Robot-Assisted Technique for Total Gastrectomy and D2 Lymphadenectomy with Anomalous Vasculature

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BACKGROUND

Recent level 1 data indicate that minimally invasive gastrectomy achieves better short-term outcomes than open technique without compromising oncologic efficacy. The robotic technique of total gastrectomy exhibits particular utility for technically challenging resections of locally advanced lesions for which extended lymphadenectomy and vascular dissection are indicated.¹

METHODS

The video demonstrates stepwise technical aspects of robot-assisted D2 total gastrectomy with hand-sewn Roux-en-Y esophagojejunostomy for advanced gastric adenocarcinoma after neoadjuvant systemic chemotherapy. The example in the video involved skeletonizing and preserving a large replaced left hepatic artery undetected by preoperative imaging. A retrospective review was performed with institutional review board (IRB) approval.

RESULTS

Between August 2013 and April 2017, 27 robot-assisted gastrectomies with D2 lymphadenectomy were performed for gastric cancer. The median patient age was 65 years (range

39–83 years), and 58% of the patients were male. The median body mass index was 26 kg/m² (range 18–40 kg/m²). The median operative time was 463 min (range 169–853 min), with 100 ml (range 10–1000 ml) of blood loss and no conversions, representing the entire institutional learning curve. In all 27 cases, R0 resection was achieved, and a median of 23 (range 11–47) lymph nodes were retrieved. The median hospital stay was 7 days (range 2–44 days). Nine patients experienced clinically significant complications (Clavien-Dindo 2 or higher²). No reoperations or deaths occurred within 90 days.

CONCLUSION

The video is a stepwise demonstration of minimally invasive total gastrectomy with hand-sewn Roux-en-Y esophagojejunostomy, extended lymphadenectomy, and preservation of hepatic arterial inflow using a robotic technique identical to its open counterpart.

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