Port Surgery for Colorectal Cancer Patients, Involving the Use of A Single-Incision Laparoscopic Surgery Port at the Planned Stoma Site

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Received date: July 04, 2014, **Accepted date:** July 29, 2014, **Published date:** August 04, 2014

Abstract

A single-incision laparoscopic surgery (SILS) port may be used to reduce the number of surgical incisions. Here, we describe our technique, equivalent in technical difficulty to conventional laparoscopy, of using a SILS port at a planned diverting-stoma site in colorectal cancer patients. This technique is indicated for patients for whom the intent is to perform tumor resection with diverting ileostomy. Because ileostomy is usually created on the right, this technique is most useful for left-sided lesions. However, an additional port in the umbilicus enables dissection of the right colon. The SILS port is placed by the open method, with additional trocars added once pneumoperitoneum is established. One trocar port is eventually used for a drain. We use this technique not only for intersphincteric resection, wherein distal rectal stump stapling is not necessary, but also in total coloproctectomy and ultralow anterior resection, which require deep pelvis stapling or right-sided colonic dissection.

Keywords Colorectal cancer; Reduced port surgery; Diverting stoma; SILS port

Introduction

Laparoscopic surgery has played a significant role over the past 2 decade, allowing patients to undergo surgery with minimal scarring. However, some scars still develop, and reduced port surgery has been introduced as a method of performing operations with fewer incisions and less scarring; this method has even been discussed in colorectal cancer surgery circles [1-3]. However, reducing the number of ports poses

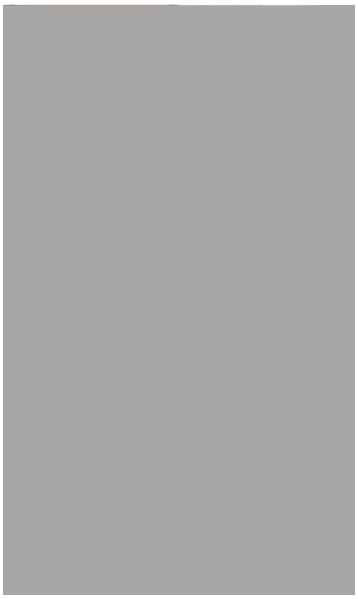

Figure 1: Case 1 A: Preoperative marking of the diverting ileostomy site. B: Transumbilical and right lower quadrant SILS ports. C: Extracorporeal ileopouch creation after retrieving the specimen through a port site. D: Postoperative abdominal view. E: One month after ileostomy repair.

anococcygeal ligament by using the Echelon Flex Endopath stapler (Ethicon Endo-Surgery, Inc., Blue Ash, OH, USA), inserted through the 12 mm trocar of the right abdominal SILS port (Figure 3D). Although this transection was made deep in the pelvis, the trocar location made it easy to perform stapling without instrument collision. After performing anastomosis using a circular stapler, diverting ileostomy was created at the SILS site.

The patient was discharged after he had learned to manage the stoma. Three months later, he underwent ileostomy repair without any complications.

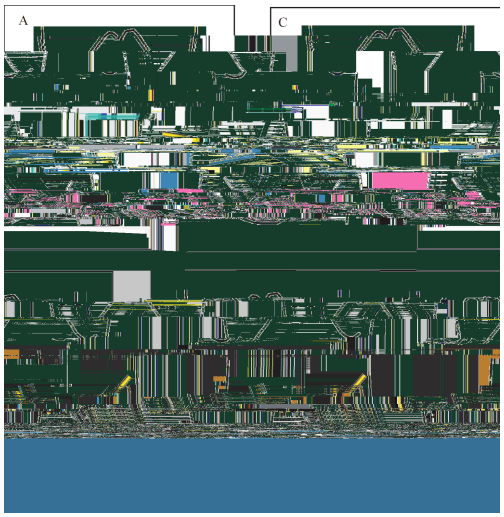

Figure 3: Schematic of the port sites and the locations of trocars and forceps according to each maneuver. Inferior mesenteric artery dissection. Left colonic mesentery dissection; approaching from the right makes it easier to reach the colon. Pelvic dissection; to avoid collision, the surgeon uses the umbilical port as well as the 12 mm trocar of the stoma-site SILS port. Stapling the distal rectal stump; staples are inserted through the 12 mm trocar in the stoma-site SILS port.

Discussion

Reducing the number of surgical ports has become a frequent goal of surgeons since SILS was first developed [3,5-8]. Ideally,this reduction results in ports being placed through other necessary incisions such as drain holes, specimen-retrieval incisions, and diverting stoma sites [9]. Port reduction can, however, increase the technical difficulty of a given surgery [10,11]. SILS, the ultimate port-

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