

# Reducing the number of abdominal ports used for laparoscopic distal gastrectomy using the “MiniLap” grasper

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Laparoscopic gastrectomy is widely accepted as a good alternative to open surgery for the treatment of early gastric cancers, and has several advantages including less abdominal wound, reduced pain, quicker recovery, and better postoperative quality of life (1,2). Conventional laparoscopic distal gastrectomy usually requires 4 to 5 abdominal ports for an operator and assistant, and an additional umbilical port for laparoscope insertion. With advances in laparoscopic instruments and surgical technique, many surgeons are trying to perform laparoscopic gastrectomy reducing the number of abdominal ports used. Single port laparoscopic surgery, also called single incision laparoscopic surgery, in which all the procedures are performed via a single umbilical port, has been recently introduced by some experts (3). Unlike other surgical procedures, however, laparoscopic gastrectomy via a single abdominal port is still technically challenging because of the technical difficulties regarding manipulation of laparoscopic devices and intracorporeal anastomosis through a single abdominal port, as well as the lack of appropriate laparoscopic devices for this procedure (4-6).

In this video (*Video 1*), we introduce “reduced ports laparoscopic distal gastrectomy” using the “MiniLap” grasper (Stryker, CA, USA). “MiniLap” grasper is 2.3 mm in diameter and can be inserted into the abdominal cavity without conventional abdominal laparoscopic port. It leaves little abdominal scar and does not require suturing of its insertion site. During laparoscopic distal gastrectomy, it can be used as an assistant device to retract the stomach and secure operating field or to retract the liver. Also, it can be used for an additional assistant port when performing single incision laparoscopic gastrectomy. In this procedure, it enables surgeons to reduce conventional two assistant laparoscopic ports without significant disruption of the

operative procedures. Only two abdominal ports for an operator are needed for laparoscopic distal gastrectomy when “MiniLap” graspers are used. In addition, it would benefit patients from reducing costs, minimizing surgical pain and scarring.

In our experience, the procedures of gastric and lymph node dissection was feasible and safe using the “MiniLap” graspers. “Mini-Lap” grasper could do the nearly same function as conventional laparoscopic devices through abdominal ports. After gastric dissection, reconstruction is usually performed with intracorporeal Billroth II anastomosis using linear staplers. From June 2012 to March 2013, we performed this procedure on 25 patients with gastric cancer. The mean operating time was 135 min (range, 90 to 180 min), and there was no conversion to open surgery. Postoperatively, two patients had postoperative complications (one case of pneumonia and one case of gastric stasis). No hospital mortality occurred. The mean hospital stay was 7.7 days. In conclusion, “MiniLap” grasper is useful reducing the number of abdominal ports used during laparoscopic distal gastrectomy. Laparoscopic gastrectomy using the “Mini-Lap” grasper is technically feasible and safe. Also, it could reduce the costs and benefit patients from surgical pain and scarring.

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