

# Robotic single-incision anterior resection for sigmoid colon cancer: access port creation and operative technique

Meng Shi Lim · George Melich · Byung Soh Min

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## Abstract

**Background** Potential morbidities related to multiport laparoscopic surgeries have led to the current excitement about single-incision laparoscopic techniques. However, multiport laparoscopy is technically demanding and ergonomically challenging. We present our technique of using the Alexis wound retractor and a surgical glove to fashion an access port and the da Vinci surgical robot to perform single-incision anterior resection.

**Methods** Through a small transumbilical incision, an Alexis wound retractor and a surgical glove are fashioned as an access port. Appropriate trocars are then inserted through the cut fingertips of the glove and secured. A three-arm da Vinci robot with a 30° up-scope was used.

**Results** Twenty-two patients (12 males, 10 females) with a mean age of 58.5 years (range = 35–70) underwent robotic single-incision anterior resection for sigmoid colon cancer with this technique. There was no conversion to

open surgery and one case was converted to multiport surgery. The mean estimated blood loss was 24.5 ml (range = 5–230), the mean operating time was 167.5 min (range = 112–251), the median skin incision length was 4.7 cm (range = 4.2–8.0), the mean proximal and distal resection margins were 12.9 cm (range = 7.5–25.1) and 12.3 cm (range = 4.5–19.2), respectively, and the mean lymph node harvest was 16.8 (range = 0–42). The immediate postoperative pain score was 2.8 (range = 1–5) and on postoperative day 1 it was 1.4 (range = 1–3). The mean length of hospital stay was 6 days (range = 5–9).

**Conclusion** Robotic single-incision anterior resection is a safe and viable option for selected patients. Merging the principles of reduced parietal trauma and better cosmesis with the ergonomic advantages of the robotic system is a novel evolution of single-incision laparoscopic surgery.

**Keywords** Colorectal cancer · Robotic single-incision surgery · Laparoscopic anterior resection · Single-incision anterior resection · Single-incision colectomy

**Disclosures** Drs. Meng-Shi Lim, George Melich, and Byung Soh Min have no conflicts of interest or financial ties to disclose.

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M. S. Lim  
Sarawak General Hospital, Kuching, Sarawak, Malaysia  
e-mail: dr.limms@gmail.com

G. Melich  
Department of General Surgery, McGill University, Montreal,  
QC, Canada

B. S. Min  
Severance Robot and MIS Center, Seoul, Korea

B. S. Min (✉)  
Department of Surgery, Yonsei University College of Medicine,  
250 Seongsanno, Seodaemun-gu, Seoul 120-752, Korea  
e-mail: bsmin@yuhs.ac