



ANTERIOR ABDOMINAL WALL ABSCESS A RARE PRESENTATION OF LEFT SIDED COLONIC CARCINOMA: A DIAGNOSTIC CHALLENGE FOR A GENERAL SURGEON

General Surgery

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ABSTRACT

Background: The various presentations of carcinoma of the colon are well known. Abscess formation occurs in 0.3 to 0.4% and is the second most common complication of perforated lesions. Perforation and penetration of adjacent organs with intra-abdominal abscess formation as the initial presentation is uncommon. It is difficult to make an accurate diagnosis of abscess formation as the first evidence of colonic carcinoma pre-operatively. **Case presentation:** A 68 yrs old female who presented to the ED with acute onset of left lower abdominal fullness, pain and local redness for 15 days. She denied any history of vomiting, fever, anorexia but history of altered bowel habit. Clinically she had a palpable lump (20 x15) cm in left lumbar region .The lump was parietal with local raise of temperature , redness and tenderness can be elicited . So our initial impression was parietal wall abscess and we underwent emergency drainage of abscess. She had uneventful recovery and discharged after 2 weeks. She was admitted with similar presentation in previous location 30 days after discharge. Now we investigate thoroughly, a CECT scan of whole abdomen which confirms radio-logically as carcinoma of descending colon with abscess extending into the parietal wall .We underwent an exploratory laparotomy and HPE proven as adenocarcinoma of the colon. Post op she developed SSI which was managed with regular dressing and she was discharged in post-op day 20. **Conclusion:** We report this case because of an unusual presentation of left sided colonic Ca. The accurate preoperative diagnosis of these conditions extremely complicated because of the fuzzy clinical presentation. The CT scan can diagnose malignancy pre-operatively, even if the definitive diagnosis of colonic perforated neoplasia may be evident only during surgery. So early diagnosis and prompted intervention can save the patient to developed sepsis and to reduce significantly the morbidity and mortality. The importance is to focus on the differential diagnosis and keep in mind that a colon carcinoma can present with abdominal abscess. Surgeons should be aware of this differential because it is easily ignored pre-operatively.

KEYWORDS

Abscess Formation, ED -Emergency Department, Perforated Colonic Carcinoma, DRE- Digital Rectal Examination. HPE- Histopathological Examination.

1. INTRODUCTION:

Carcinoma colon is the 10th leading cancer in India^[1]. And the fourth most common cause of death^[2]. Cancer of the colon does not always present with the familiar symptoms of rectal bleeding, anaemia, change of bowel habits, or abdominal pain^[3]. Less common manifestations include perforation and abscess formation, which is usually intra-peritoneal but may also, be located in the extra-peritoneal spaces. The incidence of colonic perforation ranges from 2.6 to 10%^[4], including cases of free perforation into the peritoneal cavity and those where the tumor has perforated locally resulting in abscess or fistula formation. In a previous series, abscess formation occurred in 0.3 to 0.4% of colonic carcinoma and is the second most common complication of perforated lesions^[5].

2. CASE PRESENTATION:

In our patient 68 years old female who presented to the emergency department with acute onset of left lower abdominal fullness, pain and local redness for 15 days. She denied any history of vomiting, fever, anorexia but history of altered bowel habit and bloody diarrhoea 3 months back. Patient is known case of hypertensive not on medication. There was no surgical history in the past. Clinically she had a palpable lump of size approx (20 x15) cm in left lumbar region and extending 4 cm lateral to umbilicus to flank and cranio-caudally 2 cm below the left costal margin to just above the ASIS. The lump was parietal with local raise of temperature, redness and tenderness can be elicited. There was no palpable organomegaly. Ascites was not clinically demonstrable. Bowel sounds were normal with normal digital rectal examination. Further systemic examination was unremarkable. So our initial diagnosis was parietal wall abscess and we underwent emergency drainage of parietal abscess and we put a drain extaperitoneally. The patient was placed on broad spectrum antibiotics Abscess culture grew occasional *Staphylococcus aureus*, frequent *Escherichia coli*. She had uneventful recovery and discharged after 2 weeks on tablet Flagyl (400 mg) and Augmentin (625mg). Again she was admitted with similar presentation in primary location 25 days after discharged. Now we

investigate thoroughly. Her haematological investigations revealed raised white blood cell count of $15.5 \times 10^9/L$ with Hb 9.2 gm/dl. Comprehensive metabolic panel [CMP], lipase, and urinalysis [UA]). Her liver enzymes were unremarkable. CECT scan of whole abdomen which confirm radiologically as carcinoma of descending colon with abscess extending into the parietal wall. Post operatively she developed SSI which was managed with regular dressing, parenteral antibiotics, analgesic and she was then discharged home in post-op day 20 in haemodynamically stable condition with instructions to return to be seen if her symptoms worsened or failed to improve.

