



## CURATIVE RESECTION AND PRIMARY ANASTOMOSIS FOLLOWING ACUTE OBSTRUCTION OF THE INTRA-OPERATIVELY DIAGNOSED MALIGNANT COLON

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### ABSTRACT

**BACKGROUND AND OBJECTIVES:** An adenocarcinoma of colon is the most common malignancy tumour of the gastrointestinal tract<sup>1,2</sup> and accounts for 16- 20% of acute large bowel obstruction<sup>1,2</sup>. The aim of present study was to evaluate the outcome of the patients presenting with acute obstruction of malignant colon diagnosed intra-operatively and treated by on-table manual decompression, curative resection, and primary anastomosis<sup>3,4,5,6,7,8,9,10,11</sup>

**METHODS:** Eleven patients underwent an emergency exploratory laparotomy, and curative resection and primary anastomosis was done following acute obstruction of malignant colon between 1<sup>st</sup> February, 2018 to 31<sup>st</sup> January, 2019 in the surgery department, Assam Medical College and Hospital, Dibrugarh, Assam. Carcinoma of colon was diagnosed intra-operatively and resected specimen was sent for histopathological examination. Resection and anastomosis was followed by adjuvant chemotherapy consisting of 5-fluorouracil, Leucovorin and oxaliplatin<sup>1,2</sup>. Plain supine and upright abdominal radiographs and ultrasonography of abdomen were done in all patients.

**RESULTS:** All eleven patients had undergone exploratory laparotomy following acute obstruction of malignant colon. Seven patients were male and four patients were female. The left sided malignant colonic obstruction (72.72%) dominated the right sided malignant colon (27.28%) in present study. Surgical site infection (3 patients) was the most common complication. One patient developed anastomosis leakage. One patient expired in this study.

**CONCLUSIONS:** Carcinoma of colon is one of the most common causes of large bowel obstruction. With the advance of guidelines on colon and rectal cancer emergencies, curative resection and primary anastomosis with on-table colonic manual decompression<sup>3,16</sup>, becomes the standard procedure<sup>3,15</sup> in emergency malignant colonic obstruction. But one should not perform resection and primary anastomosis if there is complicated malignant large bowel obstruction in presence of other risk factor<sup>3</sup>.

**KEYWORDS :** Malignant colon, Obstruction, Intra-operative, Curative resection and primary anastomosis, On-table manual decompression.

### INTRODUCTION

Malignant colonic obstruction is one of the most commonly encountered emergency surgeries for surgeons. With the advance of guidelines on colon and rectal cancer emergencies<sup>3</sup>, single stage resection and anastomosis, becomes the routinely performed surgery in many centres for colorectal cancer obstruction. On-table colonic lavage or manual decompression<sup>3, 16</sup> is the mainstay technique in success of single stage surgery. The advantage of single stage resection and anastomosis, is to avoid a second major operation, thereby reducing hospital stay, morbidity rate and dehiscence rate<sup>3, 12, 13, 14</sup>. Long-term survival benefit was recorded in many studies for single stage resection and anastomosis<sup>3, 11</sup>. Mortality rate, wound dehiscence, and anastomosis leakage following single stage resection and anastomosis for acute malignant colonic obstruction, is as low as elective two-stage surgery<sup>3</sup>.

### MATERIALS AND METHODS

This study included 11 consecutive patients of acute malignant colonic obstruction who was admitted to the Department of General Surgery, Assam Medical College, Dibrugarh, Assam, over a period of one year from 1<sup>st</sup> February, 2018 to 31<sup>st</sup> January, 2019. The criterion for present study was the malignant colon diagnosed intra-operatively, presenting with acute intestinal obstruction. Patients with malignant rectum and pre-operatively diagnosed malignant colon were excluded from the study. The diagnosis was established intra-operatively and on-table manual decompression and right or left hemicolectomy were done. Primary anastomosis was performed after proper decompression in the form of ileo-colic or recto-colic. The resected specimens were given for histopathological examination.

**RESULT:** All eleven patients underwent exploratory laparotomy for acute bowel obstruction. All patients were diagnosed intra-operatively as carcinoma of colon.

**Gender:** Seven patients (63.64%) were male and four patients (36.36%) were female in present study. Male population had a significant preponderance on the basis of sex distribution.

**Table.1.Sex Distribution**

Sex	Number of Patients (n= 11)	Percentage (%)
Male	7	63.64%
Female	4	36.36%

**Age Distribution:** On the basis of age distribution, carcinoma of colon mainly occurs in age group of 61-70years (36.36%) in the present study. Seventy years old male patient was the oldest in present study.

**Table.2.Age Distribution**

Age Group in ( years)	Male	Female
31-40	1	1
41-50	1	1
51-60	3	0
61-70	3	1
71-80		

**Table.3. Distribution of colon cancer by site**

Sites	Number of Patients (n=11)	Percentage (%)
Ascending colon	1	9.09%
Hepatic flexure	1	9.09%
Transverse colon	1	9.09%

Splenic flexure	0	
Descending colon	3	27.28
Sigmoid colon	5	45.45%

**Operation:** The diagnosis of malignant colon was made in all patients during laparotomy. Right hemicolectomy was done in three patients and eight patients underwent left hemicolectomy. Primary anastomosis was performed after a proper on-table manual decompression. All patients received an adjuvant chemotherapy consisting of oxaliplatin, 5-fluorouracil, and leucovorin.

**Table.4.Operation**

Operation	Number of Patients (n=11)	Percentage (%)
Right Hemicolectomy	3	27.28%
Left Hemicolectomy	8	72.72%

**Postoperative Complications:** Five patients (45.45%) were required to keep in Intensive Care Unit immediately after operation for 2-4 days. Three patients (27.28%) developed surgical site infection. Two patients (18.18%) developed respiratory tract infection. The oldest patient in present study expired following anastomosis leakage leading to faecal peritonitis and septicaemia.

**Table.5. Postoperative Complications**

Complications	Number of Patients (n=11)	Percentage (%)
Surgical Site Infection	3	27.28%
Anastomosis Leakage	1	9.09
Respiratory Infection	2	18.18%
Death	1	9.09%

## DISCUSSION

The management of acute malignant colonic obstruction remains a major challenge for surgeons. But with the advance of guidelines on colon and rectal cancer emergencies<sup>3</sup>, trend has been shifted towards a curative resection and primary anastomosis for the malignant colonic obstruction.

**Anastomosis leakage:** One patient developed anastomosis leakage at the rate of 9.09% which is comparable to the 2.2 to 12%<sup>5,9,10,11</sup> rate reported in Pisano M et al<sup>3</sup>.

**Mortality:** One patient expired with the mortality rate of 9.09% who had co-morbidity of diabetes mellitus. The mortality rate of present study was comparable with Zorcolo L et al<sup>18</sup> (5.7%) and Pisano M et al<sup>3</sup> (14%).

**Surgical site infection:** Surgical site infection (27.28%) was little higher in present study as compare to other studies. Chiappa A et al<sup>20</sup> recorded 8% in surgical site infection.

So curative resection and primary anastomosis has many surgical advantages over two-stage surgery.

## CONCLUSION

The curative resection and primary anastomosis is a safe emergency surgical procedure with proper on-table manual decompression for malignant colonic obstruction. But one should avoid resection and primary anastomosis if there is complicated malignant large bowel obstruction in presence of other risk factors<sup>3</sup>.

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