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Letter to Editor

Surgery Section

Malignant Duodeno-Colic Fistula: A Rare Complication of Colorectal Cancer

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The incidence of small bowel and colorectal cancer (CRC) is escalating worldwide [1,2] and there is a corresponding rise in cancer-related complications [3]. Unlike CRC, small bowel cancer is very aggressive tumour which spreads and metastasizes rapidly. Often, small bowel cancer is diagnosed after it has metastasized. One of the rare complication of locally advanced CRC is malignant duodeno-colic fistula (MDCF) with a reported incidence of 0.14% [4]. Although there have been isolated reports of MDCF [5], the incidence of this condition remains low due to its early detection by the use of advanced imaging, endoscopic, and screening modalities. Other rare causes of MDCF include carcinoma of gall bladder, duodenal carcinoma and metastatic cancer of oesophagus. This article exclusively describes MDCF as a rare complication of CRC. A brief account about the uncommon and vague clinical features, some diagnostic modalities and management strategies are outlined.

MDCF can present with symptoms from the primary tumour (diarrhoea, weight loss, abdominal pain and vomiting), from the fistula (lower GI bleeding) or from metastatic disease [6]. Diarrhoea occurs due to bacterial contamination of duodenum leading to malabsorption of food contents in the upper intestine. Imaging like CT scan and barium meal can identify fistulous track as well as the primary tumour. CT scanning explicitly delineates metastatic spread as well as the extent of local invasion.

Treatment of MDCF depends on general condition of patient, extent of local invasion of primary tumour and metastatic status of CRC. Preoperative optimization is done by correction of fluid and electrolyte disturbances, total parenteral nutrition, and blood transfusion. As for primary CRC [7], surgical therapy is considered to be the standard curative treatment modality for MDCF. The anatomical complexity of duodeno-pancreatic area poses a challenge to surgical approach and the situation can be further compounded by local invasion of major vessels. Right hemicolectomy with either partial duodenenctomy and primary closure of duodenal wall defect or the use of jejeunal loop have been proposed as surgical procedures with curative intent [8,9]. In Japan, Izumi examined 34 cases of MDCF treated by en bloc pancreaticoduodenectomy and reported their survival rate of 7 days to 4 years (median=10 months) [10]. A 5-year survival rate, in patients with nodal metastasis, has been shown to be 0-11% that is significantly lower than the 37-76% survival rate in their patients without nodal metastases [11]. Postoperative complications such as intra-abdominal abscess, bile duct necrosis, septic shock, anastomotic leakage and lower GI haemorrhage can be expected after surgical treatment. For incurable and metastatic MDCF, a bypass procedure of ileo transverse anastomosis with gastrojejunostomy offers a reasonable palliative surgical modality.

Early detection of CRC by CT scan, colonoscopy, and various screening tools carries the best chance in preventing the development of complications. MDCF from colonic primaries can be treated by curative surgery that offers good prognosis when diagnosed at an early stage [12]. Once diagnosed, en bloc surgical removal and closure of the duodenal wall defect is recommended surgical option for MDCF. Chemotherapy or radiotherapy have no role in the management of MDCF.

REFERENCES

[1] Nishihara R, Wu K, Lochhead P, Morikawa T, Liao X, Qian ZR, et al. Long-term colorectal-cancer incidence and mortality after lower endoscopy. *New England Journal of Medicine.* 2013;369(12):1095-105.

[2] Guraya SY, Al Naami M, Al Tuwaijri T, Arafah M. Malignant melanoma of the small bowel with unknown primary: a case report. *J Ayub Med Coll Abbottabad*. 2007;19(1):63-65.

[3] Guraya SY, Eltinay OE. Higher prevalence in young population and rightward shift of colorectal carcinoma. *Saudi medical journal.* 2006;27(9):1391-93.

[4] Calmenson M, Black B. Surgical management of carcinoma of the right portion of the colon with secondary involvement of the duodenum, including duodenocolic fistula; data on eight cases. *Surgery*. 1947;21(4):476-81.

[5] Guraya SY, Murshid KR. Malignant duodenocolic fistula. Various therapeutic surgical modalities. *Saudi medical journal.* 2004;25(8):1111-14.

[6] Soulsby R, Leung E, Williams N. Malignant colo-duodenal fistula; case report and review of the literature. *World journal of surgical oncology.* 2006;4(1):86.

[7] Guraya SY, Almaramhy HH. Clinicopathological features and the outcome of surgical management for adenocarcinoma of the appendix. *World journal of gastrointestinal surgery.* 2011;3(1):7.

[8] Majeed TA, Gaurav A, Shilpa D, Preeti J, Sanjay S, Manisha S, et al. Malignant Coloduodenal Fistulas-Review of Literature and Case Report. *Indian journal of surgical oncology.* 2011;2(3):205-09.

[9] Gallagher H. Extended right hemicolectomy the treatment of advanced carcinoma of the hepatic flexure and malignant duodenocolic fistula. *British journal of surgery*. 1960;47(206):616-21.

[10] Izumi Y, Ueki T, Naritomi G, Akashi Y, Miyoshi A, Fukuda T. Malignant duodenocolic fistula: report of a case and considerations for operative management. *Surgery today.* 1993;23(10):920-25.

[11] Harish K, Narayanaswamy Y, Nirmala S, editors. Treatment outcomes in locally advanced colorectal carcinoma. *International Seminars in Surgical Oncology*; 2004;1:8.

[12] Misra D, Pati GK, Misra B, Singh A, Kar S, Panigrahi MK, et al. Malignant duodeno-colic fistula. *Journal of Digestive Endoscopy*. 2014;5(2):75.

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