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Case Report

Malignant Cologastric Fistula

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Abstract: Malignant cologastric fistula is a rare pathological entity. We report case of a 39 year old man with infiltrating colonic adenocarcinoma of splenic flexure invading the adjacent stomach making a gastrocolic fistula. Instead of separating the two viscera an enbloc removal of the tumor by extended left hemicolectomy, partial gastrectomy and distal pancreatectomy was performed. The surgical pathology report showed complete resection with clear margins of both colon and stomach.

Key Words: Cologastric fistula, Gastrocolic fistula, Colonic Adenocarcinoma infiltrating stomach

Introduction

Colorectal malignancy is one of the commonest malignancies. It most often occurs in the sixth and is more common in male than in female. Vast majority of the tumors are adenocarcinoma. Grossly these may be ulcerative, tubular or annular form. Tumor most commonly occurs in left colon (63%) while only 3% occur in the splenic flexure. The tumor invades into submucosa, muscularis propria, serosa and further into lymphatics and vessels in the mesentry. Rarely the tumor directly invades into the adjacent plastered viscra such as stomach forming cologastric fistula. Apart from malignancy such fistula formation may take place in radiation therapy, lymphomas and Crohn's disease.[1]

Case Report

A 41 year old male patient was admitted with absolute constipation and profuse vomiting for the last one week. The patient had an episode of pain left lower abdomen along with bleeding per rectum since last one year. He was investigated at that time for suspension of the colorectal lesion. Total colonoscopy was done which showed only proctitis, histopathology labeled it non-specific proctitis. Due to recurrent bouts of pain the patient was reinvestigated about 3 months ago.Ultrasonogram revealed a 10cm x 4cm mass in the splenic flexure causing narrowing of lumen. CT scan showed a circumferential mural thickening of splenic flexure and descending colon with pericolic soft tissue stranding suggestive of neoplastic etiology. Based on these findings diagnosis of carcinoma splenic flexure of colon was made provisionally and exploratory laparotomy was planned.

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At laparotomy a large tumor 19cm x 11cm x 7cm involving the splenic flexure of colon, tail of pancreas, and greater curvature of stomach was found. Tumor was removed enbloc by left hemicolectomy along with sleeve resection of stomach involving the greater curvature, distal pancreatectomy and excision of greater omentum with lymph nodes along the greater curvature of the stomach. Anatomy was restored by closure of stomach after ensuring that the margins were tumor free grossly, and by end to end anasotmosis of the colon. Postoperative recovery was good and he was discharged on the 8th day

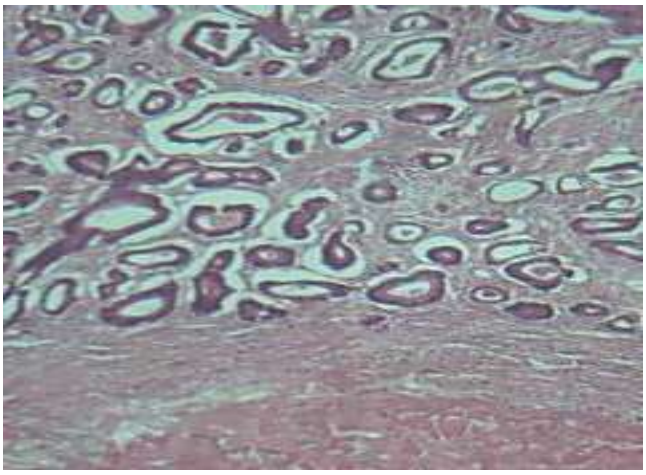

Figure 1: Colonic adenocarcinoma in the mucosa (H&E X 40)

Histopathology of the tissue revealed 'Infiltrating moderately differentiated transmural colonic adenocarcinoma invading transmurally entire stomach

wall, making a single lumen of stomach and colon (Cologastric fistula).

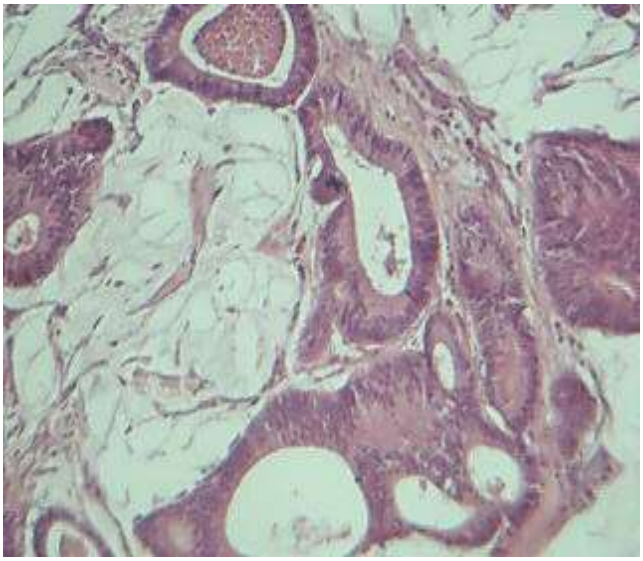

Figure 2: Colonic adenocarcinoma invading the submucosa and containing copious mucin (H&E X 100)

