Ameboma of Colon Simulating Colonic Adenocarcinoma

Abstract
Amebiasis is common in tropical and developing countries with variable symptoms. Ameboma of the colon occurs rarely due to the annular growth of granulation tissue and can present as mass lesion simulating colonic carcinoma in elderly individuals. Due to diagnostic dilemma or in case of complications, for example, acute intestinal obstruction, perforation, or bleeding per rectum, the patient requires urgent surgical exploration and final diagnosis is made on histopathological examination.

Keywords: Adenocarcinoma, ameboma, colon

Introduction
Amebiasis occurs worldwide, but it is more prevalent in tropical and developing countries. Approximately 40–50 million of world’s population is estimated to be infected by Entamoeba histolytica (E. histolytica) annually with 40,000 deaths. Among infected, 90% are asymptomatic and 1% may develop invasive amebiasis or involves other organs.\(^1\) It can present with multiple gastrointestinal symptoms that varies from diarrhea to dysentery and liver abscess.\(^2\) However, a localized infection of the colon may present as a rare condition called ameboma which is difficult to differentiate from colorectal carcinoma. We present here a case of ameboma of the right colon simulating as colonic carcinoma.

Case Report
A 70-year-old gentleman presented to our hospital in the Department of Medicine with complaints of the right lower quadrant abdominal pain, abdominal distension, and constipation for the past 2 days. He also had complaints of moderate-to-high-grade fever, with chills and rigors. Past and personal history was not significant. Abdominal examination revealed an ill-defined mass in the right iliac fossa which was tender on palpation. No abnormality was detected on per rectal examination. Laboratory investigations revealed leukocytosis with neutrophilia. Ultrasonography of the abdomen showed dilated bowel loops with no intraperitoneal collection and normal solid viscera. Contrast-enhanced computerized tomography scanning of the abdomen showed irregular mural thickening of the cecum and ascending colon till hepatic flexure [Figure 1]. The approximate length of involvement of the colon was 12–13 cm and maximum thickness was 2.7–2.8 cm. Adjacent mesocolonic fat stranding and haziness were seen with subcentimetric lymph nodes. Distal ileal loops appeared prominent (2.7–2.8 cm in diameter) with “small bowel fecal sign” [Figure 1]. These features were suggestive of neoplastic etiology of the cecum and ascending colon.

Colonoscopy was planned for biopsy. After bowel preparation, the patient complained of severe abdominal pain and developed generalized tenderness and involuntary guarding. The patient had tachycardia and a toxic look. Erect X-ray chest of the patient revealed air under the right dome of diaphragm. The patient underwent emergent laparotomy. Intraoperatively, there was 1.5 l of purulent fluid with fecal staining along with an approximately 0.5 cm perforation noted in the anterior wall of cecal mass. The ascending colon appeared thickened. Right hemicolecotomy was performed and end ileostomy with transverse colostomy was done. The recovery of the patient was uneventful and the patient underwent restoration of bowel continuity after 6 weeks.

Grossly, serosa was covered with exudates and showed a healed perforation. There

---

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

---

Hanish Kataria, Abhinav Seth\(^1\), Ashok Kumar Attri, Raj Pal Singh Punia\(^2\)

Department of General Surgery, Government Medical College and Hospital, \(^1\)Department of Renal Transplant Surgery, Postgraduate Institute of Medical Education and Research, \(^2\)Department of Pathology, Government Medical College and Hospital Chandigarh, India

Received: 12 August, 2017. Accepted: 15 November, 2017.

Address for correspondence: Dr. Abhinav Seth, Department of Renal Transplant Surgery, Postgraduate Institute of Medical Education and Research, Sector 12, Chandigarh, India. E-mail: drabhinavseth@gmail.com

How to cite this article: Kataria H, Seth A, Attri AK, Singh Punia RP. Ameboma of colon simulating colonic adenocarcinoma. Int J App Basic Med Res 2018;8:42-4.
were numerous ulcers in the ascending colon. Thirteen lymph nodes were isolated and had diameter ranging from 0.5 to 1.5 cm. Microscopic examination revealed numerous flask-shaped ulcers in cecal mucosa reaching up to the submucosa. At places, there were transmural ulcerations. Ulcers were covered with necrotic debris with mixed inflammatory infiltrate. In necrotic debris, numerous trophozoites of *E. histolytica* were seen which were periodic acid-Schiff (PAS) stain positive [Figures 2 and 3]. The appendix showed obliterative appendicitis with serositis. Thirteen lymph nodes isolated from mesentery showed reactive hyperplasia. No evidence of malignancy was noted. A final diagnosis of ameboma was made.

