancements and improvement of economic efficiency is needed for robot surgery to be one of standard procedures in HBP field.