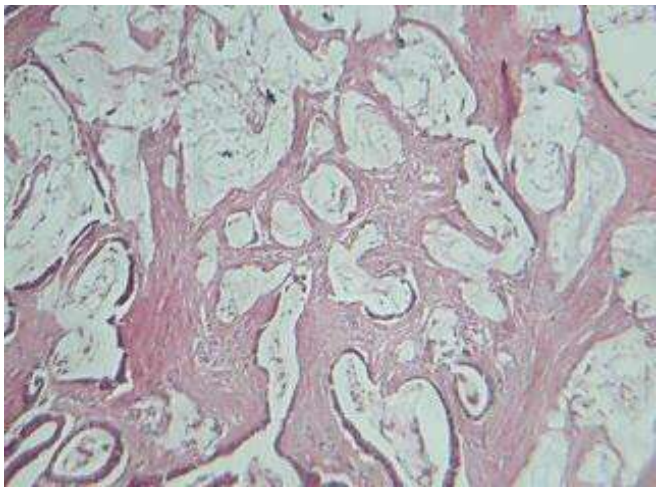

Figure 3: Colonic adenocarcinoma invading the wall and containing copious mucin (H&E X 100)

The tumor had arisen from colonic mucosa (Figure 1) and had infiltrated through the wall of the colon in the adjacent stomach wall. The tumor at places had copious mucin secretions. His preoperative CEA (carcino embryionic antigen) was 23.4 ng. He was referred to oncologist where he is being administered chemotherapy. The pancreas and all lymph nodes were free of malignancy. The superior and inferior resection margins of both colon and stomach were free of tumor.

Discussion

It is estimated that worldwide in 2008, 1.23 million new cases of bowel cancer were diagnosed and it killed more than 600,000 people.[2] Colorectal cancer is the third most commonly diagnosed cancer in the world but it is more common in the developed regions, where more than half of all deaths from the disease occur. [3] It was thought that people having predominant vegetarian dietary habits like our population are protected from colorectal cancer. [4] However this does not hold true, and studies show a substantial increase in the number of patients of colorectal cancer in the recent years, particularly its incidence at relatively younger age, like in our patient who is only 41 years old, being almost the same as in high-risk patients of the West.[5-6] More than 50% cases of the carcinoma are present in rectum and sigmoid region as documented in studies from different regions regarding location of malignancy.[4-8.] Histopathology reports in our patient showed moderately differentiated tumor, O'Connell study has reported that more than 50% of patients suffer from moderately or poorly differentiated tumor.[9]

Until 50 years ago, colorectal carcinoma appearing to infiltrate surrounding tissue was considered nonresectable.[10] Since then, extensive surgical procedures have been performed aimed at complete resection of locally advanced primary colorectal carcinoma. Results from several studies indicated that multivisceral en bloc resection of locally advanced tumors results in cure in a good majority of patients. Such operations are demanding for both patient and surgeon, with higher associated risks of complications and death. Surgical expertise is obviously an important determinant. A study has classified experience of the surgeons as low or high depending on whether a particular surgeon had performed 15 or more multivisceral resections.[11]

Some experts have suggested dissecting the colon free from an organ that appears macroscopically infiltrated.[12] When this concept was followed, the local recurrence rate was 26% and the 5-year survival rate was only 30% in 35 patients, probably because dissection caused dissemination of tumor cells. [13-14] Other studies have confirmed a detrimental effect of intraoperative incision of the tumor on recurrence rates. Local recurrence rates were exceedingly high when adherent organs were separated from the tumor (69 vs. 18%).[15] After inadvertent dissection or rupture of the tumor, the 5-year survival rate was only 17%, compared with 49% after complete en bloc resection. [16] This was confirmed in a subsequent study by the

German Colorectal Cancer Study Group, when intraoperative tumor cell dissemination resulted in a 5-year survival rate of 19% and 21% for colon and rectal cancer, respectively even if the tumor could be completely resected, in contrast to a 5-year survival rate of 49% to 53% if spillage was avoided by en bloc resection.[17] Frozen section to identify local infiltration is not helpful.[18] Any attempt to dissect a macroscopically infiltrating tumor from its surroundings is, therefore, strongly discouraged. In recent large studies, the 5-year survival rate has consistently been reported as 51% to 52% after multivisceral resection if the whole tumor is removed.[19] Some studies have studied age as a risk factor but have not found it to be significantly influencing the morbidity. This factor was anyway not relevant in our case since being relatively young adverse effects of old age are not likely to affect him[20].

As mentioned earlier in addition to individual surgical training, experience, practice, and the overall high hospital volume of colorectal surgery are important factors related to the prognosis of colorectal surgery.[21] It would seem, therefore, that the use of standardized surgical procedures by all surgeons and the overall high hospital volume of colorectal surgery are favorable prognostic factors[22]. The pathological processes causing necrosis of the wall may at times create directed fistula formation[23]. Apart from adenocarcinoma, such may happen in cases of crohn's disease and radiation therapy.

In summary Cologastric fistula formation is a rare phenomenon. Despite the involvement of the entire thickness of the walls of both the viscera prognosis is better than expected if enblcok resection is carried out rather than separation of the viscera which might lead to more opening of the vessels to the tumor.

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