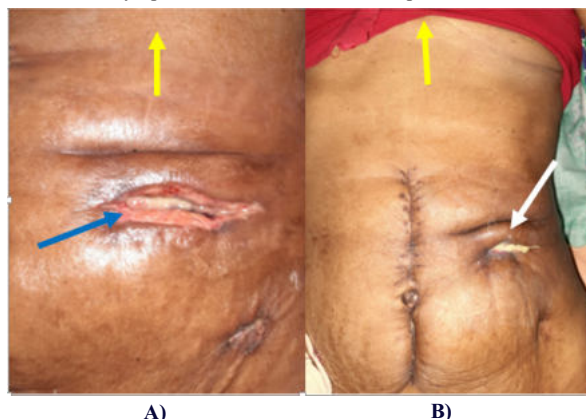


Figure1. This photograph was taken 14 days after the first drainage of left parietal abscess and showed healing wound with minimal slough (A, blue arrow) with head end of the patient (A & B yellow arrows) and shrunken of wound with scanty discharge (B, white arrow, 30 days after laparotomy & partial resection of parietal wall muscle).

CT scan of whole abdomen showed irregular polypoidal wall thickening involving the proximal descending colon extending into the splenic flexure with adjacent collection extending into the parietal wall likely perforated malignancy.

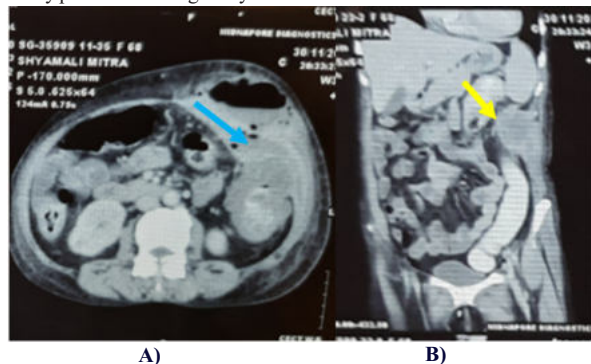


Figure 2. Axial CECT scan of the whole abdomen (A, blue arrow) & sagittal view (B, yellow arrow) demonstrated polypoidal wall thickening involving the proximal descending colon extending into the splenic flexure with adjacent collection extending into the parietal wall.

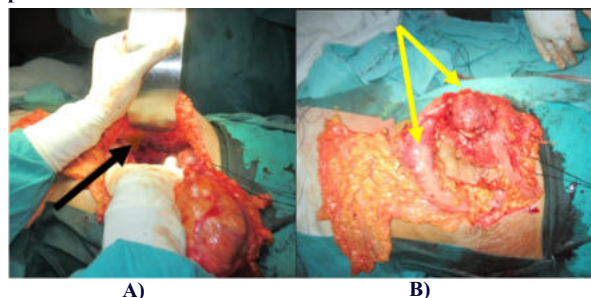


Figure 3. Intra-op, after partial resection of parietal wall muscle (A, black arrow) and distal 1/2 of transverse colon with mass (B, yellow arrow)

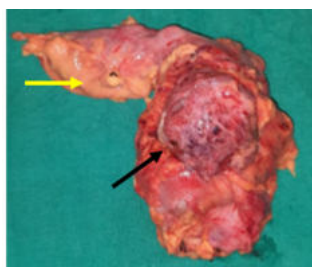


Figure 4. Specimen of distal 1/2 of the transverse colon (yellow arrow) along with polypoidal growth of descending colon (black arrow).

3. OPERATIVE PROCEDURE:

We underwent an elective exploratory laparotomy under GA. We performed a midline incision and after opening of abdomen extensive adhesion to small bowel with omentum found. The tumor was densely adhere to left parietal wall and muscle invasion. We mobilize the sigmoid colon, descending colon and splenic flexure. Gatro-omental ligament separation from the stomach and free from transverse colon. Left branch of middle colic artery ascending branch of left colic artery and sigmoidal branches were ligated and divided. As the tumor were densely adhere we separate the tumor along with partial resection of abdominal wall muscle performed followed by left hemicolectomy and anastomosis with the proximal transverse colon and distal part of the descending colon (end to end colo-coloic) done. Post operatively she developed SSI which was managed with regular dressing, parenteral antibiotics, analgesic and she was discharged home in post-op day 20 in haemodynamically stable condition.

