



# Abscess Of The Abdominal Wall Resulting From Perforated Ascending Colon Cancer

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## Abstract

We report an unusual case of abscess of the abdominal wall as the initial symptom of a perforated right-sided colon cancer in a 62-year old man.

Clinical examination revealed a non-fluctuating, tender, firm mass approximately 7× 5 cm in diameter with overlying cellulitis in the right loin. Abdominal examination showed a fixed mass on the right side of the abdomen. Computed tomography (CT scan) confirmed the presence of a mass arising from the right colon with infiltration of the subcutaneous tissue by

this intra-abdominal mass.

Right hemicolectomy with lymph node dissection and en-bloc partial resection of the adherent parietal wall was performed and the final pathology showed a moderately differentiated mucinous adenocarcinoma.

We report a case of ascending colon cancer presenting by an abscess of the abdominal wall.

## Keywords

*Perforated colon cancer, abdominal wall cellulitis, CT scan, mucinous adenocarcinoma*

## Introduction

Colorectal cancer is the third most common cancer and the second leading cause of death in the United States. Approximately 140,000 new cases are diagnosed each year, and almost 55,000 people die from the disease each year <sup>(1)</sup>.

Complicated colorectal carcinoma has several symptoms, the most common being bleeding and obstruction. Occasionally it will cause perforation, which carries a worse prognosis. <sup>(1,2)</sup>

It is rare for a carcinoma of the colon to present as a remote abscess, either in the abdominal wall, in the retroperitoneum, in the groin or in the back <sup>(3)</sup>.

Abscess of the anterior abdominal wall that forms as a result of direct invasion and perforation of the colon by cancer have been described in several reports <sup>(3,4)</sup>.

The present case report demonstrates this rare presentation of colonic cancer, the role of CT scan and the most appropriate surgical procedure for this unusual colonic cancer.

## Case Report

A 62-year old male presented to our casualty department with the complaint of painful red swelling over the right loin of one month duration prior to admission. The patient also gave a history of chronic constipation and significant weight loss. He denied any other symptoms such as fever or vomiting.

Physical examination showed a pale and mildly malnourished patient. Examination of the trunk showed a firm tender mass 7×5cm in diameter located in the right loin with an overlying area of cellulitis (Fig-1). This tender lump did not show any fluctuation and was originating from the subcutaneous tissue. Examination of the abdomen revealed a fixed, non tender hard mass in the right iliac fossa. There was no other masses and no organomegaly. No supraclavicular lymph nodes were palpable. Rectal examination was normal and the stools were positive for occult blood.

Blood tests showed a Hemoglobin of 8.9 g/dl, with leucocytosis. The level of carcinoembryonic antigen(CEA) was highly elevated. Total protein level was 5.8g/dl.His Temperature was 38.5°C.

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**Fig. 1 :** Cellulitis of the postero -lateral aspect of the abdominal wall.

CT scan of the abdomen ( Fig-2) showed a right-sided colonic mass adherent to the lateral abdominal wall with infiltration of

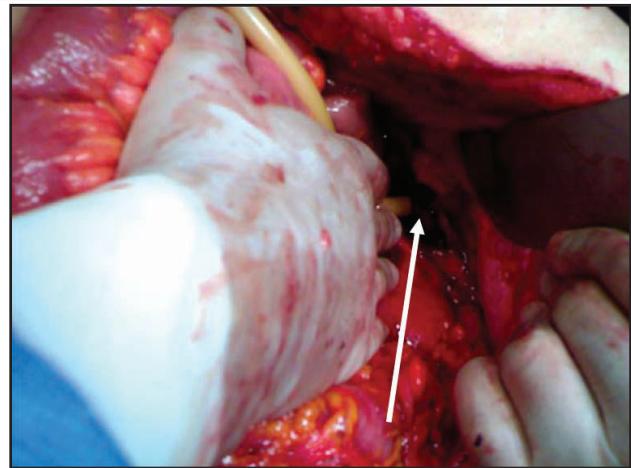


**Fig. 2 :** Perforation of the tumor through muscles of lateral abdominal wall with abscess formation as seen on CT Scan.

the subcutaneous tissue by the tumor, and the formation of the subcutaneous abscess. Ascending colonic cancer complicated by an anterior abdominal wall abscess was diagnosed.

Exploratory laparotomy was performed and a right colonic mass approximately 9×8 cm in diameter was found which was widely adherent to the lateral abdominal wall, with extension through a fistulous track into the posterior abdominal wall muscles and the subcutaneous tissue ( Fig-3). There was no distant metastasis.

Extended right hemicolectomy and lymph



**Fig. 3 :** Fistula-like structure through the posterior wall caused by perforated ascending colon cancer.

node dissection was performed with limited resection (en-block) of the involved part of the lateral abdominal wall using a closure technique.

Macroscopic findings demonstrated an ulcerative tumor, 9×8cm. Pathology revealed a moderately differentiated mucinous adenocarcinoma. All lymph nodes were free (0/13). The margins of the resected specimen were free of cancer cells.

