Case Report

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Unlucky patient combining two rarities: sigmoid colon cancer mimicking appendicular abscess and pseudomembranous colitis involving the small bowel

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ABSTRACT

We report a case of an extremely rare presentation of a sigmoid carcinoma, which presented as an appendicular abscess along with pseudomembranous colitis involving the small bowel. Colo-rectal carcinoma has presented as abdominal wall abscess in the past, but to the best of our knowledge, an incident of colo-rectal carcinoma presenting as an appendicular abscess and later developing pseudomembranous colitis involving the small bowel has never been reported. Such patients' condition is potentially curable if detected early through careful history taking, examination, investigations and regular screening programs.

Keywords: Abscess, Appendicular, Appendix, Carcinoma, Colo-rectal, Screening, Sigmoid

INTRODUCTION

Colorectal cancer is the 3rd most common cancer diagnosed in both men and women.^{1,2} It is the 3rd leading cause of cancer-related death in females, and 2nd leading cause of cancer-related death in males.^{2,3} Approximately 4% of men and women will be diagnosed with colorectal cancer at some point during their lifetime.3 Most colorectal cancers begin as a polyp, although not all polyps become cancer.⁴ About 40% of colorectal cancers are diagnosed at a local stage, before the cancer has spread outside the local area. 5-year survival rate for localized colorectal cancer and for local spread to lymph nodes stands at 90% and 71%, respectively. When the cancer has spread to other distant parts of the body, the percentages plummet down to 13%.5 We present a case of sigmoid carcinoma with initial presentation as an appendicular abscess who developed pseudomembranous enterocolitis involving the small bowel following

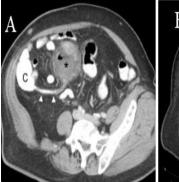
surgery. The aim of this case report is to shed light on a rare presentation of sigmoid cancer.

CASE REPORT

A 63-year-old male, known case of diabetes mellitus type 2 and hypertension, was admitted to our hospital in the Kingdom of Bahrain with initial complaints of 4 days' history of fever associated with chills, rigors, fatigue and generalized body weakness after a visit to Dubai. As the patient had travel history, tests for malaria, influenza and H1N1 were done and were all found to be negative. Furthermore, ultrasound (US) study of the abdomen was performed and showed no intra-abdominal collection or free fluid. For further work up, a computed tomography (CT) study of the abdomen, pelvis and chest with IV contrast was performed (Figure 1) and demonstrated a fluid collection with air-fluid level associated with surrounding mesenteric fat-stranding in the right lower

abdomen at the level of the umbilicus measuring 4.5 x 4.1 x 6.0 cm (TV x AP x CC) consistent with abscess.

The appendix showed extension into the abscess with its tip ending within the collection. The caliber of the appendix was 9 mm and appeared uniform in size associated with filling of contrast in the proximal half. There was a non-uniform wall-thickening in the sigmoid colon adjacent to the abscess involving a segment of 7 cm. The abscess was thought to be secondary to perforated tip appendicitis or sigmoid colon diverticulitis based on the CT findings. The patient was discharged as his symptoms improved following IV antibiotic therapy. An image-guided percutaneous drainage was not performed because there was not an appropriate access due to bowel interposition.





The appendix measures up to 9 mm and shows contrast-filling in the proximal half. There is also associated mural thickening in the sigmoid colon, cranial to the abscess (arrows) without associated diverticulum in that region; however, a few non-complicated diverticula noted in the sigmoid colon away from the mural thickening and abscess (not shown here).

Figure 1: Reformatted axial oblique CT image at the level the cecum (a) and axial CT image at the level of main iliac vessels (b) following oral and iv contrast administration demonstrate a fluid collection with airfluid level (asterisk) into which the appendix (arrowheads) extends.

The patient presented to the Emergency Department of our hospital 2 months later complaining of lower abdominal pain that lasted for 2 days. The pain was not associated with vomiting, nausea, change in bowel habits, bleeding per rectum or fever. The abdomen of the patient was noted to be soft and lax with voluntary guarding at the right lumbar area on physical examination.

The patient later developed exertional chest discomfort without chest pain, for which an electrocardiogram (ECG) was ordered. The ECG showed ST segment depression in lateral leads suggesting acute coronary syndrome. The patient was shifted to intensive care unit (ICU) for care of myocardial infarction and sepsis. Subsequently, the patient underwent coronary angiography procedure which showed occlusive vessel disease involving the three main vessels.



Figure 2. Axial CT image there is persistent mural thickening in the sigmoid colon (arrows).

As the patient was known to have a recent intraabdominal abscess, an US abdomen study was performed and showed mild pelvic free fluid. This was followed by a CT abdomen and pelvis study with oral and intravenous contrast, which showed complete resolution of the abscess. However, the mural thickening involving the sigmoid colon persisted (Figure 2). The appendix appeared unremarkable without evidence inflammation. Subsequently, a colonoscopy performed and showed a fungating, circumferential, inflamed mass at the 50th cm of the sigmoid/descending colon associated with narrowing of the lumen. It was not possible to pass through the narrowing with the scope and multiple biopsies were taken from the mass. The biopsy examination yielded "colitis" without evidence of malignancy.

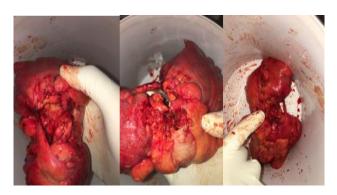
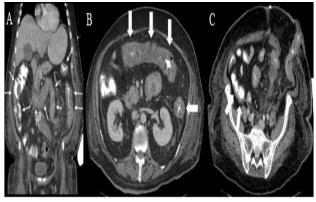


Figure 3. Intraoperative images of the resected sigmoid mass.

