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Lymph node metastasis from colon carcinoma at 11 years after the initial operation managed by lymph node resection and chemoradiation: A case report and a review of the literature

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ABSTRACT

INTRODUCTION: Lymph node metastasis from colorectal cancer after a disease-free interval (DFI) of >5 years is extremely rare, and occurs in <0.6% cases.
PRESENTATION OF CASE: A 60-year-old man underwent low anterior resection for sigmoid colon cancer. The lesion was an adenocarcinoma with no lymph node metastasis of Stage II. At 9 years after the colectomy, he was diagnosed with prostate cancer and was treated with radiation and hormonal therapies; at 11 years, he exhibited suddenly elevated carcinoembryonic antigen levels. Computed tomography (CT) and positron emission tomography-CT revealed a 2.0-cm para-aortic lymph nodes swelling invading the small intestine. These lymph nodes and the affected segment of the small intestine were resected, and histopathology of the resected specimen confirmed a metastatic tumor. The patient was administered radiation therapy after 22 cycles of 5-fluorouracil, oxaliplatin and leucovorin. He however presented with a residual lesion in the para-aortic lymph node, but currently, he has been symptom free for 4 years.
DISCUSSION: A review of the literature indicates that the median survival of all previously reported patients is 12 months, and that colon cancer with a long DFI might be a slow growing. One of these patients and our patient both had received radiation and/or hormonal therapy for another cancer, which probably impaired their immune systems, thus resulting in metastatic tumors.
CONCLUSION: We report a case of lymph node metastasis after a DFI of >5 years and review relevant literature to assess the significance and possible reasons for delayed colorectal cancer metastases.

1. Introduction

The recurrence rate in colorectal carcinoma after an interval of >5 years from the initial surgery is 0.63%. Recurrent metastases after a disease-free interval (DFI) of >5 years are observed in cancers such as lung (0.25%), local (0.15%), liver (0.10%) and others (0.17%). The occurrence of lymph node metastasis after a DFI of >5 years is reported to be extremely rare. We recently reviewed to find that only 15 reported cases of colorectal recurrence after a DFI of >5 years.

2. Case report

In 1999, a 60-years-old man presented with anemia, secondary to a malignant growth in the sigmoid colon. He underwent low anterior resection. Histological investigation of the resected specimen showed a well-differentiated adenocarcinoma invading the subserosa but with no lymph node metastases. The resection margins were tumor free. The final pathological staging of the carcinoma was T2 N0 M0 Stage II; the patient was not administered adjuvant chemotherapy, but his condition was monitored regularly for 5 years by ultrasound scanning and computed tomography (CT) of the abdomen and colonoscopy and by monthly testing of his carcinoembryonic antigen (CEA) level. No recurrence was detected until 11 years after the initial surgery. In 2008, the patient was diagnosed with prostate cancer that was treated by radiation and hormonal therapy.

In 2010, the patient presented with anemia, bloody stools and a sharp rise in the CEA levels to 13 μg/L. A CT scan of the abdomen revealed a 2.0 cm para-aortic lymph nodes swelling (Fig. 1A). A positron emission tomography (PET)-CT scan confirmed this para-aortic lymph nodes swelling as well as showed that thickened wall of the small intestine. In addition, fluorodeoxyglucose (FDG) accumulation was observed by PET-CT (Fig. 1B). Metastasis was not detected elsewhere. These findings were indicative of lymph node metastasis from a sigmoid colon carcinoma to the small intestine, and so, exploratory laparotomy was performed. A para-aortic lymph node swelling partially invading the small intestine was observed. Therefore, these lymph nodes and the affected segment of the small intestine were resected. Histologically, the tumor was

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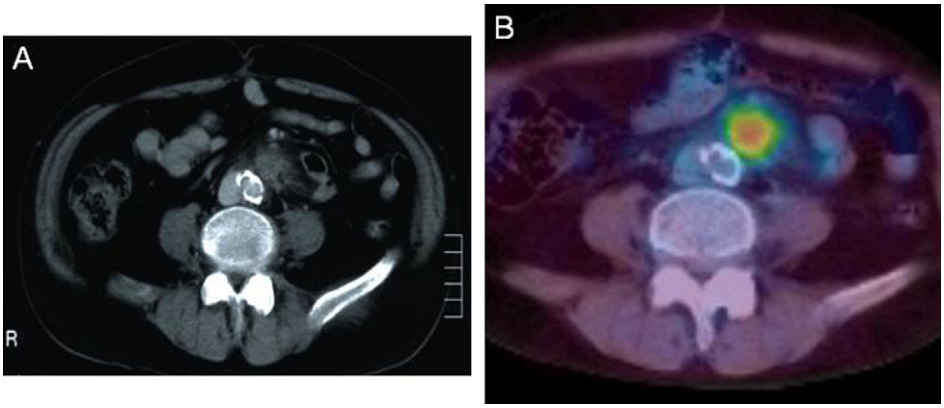

