

Original Article

A case of sigmoid colon cancer
with extracolonic growth

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Abstract

We report a case of sigmoid colon cancer with unusual growth. A 44-year-old woman complaining of abdominal distension was referred to our hospital. CT and MRI showed a huge mass connected to the sigmoid colon, and the right ovary was not detected. Gastrographin enema demonstrated a protuberant mass in the proximal and distal sigmoid colon with an intact mucosal interval. Abdominal angiography demonstrated the mass was fed by the inferior mesenteric artery.

At laparotomy, the tumor was located and bridged between the proximal and distal limbs of the sigmoid colon loop. Macroscopically, The lesion was type 2 tumor, which was protuberant in the proximal and distal sigmoid colon. Thus, we could not determine the primary site of the origin, either proximal or distal limb. Histologic examination demonstrated moderately differentiated adenocarcinoma of the sigmoid colon.

Key words: colon cancer, extracolonic growth, CT, MRI,
enema study

Introduction

Colon cancer with extracolonic growth is rare. In this paper, we report the appearance of such a lesion on CT, MRI, enema study and angiography.

Case report

A 44-year-old female consulted a hospital with a chief complaint of abdominal distension. US showed a large pelvic mass, which was suspected of being an ovarian tumor.

The patient was referred to our hospital for further examination of the pelvic mass. Laboratory data showed slight anemia. The tumor marker, CEA was elevated to 15.4ng/ml, and CA19-9 and CA125 were within normal range.

CT demonstrated a large pelvic mass containing gas, which was connected to the sigmoid colon (**Fig1**). On MRI, a portion of the mass was located in the right parauterine area, and the right ovary

was not detected (**Fig2**). Gastrographin enema showed a protuberant mass in the proximal and distal sigmoid colon with an intact mucosal interval (**Fig3**). Abdominal angiography demonstrated that the mass was fed by the inferior mesenteric artery. Colonoscopy examination demonstrated a type 2 tumor in the sigmoid colon, but the scope could not be inserted deep into the proximal colon.

Histological study of the biopsy specimens from the tumor showed adenocarcinoma, but the origin was not determined. According to these findings, the origin of the tumor was thought to be either the sigmoid colon or right ovary.

Laparotomy demonstrated that the bilateral ovaries and uterus were intact and that the tumor was located in the space between the proximal and distal sigmoid colon. The patient underwent sigmoidectomy and ileocectomy due to adhesions

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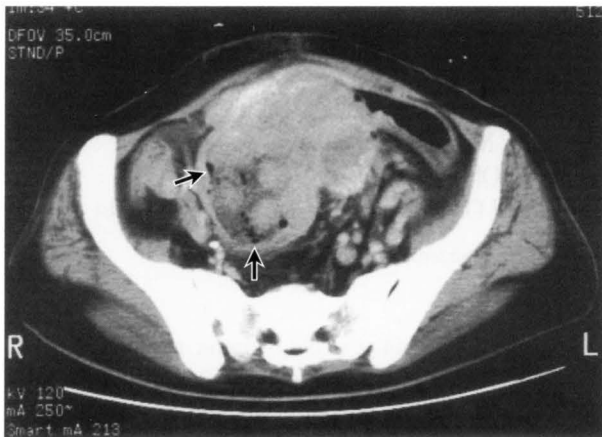


Figure1: CT of the pelvis shows a large mass connected to the sigmoid colon. Air is present in the mass (↑).