A multidisciplinary meeting was held, including surgery, cardiology, gastroenterology, ICU team, and radiology, and a decision of abdominal surgery (laparotomy) was taken, before the already planned coronary artery bypass grafting, even though the patient was septic and had a recent myocardial infarction. The case was also discussed in the tumor board committee of the hospital, and the decision of laparotomy was confirmed. The patient underwent surgical resection of the sigmoid colon due to presence of the mass, segmental resection of the jejunum

due to secondary involvement with adhesions and primary anastomosis of jejunum plus Hartman's procedure (Figure 3).

The histopathology of the sigmoid mass yielded a moderate to poorly differentiated adenocarcinoma (Dukes Stage C, TNM stage pT4b, pN2a pMx) with a Jass score of 3 (5-year survival of 67%). Jejunal mass was reported to have mild serositis without evidence of malignancy. After the surgery, the patient had persistent fever; so, a CT study of the abdomen and pelvis with oral and IV contrast was performed to rule out collection. There was no intra-abdominal collection on CT scan to suggest an abscess; however, there was diffused mural thickening and submucosal edema in the colon consistent with pseudomembranous colitis (Figure 4).



(B) There is low-attenuation mural thickening corresponding to mucosal and submucosal edema involving the transverse colon and descending colon (arrows). (C) Note is also made of mild mural thickening in the distal ileum (arrows) (asterisk denotes the colostomy).

Figure 4. Coronal (A), and axial CT images through the level of kidneys (B) and colostomy (*) (C) show mural thickening involving the terminal ileum, duodenum, and colon in varying degrees on the post-surgical follow-up CT study following oral and IV contrast administration (arrows).

Note was also made of diffuse mural thickening involving the terminal ileum, duodenum and jejunum in keeping with enteritis. Based on the suggestive findings on CT study, diagnosis of pseudomembranous enterocolitis was confirmed by specific toxin for Clostridium difficile in the stool. Dedicated antibiotic therapy (Vancomycin) was started and the patient responded well to the treatment confirming the diagnosis. The patient was kept in ICU for close monitoring for the next 14 days and then transferred to the ward following clinical improvement. A CT chest study was performed for staging and showed no evidence of metastatic spread.

DISCUSSION

Colorectal cancer has the highest incidence in Bahrain among the GCC countries, occurring in 40/100,000 and 32/100,000 in men and women, respectively. Moreover,

it is the 2nd most common cancer in the world.^{2,7} Symptoms of colorectal cancer are usually related to change in bowel motions, bleeding per rectum, abdominal pain, bloating, tenesmus and/or weight loss.² Symptoms can frequently determine where in the colon or rectum the cancer might be located. Right sided colon cancer usually presents with symptoms such as fatigue and weakness due to anemia, whereas left sided colon cancer usually present with symptoms of change in bowel habits (constipation vs diarrhea) and colicky abdominal pain with or without blood. Lastly, rectal cancer presents most commonly with bleeding with defecation, tenesmus and pain with defecation.8 Although a few cases of colorectal carcinoma have been reported to present with or as an intra-abdominal or abdominal wall abscess, this case is the first case with colorectal cancer presenting as an appendicular to the best of our knowledge. 9,10,11

Our patient initially presented with symptoms of fever and fatigue that were not specific for any colon related diseases. Upon examination and investigations, the clinical suspicion was pointing more towards an appendix related problem, as the pain was most severe in right iliac fossa and the radiological findings were supportive of a diagnosis of appendicular abscess. Another differential diagnosis was diverticulitis, which is frequently associated with inflammatory mural thickening in the colon; however, the persistence of the mural thickening on imaging excluded this diagnosis. Sigmoid colon cancer very rarely, if ever, presents with abdominal pain worst in right iliac fossa.

There was a delay in the diagnosis because the mural thickening involving the sigmoid colon, that was present since the first CT, was consistently neglected as the history, physical examination and imaging findings of the appendicular abscess blinded the medical team. Therefore, the diagnosis of a sigmoid colon cancer was not suspected until the colonoscopy was performed, which showed a fungating mass. Another unique feature of this case was pseudomembranous enterocolitis involving the small bowel. The microorganism responsible for pseudomembranous colitis is often Clostridium difficile, which is known to be associated with antibiotic therapy that exclusively involves the colonic mucosa. There are only a few case reports regarding the involvement of the small bowel.¹² For our patient, the diagnosis was made by demonstrating the extensive mural thickening with specific CT features involving the colon and small bowel loops and confirmation of Clostridium difficile toxin in stool. The CT appearance was suggestive of pseudomembranous enterocolitis and the findings included bowel wall thickening, which may be associated with submucosal edema, and CT equivalent to thumb printing, peri colic stranding, ascites, accordion sign, shaggy mucosal outline. Early diagnosis and prompt treatment of pseudomembranous enterocolitis carries great importance as it can lead to life-threatening complications, such as toxic mega colon and perforation. It is important to

recognize the CT features of pseudomembranous enterocolitis, as CT is commonly used for patients presenting with fewer and sepsis. The clinical diagnosis of pseudomembranous enterocolitis is often not possible, as it overlaps with other clinical conditions.

CONCLUSION

Any appendicular abscess in the elderly population should raise a suspicion of a diagnosis of a condition much more perilous. Although very rare, diagnosis of sigmoid cancer associated with abscess should be considered in elderly patients who present with right iliac fossa pain, especially if coexisted with constitutional symptoms. Pseudomembranous enterocolitis may rarely involve the small bowel, in addition to colon.

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