

On-Table Colonic Irrigation in Emergency Surgery for Left Colon Tumors

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Abstract: In this study, on-table colonic irrigation application in emergency left colon resections and its effects on single-stage treatment options were investigated. 21 patients who received left hemicolectomy due to left colon tumors were included in the study. 12 patients were taken to surgery following elective bowel cleansing (with monoalcaline/dialcaline sodium phosphate) (Group 1) whereas 9 patients were taken to surgery without prior bowel cleanse and on-table colonic irrigation was performed (Group 2). No dehiscence or leakage from anastomosis was detected in both groups. 2 patients in Group 1 and 3 patients in Group 2 showed a simple wound infection on the surgical site without a statistically significant difference ($p>0.05$). This study showed that there is no significant difference in terms of anastomosis healing in primary resection-anastomosis between elective colon cleansing and on-table colonic irrigation. We strongly think that this promising technique warrants further studies with wider patient series.

Keywords: colonic irrigation, on-table lavage, left colon tumor.

INTRODUCTION

The traditional treatment strategy for colon tumors are staged procedures. Hartmann procedure recently gained popularity, and single-staged operations are used widely in the management of tumors today [1, 2]. Bowel cleansing in semi-elective cases are especially crucial in deciding between single-staged and staged operations. In this study, on-table colonic irrigation application in emergency left colon resections and its effects on single-stage treatment options were investigated.

PATIENTS AND METHODS

21 patients who received left hemicolectomy due to left colon tumors were included in the study. 12 patients were taken to surgery following elective bowel cleansing (with monoalcaline/dialcaline sodium phosphate) (Group 1) whereas 9 patients were taken to surgery without prior bowel cleanse and on-table colonic irrigation was performed (Group 2).

On-table colonic irrigation: Following a proper incision to left colon tumor, 18 Fr Malecot (de Pezzer) catheter was inserted from apex stump up to 10 cm above. Following the clamping of distal ileum, warm saline solution was introduced through the catheter for irrigation. Proximal end of anastomosis was taken out of abdomen and irrigation was done within a sterile plastic bag without causing spillage. The irrigation continued until the drainage fluid came out clear. Following the clear drainage fluid inspection, the surgery was finalized using end-to-side colocolic anastomosis.

Patients with systemic diseases which might affect colonic perfusion, with systemic connective

tissue diseases, with inflammatory bowel disease were excluded from the study. Patients with perfusion-disorder with age above 75 and patients with ileus complaints were also excluded.

All patients started oral nutrition on the 5th day of surgery and normal nutrition was continued following investigation of bowel movements and gas output. Patients albumin-globulin levels were kept in check to stay within normal range. All patients received parenteral and enteral nutritional supplements from the 1st day of surgery until normal eating was commenced. Post-operative complications and hospitalization periods were retrospectively reviewed.

RESULTS

No significant difference was detected in terms of age and gender between Group 1 and Group 2. No dehiscence or leakage from anastomosis was detected in both groups. 2 patients in Group 1 and 3 patients in Group 2 showed a simple wound infection on the surgical site without a statistically significant difference ($p>0.05$). In Group 2, 1 case developed a pulmonary embolism which regressed with medical therapy and 2

cases in Group 1 developed pneumonia secondary to atelectasis, which was not thought to be related with the surgical technique employed. Mean hospitalization period was 11.6 in Group 1 and 10.9 days in Group 2, without a statistically significant difference between the groups ($p>0.05$). No mortality was reported during the study.

DISCUSSION

Although staged operations are traditionally used in surgical management of colon cancers, single staged operations with or without protective colostomy are becoming more and more popular today [3]. It is a widely known fact that the anastomosis dehiscence is severely affected by proximal fecal load. For this reason, on-table bowel irrigation principle, first described in 1980's by Dudley and Redcliffe, continues to be a debatable practice in cases with planned anastomosis in the primary surgery [4, 5]. When first described, the technique used a urinary catheter inserted from terminal ileum for irrigation and a tracheal intubation tube inserted to colon ending for drainage. Today, different methods were developed for irrigation [4-6]. Special attention was paid for avoiding fecal spillage by using various techniques from suturing assorted sizes of catheters to colon endings to bowel emptying using longitudinal resection [6].

A study done by Buyukgebiz in 2010 described a new technique which is useful in avoiding contamination by surrounding the colonic contents within a telescopic nylon sleeve which is originally used for laparoscopic cameras [7]. On-table bowel irrigation is also similar to this technique in terms of fast and safe relief of fecal load from the colon with decreased contamination risk and reduced surgery time required from primary resection and anastomosis [7]. Other studies done as follow-up also reported on-table colonic irrigation as a very safe procedure and can be used even in acute cases with great safety and effectiveness, first in emergency surgeries followed by semi-elective surgeries [8-12].

To sum up, this study showed that there is no significant difference in terms of anastomosis healing in primary resection-anastomosis between elective colon cleansing and on-table colonic irrigation. We strongly think that this promising technique warrants further studies with wider patient series.

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