Reduced Port Laparoscopic Reversal of Hartmann's Procedure Using the Colostomy Site

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Utilization of the colostomy site for laparoscopic reversal of Hartmann's procedure was recently introduced, and several studies have shown the feasibility of the procedure, which allows the colostomy site to serve as an access port for the operation. We demonstrate a method utilizing an accessory 5 mm trocar to assist in the operation while employing a colostomy-deepened glove port.

Keywords: Laparoscopy, Hartmann's reversal, Colostomy

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INTRODUCTION

The reversal of Hartmann's procedure itself is a technically challenging procedure due to the extensive adhesions present in the abdominal cavity. Recently, utilization of the colostomy site for laparoscopic reversal of Hartmann's procedure was introduced, and several studies have shown the feasibility of the procedure.¹⁻⁵ It allows for the colostomy site as an access port for the operation. However, single port surgery is technically more challenging than multiport surgery due to instrument interference and inaccessible angles from a single site. We demonstrate a method that could overcome these drawbacks utilizing an accessory 5 mm trocar to assist in the operation while using a colostomy-deepened glove port, which is later used as a pelvic drain site.

PROCEDURE

The patient was a 57-year-old man who underwent Hartmann's operation 7 months previously due to a transanal rectal penetrating injury caused by steel beam perforating the pelvic cavity. The patient was placed in the lithotomy position and the colostomy lumen was obliterated with continuous sutures. After skin preparation, draping, and instrument positioning, the colostomy was deepened into the abdominal cavity. The resulting aperture was used as a glove port for single port access (330AS2W, Inframed, Seoul, Korea). Initial mobilization of the adjacent adhesions was performed to ensure clear visibility of the operation field using the Trendelenburg position. Lysis of adhesions was performed with a combination of electrocautery, endoshears and an ultrasonic energy device (Thunderbeat, Olympus, Tokyo, Japan). The proximal limb was

mobilized first. However, after some dissection it was decided that the operation was too risky to perform via a single port. An additional 5 mm port (TR05FL, Dalim, Seoul, Korea) was inserted via the right lower abdomen for the primary operator port which was later used as a drain insertion site. After sufficient mobilization of the colon, the rectal stump was cleared and mobilized. The anvil was applied to the proximal end extracorporeally. After re-establishing the pneumoperitoneum, end-to-side colorectal anastomosis was made with circular stapler firing (ECS29A, Ethicon of Johnson and Johnson, Somerville NJ, USA). After determining the absence of air leakage test, a Jackson-Pratt drain was inserted through the 5 mm port and into the pelvic cavity. Operation wounds were repaired in the conventional method. The operation lasted 180 min. Estimated intra-operative blood loss was about 100 ml. The patient was given an oral diet on post-operative day 6 and was discharged on day 9 without any complications. On the most recent follow-up, 2 months after the operation, computed tomography imaging showed no specific signs of complications.

DISCUSSION

Utilizing the colostomy site for single port access and inser-

tion of an additional trocar may ensure the safety of the procedure and allow a better success rate while still achieving a good cosmetic outcome compared to open surgery. It is a safe and feasible way to perform laparoscopic reversal of Hartmann's procedure.

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