**Discussion**

Ochsner and De Bakey formulated that the term “ameboma” originally described as amebic granuloma by Gunn and Howard.\(^3\) Ameboma of the large bowel is a rare condition that occurs in 1.5% of all cases with invasive amebiasis characterized by mass of granulation tissue with peripheral fibrosis and a core of inflammation related to chronic amebic infection.\(^2\) Untreated or partially treated infections with *E. histolytica* may lead to the development of tumor-like exophytic and inflammatory masses involving the whole thickness of bowel wall and may extend into surrounding structures. Amebomas are found in decreasing order of frequency in the cecum, the appendix, and rectosigmoid colon. It rarely involves transverse colon, hepatic and splenic flexure.\(^4\)

An ameboma usually presents as pain and lump in the right iliac fossa and/or symptoms of bowel obstruction. It can mimic as appendicular abscess and Crohn’s disease in younger individuals and colon cancer and diverticulitis in elderly.\(^5\) Hence, in elderly individual, ameboma can be misdiagnosed as colonic carcinoma.\(^3,6,7\) Radiologic examination in our patient revealed concentric thickening of the bowel wall and its ring-like stenosis in association with a mesenteric reaction and small bowel feces sign, i.e., presence of feces such as material admixed with gas bubbles in the lumen of dilated loops of small bowel proximal to the site of obstruction. All these features pointed to mass-like lesion in colon, as a cause of obstruction that mimicked colon cancer.

Ameboma may be difficult to differentiate from colon carcinoma clinically, especially in elderly. Diagnosis is usually made on laparotomy if associated with amebic liver abscess which is the most common extraintestinal manifestation of amebiasis.\(^6\) The diagnosis cannot be obtained through endoscopic study in nearly one-third of patients.\(^7\) The hallmark of amebic colitis is flask-shaped mucosal ulcers, which are present due to the spreading of trophozoites in the submucosa. Histopathology of intestinal biopsy specimen is essential to differentiate between ameboma and malignancy. Ameboma, though classically described as mass of granulation tissue, can present with ulcerative lesions in the colon which revealed trophozoites of *E. histolytica* on biopsy examination as reported by Lin and Kao.\(^9\) In general, trophozoites are round or oval having more of vacuolated cytoplasm with round nuclei. Trophozoites can be misdiagnosed as macrophages on routine staining. Staining with PAS or immunoperoxidase and antilectin antibodies aids in the visualization of amoebae.\(^10\) Trophozoites appear bright pink on PAS staining. Heidenhain’s iron hematoxylin stain demonstrates erythrophagocytosis.

Perforations are rare but serious complications of colorectal cancer, with mortality rates of 30%–40%.\(^11\) Ameboma usually has a favorable response to medical therapy, but in elderly and patients receiving corticosteroids, it may have a severe course and unfavorable outcome in terms of poor response to medical therapy, and rarely, it may perforate, leading to surgical resection.\(^12\)
Conclusion

In elderly individual, ameboma can be misdiagnosed as colonic carcinoma. Due to clinical and diagnostic uncertainty or if any complication occurs, the patient is usually referred for surgical exploration and final diagnosis is made on histopathological examination.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Gorie N, Bhatambare GS, Bajpai T, Khan Z. Seroprevalance of extra-intestinal amoebiasis in a Tertiary Health Care Center located in Central India. Int J Health Allied Sci 2016;5:64-6.
2. Misra SP, Misra V, Dwivedi M. Ileocecal masses in patients with amebic liver abscess: Etiology and management. World J Gastroenterol 2006;12:1933-6.
3. Saha K, Sengupta M, Mitra S, Ray S. Ameboma of colon mimicking colonic carcinoma. Trop Parasitol 2014;4:122-4.
4. Fernandes H, D’Souza CR, Swethadri GK, Naik CN. Ameboma of the colon with amebic liver abscess mimicking metastatic colon cancer. Indian J Pathol Microbiol 2009;52:228-30.
5. Majeed SK, Ghazanfar A, Ashraf J. Caecal amoeboma simulating malignant neoplasia, ileocaecal tuberculosis and Crohn’s disease. J Coll Physicians Surg Pak 2003;13:116-7.
6. Ng DC, Kwok SY, Cheng Y, Chung CC, Li MK. Colonic amoebic abscess mimicking carcinoma of the colon. Hong Kong Med J 2006;12:71-3.
7. Simşek H, Elsürer R, Sökmensüer C, Balaban HY, Tatar G. Ameboma mimicking carcinoma of the cecum: Case report. Gastrointest Endosc 2004;59:453-4.
8. Sharma D, Patel LK, Vaidya VV. Ameboma of ascending colon with multiple amoebic liver abscesses. J Assoc Physicians India 2001;49:579-80.
9. Lin CC, Kao KY. Ameboma: A colon carcinoma-like lesion in a colonoscopy finding. Case Rep Gastroenterol 2013;7:438-41.
10. Haque R, Huston CD, Hughes M, Houpt E, Petri WA Jr. Amebiasis. N Engl J Med 2003;348:1565-73.
11. Kriwanek S, Armbruster C, Dittrich K, Beckerhinn P. Perforated colorectal cancer. Dis Colon Rectum 1996;39:1409-14.
12. Wang S, Shih S, Wang T, Chang W, Wang H, Lin S. Ameboma mimicking submucosal tumor of the colon in an elderly. Int J of Gerontol 2011;5:126-8.