Fig. 1. Panel A: A CT scan of the abdomen revealed a 2.0 cm para-aortic lymph nodes swelling. Panel B: A positron emission tomography (PET)-CT scan confirmed this para-aortic lymph nodes swelling as well as showed that thickened wall of the small intestine. Fluorodeoxyglucose (FDG) accumulation was observed by PET-CT.

a well-differentiated metastatic adenocarcinoma infiltrating the small intestine and stained negative for the prostate specific antigen (PSA) (Fig. 2). The patient received radiation therapy after 22 cycles of 5-fluorouracil, oxaliplatin, and leucovorin.

In January 2011, the patient presented with a para-aortic lymph node lesion. A CT scan of the abdomen indicated recurrence. The patient however survived and is now otherwise healthy.

3. Discussion

Colorectal cancer has a higher survival rate than other cancers, and the 5-year overall survival rate is reported to be about 69.9%. The recurrence rate of curatively resected colorectal cancer is 17.3%, and recurrence within 3–5 years is 83.2% and 96.4%, respectively. However, the rate of recurrence after 5 years is 0.63%, indicating that such recurrence is extremely rare.[1] In the case of our patient, recurrence was noted after an interval of 11 years, which is the second longest interval after that of 16 years of a previously reported case.[2]

The mechanism of recurrence after a long DFI after curative resection remains to be elucidated. Among the 17 cases reviewed (Table 1), the primary tumor site was in the colon and rectum in 10 and 7 patients, respectively. For 6 patients, the metastatic site was the lymph node. Histopathological findings and DFI of the 17 patients varied widely with no noteworthy distinguishing features. However in 9th patient and our patient both had received radiation and hormonal therapy for prostate cancer after curative resection of the colon cancer. These additional therapies may have had impaired their immune systems in the development of metastatic tumors.

In our patient, metastasis to the para-aortic lymph node was completely asymptomatic. Metastasis occurring 5 years after the primary surgery for colorectal cancer is difficult to detect, because the follow-up period after curative resection of colorectal cancer is normally 5 years. Metastasis in these asymptomatic patients is likely to be detected as increased CEA level in a patient with a

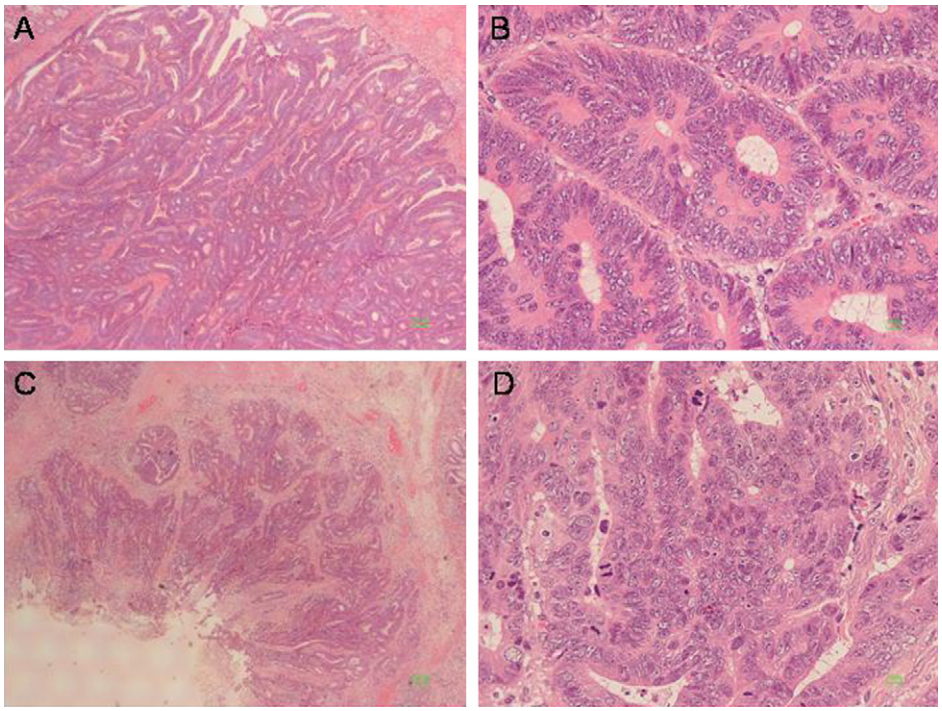

Fig. 2. Histological findings of resected sigmoid colon confirmed the tumor was a well-differentiated adenocarcinoma (Panel A; 100× and B; 400×). And histologically the tumor of resected lymph node was well-differentiated metastatic adenocarcinoma infiltrating the small intestine (Panel C; 100× and D; 400×).