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Case Report

Ascending colon malignancy presenting as large bowel obstruction: a rare case report

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ABSTRACT

Colorectal cancer is the third most common cancer in both men and women and the fourth most common cause of cancer related deaths. It can be classified as sporadic (70%), inherited (5%) and familial (25%), various genetic pathways are involved. Carcinomas of right colon are known to be relatively silent lesion producing non-specific symptoms like fatigue, weakness, and vague lower abdominal pain. Whereas, left colon carcinomas are frequently more dramatic presenting as altered bowel habits, bloody mucoid stools, and obstruction. Most importantly almost 50% of left sided cancers present as a palpable growth of lower rectum. Emergency right hemicolectomy is the treatment of choice for an obstructing right colon malignancy, options varies from open/lap right hemicolectomy with a primary ileo-transverse anastomosis in a stable patient with or without diverting ileostomy or placement of endoluminal self-expanding metallic stent (SEMS). Here we present a case 47 year old female who presented with abdominal pain and vomiting for 2 days and was diagnosed with mid ascending colon growth with distended caecum and proceeded with emergency laporotomy. Intraoperatively circumferential constrictive growth seen in ascending colon with impending perforation in caecum and was subjected to a right hemicolectomy with end-to-end ileo-transverse anastomosis with an uneventful post-operative period.

Keywords: Right colectomy, Colon cancer, Intestinal obstruction, Emergency surgery, Primary anastomosis

INTRODUCTION

Patients with primary colorectal carcinoma, 12-16% present with intestinal obstruction. Most patients with symptoms of intestinal obstruction are affected by left colon or rectal cancer. Only few patients have intestinal obstruction from right colon cancer, more common in the elderly. So, when the carcinoma colon causes obstruction, the lesion is most frequently left sided in a ratio of 7:1.[6] Patients usually presents with pencil thin stools, increasing constipation, abdominal pain and vomiting which may be feculent. Diagnosis is confirmed by imaging such as plain X-ray films, contrast enemas, abdominal CT and lower endoscopy. Treatment options should be aimed at relief of obstruction, tumour clearance with stoma or anastomosis based on general condition of the patient. Approach to left side obstruction is based on location of obstructing tumour, viability of proximal bowel and patient condition. Historically primary anastomosis has been avoided, with distal stump closed and proximal exteriorized after resection (Hartmann operation). Current evidence supports that primary anastomosis can be done in appropriate patients who are hemodynamically stable and tension-free good anastomosis can be achieved. Endoscopic stenting as bridge for elective surgery as alternative technique to relieve obstruction is also gaining attention, this has been shown to permit higher rates of primary anastomosis, decreased wound infection, higher rate of completion surgery laproscopically. Stenting is contra-indicated in suspected ischemic or perforated bowel. For right-sided obstructions oncological segmental resection with primary ileo-colic anastomosis both by open and laparoscopic techniques are widely accepted. Intuitively,

stenting for right sided obstructions be slightly tougher as there is need to traverse longer segment of colon before reaching pathology. In addition, with relatively good outcomes for emergency right hemicolectomy procedure, including adoption of laparoscopic procedures in certain instances, preference for stenting over surgery in right sided colonic obstructions not clear.[2] The BRAF gene, one of RAF genes that participate in the RAS-RAF signaling pathway which mediate cellular responses to growth signals and frequently mutate in colorectal cancer and in melanoma.[4]

CASE REPORT

A 47-year-old female presented with 2 days of history of abdominal pain and non-bilious vomiting. She is a known hypertensive and underwent thyroidectomy 16 years back and on thyroxine supplements. She did not complain of constipation, blood in stools or mucous diarrhea. She reports no weight loss or loss of appetite. On admission her blood pressure was 120/70, heart rate was 99/mt and she was afebrile. General physical examination was unremarkable. On abdominal examination, she had mild distension and right iliac fossa tenderness. No signs of peritonitis noted. Rectal examination revealed normal tone and mucosa with normal fecal soiling. Ryle's tube aspirate was bilious. Laboratory investigations revealed hemoglobin of 10 gm/dl, white cell counts-13,800 with hematocrit value of 32%. Electrolytes, renal and liver parameters were normal. X-ray revealed a gas shadow in right iliac fossa, no free-air or air fluid levels noted. Contrast enhanced CT abdomen and pelvis revealed a Circumferential thickening in mid ascending colon for a length of 5 cm with maximum thickness of 15 mm with distended caecum of diameter 9.2 cm. Descending colon found to be collapsed. Ileo-caecal junction and small bowel found to be normal. Minimal free fluid present in the pouch of Douglas. The impression was given as ascending colon stricture with possibility of malignant/inflammatory pathology. Patient was taken up for emergency laporotomy, intra-operatively malignant stricture/growth noted in proximal ascending colon for a length of 5cm, distended caecum with serosal tear and bulging out muscular layer denoting an impending rupture. No ascites noted. Rest of the large bowel, small bowel, liver and spleen were found to be normal. No regional lymphadenopathy noted. Proximal and distal loops of bowel from the growth were found to be healthy, hence proceeded lateral-medial approach of right-hemicolectomy. Ileo-colic and right colic vessels and right branch of middle colic artery were identified and ligated, from terminal 15 cm of ileum to proximal 1/3rd of transverse colon was resected and primary end-end ileo-transverse two-layered anastomosis was done. Operative biopsy specimen reported as well differentiated infiltrating adenocarcinoma of ascending colon with size of 5.5×3×1 cm with no macroscopic tumour perforation limited upto sub-serosal layer with both proximal and distal margins free of tumor. Patient post-op period was uneventful, started on orals on 4th post-op day, passed stools on 6th post op day and discharged on post op day 10. Patient on regular follow-up and doing good till date.