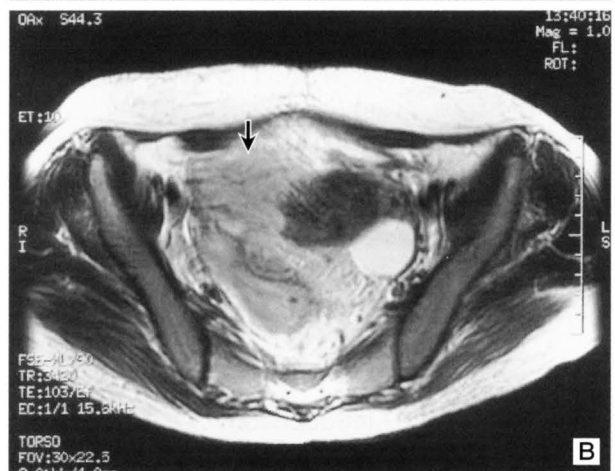
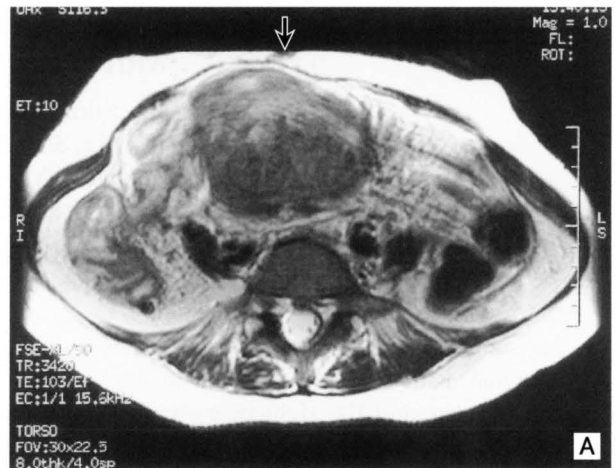


Figure2: T2-weighted MR images show a large pelvic tumor (↑)(A), which extend to the right parauterine space(↑)(B). Left ovarian cyst is also seen.

between the sigmoid colon and the ileocecum. At laparotomy, the tumor was located and bridged between the proximal and distal limbs of the sigmoid colon loop. Macroscopically, The lesion was type 2 tumor, which was protuberant in the proximal and distal sigmoid colon. Thus, we could not determine the primary site of the origin, either proximal or distal limb. Histologic examination demonstrated moderately differentiated adenocarcinoma of the sigmoid colon.

Discussion

Colon cancer is a common entity and usually grows into the bowel lumen. Colon cancer showing extracolonic growth is rare. To our knowledge, there have been twelve cases of colon cancer showing extracolonic growth in the Japanese literature ¹⁾²⁾³⁾⁴⁾⁵⁾.

Ohji et al.¹⁾ reviewed ten cases reported in the Japanese literature. The majority of the cases were female (9 females and 1 male). Half of the patients were in the fourth and fifth decades. The most frequent symptom was abdominal distension, and only one patient had anal bleeding, which is the most common symptom of colon cancer. The tumors were located in the transverse colon in four cases, in the sigmoid and ascending colon in two cases each, and in the rectum and descending colon in one case each. Histopathologic types varied, including poorly, moderately and well differentiated adenocarcinoma and mucinous carcinoma.



Figure3: Gastrograffin enema shows the tumor is protuberant in the proximal and distal sigmoid colon(↑) with an intact mucosal interval(▲).

In general, preoperative diagnosis is difficult in colon cancer with extracolonic growth. One reason for diagnostic difficulty is that endoscopic examination and biopsies for diagnosis often cannot be performed because of the severe stenosis, and that biopsy sampling errors occur because of submucosal progression. Another reason is that on radiological diagnosis, colon cancer with extracolonic growth is usually massive, which is often difficult to differentiate from other tumors including leiomyoma, leiomyosarcoma, gastrointestinal stromal tumor and tumor originating from the uterus or ovary.

Barium enema findings are classified based on the previous reports into four types: (1) stenosis due to submucosal edema and compression³⁾⁷⁾; (2) mass mimicking submucosal tumor⁵⁾⁶⁾; (3) Type 2 mass or 3²⁾; (4) no abnormality⁴⁾. Our enema study showed a Type 2 tumor that was protuberant in the proximal and distal sigmoid colon with an intact mucosal interval, which has not been previously reported in the literature. Though histological study of the biopsy specimens demonstrated adenocarcinoma, ovarian cancer metastatic to the colon could not be ruled out preoperatively.

In summary, radiologists should be aware that although rare, colon cancer can present as a large mass in the abdomen and pelvis on CT or MRI and that unusual findings on barium enema do not exclude the diagnosis of colon cancer.

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