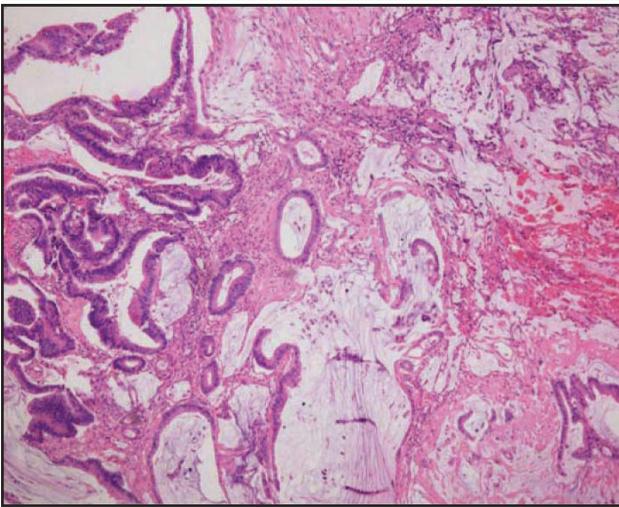
The patient had an uneventful post operative recovery and the abdominal wall cellulitis disappeared completely. The patient was referred to the Kuwait Cancer Control Center for further adjuvant therapy. At the last follow up, 2 years after operation, the patient is in good health with no clinical evidence of recurrence.

### Discussion

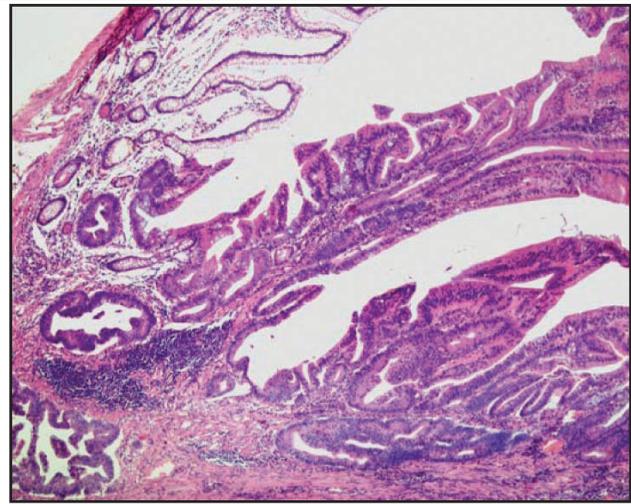
About 15% of patients with carcinoma of the large intestine present with surgical emergencies such as perforation and obstruction <sup>(1)</sup>. The incidence of perforated colorectal cancer ranges from 3% to 10% <sup>(1,5)</sup>. Colorectal cancers have the tendency to spread locally, and advanced cancers frequently show direct invasion to adjoining organs and peritoneal dissemination.

Most of the perforation of colorectal cancers occur in the intra-abdominal cavity, with abdominal wall abscess occurring rarely <sup>(4)</sup>. Abscess formation has been reported to occur in 0.3 to 0.4% of colonic carcinomas, but the

## Abscess of the Abdominal wall



**Fig. 3a :** Malignant glands and lakes of mucin (Hematoxylin & eosin x 40).



**Fig. 3b :** Tumor in ileum with villous configuration on the surface (Hematoxylin & eosin x 40).

frequency may be lower because of the recent advance of diagnostic technique <sup>(1,6)</sup>.

A higher incidence of mucinous carcinoma was reported among colon cancers presenting as an abdominal wall abscess. It has been suggested that mucinous carcinoma is slow-growing and usually spread by direct extension <sup>(6)</sup>. In our case, the abdominal wall abscess was secondary to a perforated mucinous adenocarcinoma (Fig. 3a & 3b)

Computed tomography scans have been reported to be useful for assessing patients with colorectal cancer and inflammatory disease of the abdominal wall <sup>(3,7,8)</sup>. In our patient, the CT scan revealed an abdominal wall abscess and an intra-abdominal tumor, but it failed to show the fistula connecting the intraperitoneal tumor with the abdominal wall abscess.

In this era of newer diagnostic imaging modalities, CT scan must frequently be used in the evaluation of patients with abdominal wall abscess, to depict intra-abdominal infection and especially malignant lesion causing abdominal wall abscess <sup>(8)</sup>.

Once abdominal wall involvement with colon cancer forming an abdominal wall abscess is detected, the existence of cancer cells is highly likely in both the abdominal wall penetrated by the fistula and the wall of the abscess <sup>(6,9)</sup>. In such cases, the most appropriate curative procedure would be an en bloc excision of the full thickness

of the anterior abdominal wall, including the abscess. In these patients, the morbidity, mortality and long term results are similar to patients without contiguous invasion <sup>(10)</sup>. When curative resection is not feasible, resection of the primary tumor with en-bloc partial resection of the adherent parietal wall should be performed if possible, as this procedure has the potential to improve the postoperative quality of life of the patient <sup>(4)</sup>.

In our case, we did an extended right hemicolectomy with lymph node dissection but with limited en-bloc resection of the abdominal parietal wall as complete resection of the parietal wall would create a large defect which, after repair, would be too invasive for this elderly friable patient.

### Conclusion

Abdominal wall cellulitis and abscess should always raise the suspicion of intra abdominal pathology, especially malignancy. Therefore a complete abdominal examination including rectal examination and stool for occult blood and CT of the abdomen should be done. CT scan has proved useful in assessing the status of the tumor and the abscess.

The most appropriate curative surgical procedure in such cases is en-bloc resection of the full thickness of the anterior abdominal wall including the abscess. If that is not feasible, partial resection should be attempted.

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