4. HISTOPATHOLOGY:

HPE demonstrate that well differentiated mucinous adenocarcinoma of proximal descending colon. Tumor invades through the muscularis propria into pericolo-rectal tissue. All margin uninvolved by invasive carcinoma. Lymphovascular invasion not identified. Perineural

invasion not identified. Number of lymph node examined 10, all are uninvolved by the tumor. Pathological stage classification (T_4N_0 , AJCC 8th edition), pT_4N_0

5. DISCUSSION:

Colorectal cancer (CRC) is the third most commonly diagnosed cancer, and the second leading cause of cancer death in men and women. There is a 4.5% lifetime risk of developing colon cancer for men and women combined. The average age at which CRC is diagnosed is 68 in men and 72 in women. However, younger patients are being diagnosed with CRC. This may be due to enhanced screening techniques, and a higher level of concern for possible cancer. The percentage of cases diagnosed in patients younger than age 50 increased from 6% in 1990 to 11% in 2013^[6]. Most of the perforation of colorectal cancers occurs in the intra-abdominal cavity, with abdominal wall abscess occurring rarely^[7]. Abscess formation has been reported to occur in 0.3 to 0.4% of colonic carcinomas, but the frequency may be lower because of the recent advance of diagnostic technique^[8]. Locally advanced colon cancer with direct invasion into adjacent organs or that spreads along the tissue planes may result in formation of abscesses in unusual locations such as the abdominal wall, and sometimes, this can be the first presentation^[9]. The abdominal wall is more likely to be invaded by tumors arising from the intra-peritoneal part of the colon. Although the majority of these complications occur, familiarity with the various manifestations of colon cancer complications will facilitate making an accurate diagnosis and administering prompt management in these situations. When encountering such a case, early diagnosis, appropriate drainage, and definitive management may reduce patient morbidity and mortality rates especially if the patient was in poor condition in which elimination of the source of sepsis may be lifesaving^[10]. CT scan of abdomen has been reported to be useful for assessing patients with colorectal cancer and inflammatory disease of the abdominal wall^[11]. 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 intra-peritoneal tumor with the abdominal wall abscess.

The conventional investigations like colonoscopy may be inadequate, as it cannot demonstrate abnormalities beyond the lumen of the colon. Hence, a structured evaluation with computerized tomography (CT) of the abdomen is usually required. Exophytic growths, perforated cancers with local abscess formation and infiltration into adjacent structures, involvement of abdominal wall and its extent and lymph nodal involvement can be delineated on a CT. 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. 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^[11]. Confirming a diagnosis of an underlying colon cancer preoperatively poses a surgical challenge.

Inaccurate diagnosis without the recognition of the underlying malignancy may lead to incomplete treatment. The diagnosis may be definitively established intra-operatively, and some cases underwent preoperative drainage without confirming the diagnosis^[12]. En bloc resection is the treatment of choice in the majority of such cases, given the fact that R0 resection (complete resection, margins histologically negative, and no residual tumor left after resection)^[13], with free surgical margin does not adversely affect the prognosis. Exception will be made in few cases in which complete en bloc resection cannot be performed; in such circumstances, resection of the primary tumor with en bloc partial resection of the adherent parietal wall should be performed if possible^[14]. Complete radical resection should be achieved as possible in good surgical candidates. The procedure has a low morbidity and mortality even in the elderly.

In our case, we did a left 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. Control of sepsis along with management of the primary malignancy is the usual line of treatment. Our case highlights the importance of prompt diagnosis and early management.

6. COMPLICATION:

The complication after surgery are SSI, sepsis, MODS, recurrent intra-abdominal abscess, retroperitoneal abscess, perforation, anastomotic leak, burst abdomen, perforated peritonitis.

7. FOLLOW-UP:

Patient was sent for chemotherapy and was follow-up 3 monthly to look for any recurrence. Patient was reviewed after 2 weeks and wound looks better and after 30 days with scanty discharge present which was managed with regular dressing. Presently wound was healthy without any recurrence.

8. CONCLUSION:

It is difficult to make an accurate diagnosis of abscess formation as the first evidence of colonic carcinoma pre-operatively. 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 CT scan of the abdomen should be done. CT scan has proved useful in assessing the status of the tumor and the spread of abscess to the surrounding structure. Colonic carcinoma should be considered in the differential diagnosis in the presentation of such an abscess, if accompanied by bowel symptoms. If not drained and resected, it can lead to complications like sepsis, which can endanger life. Hence 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 in all the cases.

FOOTNOTES:

 *Twitter-SUKANTA SIKDAR (@SUKANTASIKDAR3) Twitter.*

9. DECLARATION OF COMPETING INTEREST:

The authors declare that no conflicts of interest pertinent to this case report.

10. FUNDING:

No source of funding to be declared.

11. ETHICAL APPROVAL:

No institutional review board is required for the publication of a case report at our institution.

12. PATIENT CONSENT:

The written consent was obtained from the patient directly.

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