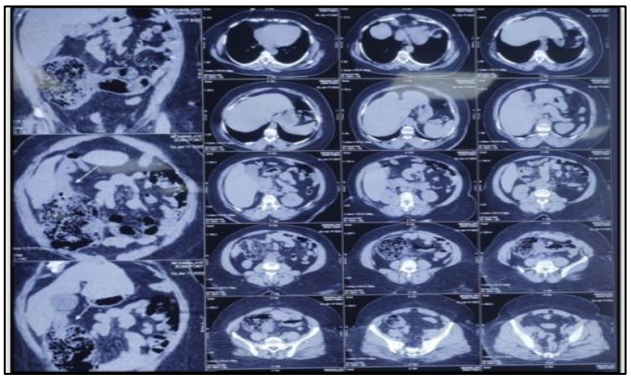

Figure 1: CT image of circumferential wall thickening in mid-ascending colon region.

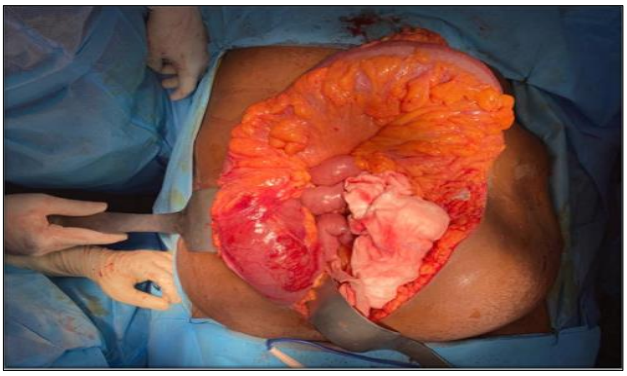

Figure 2: Intra-op picture of distended caecum with an impending perforation.

Figure 3: Right hemicolectomy specimen with growth in proximal ascending colon.

DISCUSSION

Right sided colon cancers with intestinal obstruction is a rare event and it is supposed to further decrease due to spreading of screening protocols. The anatomically larger diameter of the right colon and passage of softer faeces, accounts for lower incidence of obstruction. Hence, they usually grow to bigger sizes and bleeds causing anemia symptoms and Malena as initial presentation. Imaging

studies characteristically demonstrate the features of large or small bowel obstruction and attention should be paid to the diameter of the cecum, which presents risk of perforation if the diameter reaches 12 cm or more, such circumstances requires urgent intervention. Colonic perforation secondary to a tumor occurs in 2 settings. Either by transmural spread of tumor perforates itself, or the proximal colon becomes overdistended, particularly in case of a competent ileocecal valve. Both may result in diffuse fecal peritonitis with significant morbidity and mortality. Pseudo-obstruction (Ogilvie syndrome) is an important differential which is seen as a result of various medical conditions. Distribution of right colonic carcinoma based on the sites are caecum-12%, ascending colon-5%, hepatic flexure-2%, transverse colon-5.5%. Macroscopic varieties include annular, tubular, ulcer and cauliflower. For cancers located in caecum and ascending colon, the procedure of choice is right hemicolectomy, which includes of division of ileocecal pedicle at its origin from superior mesenteric vessels and division of right colic vessels and lymphatic vessels surrounding the superior mesenteric vein and resection of 5-6 cm of terminal ileum upto proximal 1/3rd of transverse colon with primary anastomosis can be performed. Laparoscopically medial to lateral approach is conveniently carried. Delivery of specimen and extra-corporeal anastomosis can be done by extending the umbilical port incision. Laparoscopic right hemicolectomy is an established minimally invasive procedure in right-sided colonic carcinoma both in emergency and elective situations, it is associated with faster postoperative recovery and lower morbidity.[1,9] SIAGES recommend the decision should be based on patient's condition, hemodynamic stability, extent of abdominal distension, the respectability of the carcinoma, and the surgeon's ability to perform a curative resection.[3] Others methods include preoperative insertion of a SEMS eliminates the need for high-risk emergency surgery and allows planned elective surgery in later date.[5] Stent diameter usually varies from 20 to 30 mm after deployment. The potential for perforation and intraperitoneal spillage of fecal content is a risk to be considered. Hence distal location of obstructing lesion is more favorable for stent placement. Endoscopic insertion of colonic stents but not staging colonoscopy results in increased levels of tumour cell dislodgement in the peripheral circulation is reported.[7] However, choice of management should be tailored to individual patient factors, site and extent of tumour involvement, time and severity of presentation, presence and absence of fecal peritonitis (in cases of malignant perforation), availability of hospital resources and the surgeon's expertise.

CONCLUSION

Carcinoma of the right side of the colon can present with obstruction and in right setting emergency right hemicolectomy either by open or laproscopic method can be safely adopted. Appreciation of this possibility in patients presenting with distal small-bowel obstruction will lead to appropriate diagnostic studies and proper patient preparation and accurate surgery.

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