



## Case Report

## Multiple spontaneous perforation of small bowel by Mycobacterium avium complex infection in an AIDS patient

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## ABSTRACT

Disseminated Mycobacterium avium complex (MAC) infections occur in late stage of AIDS. Highly active antiretroviral therapy (HAART) decreases the incidence of MAC infection, but patients with low CD4 counts who have no access to HAART, are remained at risk. The intestine is involved in disseminated MAC which causes gastrointestinal tract symptoms. Spontaneous perforation of small bowel, only ileum by disseminated MAC is documented in one case report. We present a rare case of disseminated MAC infection that led to the multiple spontaneous perforation of small intestine in ileum and cecum. The patient deceased, despite immediate surgical intervention. Mycobacterium avium complex is an important cause of multiple, spontaneous small bowel perforation. We recommend administrating MAC prophylaxis in HIV positive patients who do not have access to HAART therapy.

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## 1. Introduction

Before highly active antiretroviral therapy (HAART) was introduced, disseminated Mycobacterium avium complex (MAC) has been a common infection in AIDS patients [1]. The incidence of opportunistic infections has prominently decreased afterwards. However, cytomegalovirus, cryptosporidia and MAC remain the infectious cause of small intestine involvement [2]. Introduction of immunosuppressive therapy and AIDS epidemic has significantly increased the rate of non-tuberculous mycobacterial (NTM) infection [1].

In contrast to Mycobacterium tuberculosis, NTM are environmental organisms that exist in soil, drinking water and aerosols [3]. More than 90% of the NTM infections occur through gastrointestinal tracts [4].

The rate of MAC infection decreases with HAART, however, lower CD4 count is a negative predictive factor for treatment response [3]. Younger age and no access to HAART therapy are the most important factors for MAC infection [5]. Without HAART, the immunity system weakens and patients become prone to opportunistic infections [6].

We present a rare case of spontaneous multiple perforations of small intestine (i.e.; in ileum and cecum) developed due the MAC in an AIDS patient.

## 2. Case report

42 years old, homeless, HIV infected man admitted at our emergency ward with severe and progressive abdominal pain which lasted for three days. He had nausea with constipation. The patient was illegal drug user (IDU) and never followed his disease appropriately. He also complained of chronic cough, weight loss and sweating from 8 months ago.

The patient was ill and cachectic, his vital signs revealed T: 38 °C, PR: 110/min, RR: 20/min, BP: 110 mmHg. In physical examination we found diffuse abdominal tenderness with involuntary guarding and decreased bowel sound. Laboratory tests showed WBC: 4600 mm<sup>-3</sup> (4000–10,000 mm<sup>-3</sup>) with 88% PMN (40–75%), Hb: 9.4 g/dl (13–17 g/dl) with hypo chromic microcytic anemia and plt: 418,000 mm<sup>-3</sup> (140,000–400,000 mm<sup>-3</sup>). SGOT: 63 IU/L (up to 37 IU/L), SGPT: 14 IU/L (up to 41 IU/L), ALP: 544 IU/L (80–306 IU/L). In plain abdominal X-ray, there was free air under left diaphragm.

Regarding the diagnosis of hollow viscous perforation, intravenous ceftriaxone (1 g/q12h) and metronidazole (500 mg/q6h) administered and he was promptly admitted at operation room. The findings during laparotomy were cecal mass with multiple

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spontaneous perforation and gangrene in ileum and cecum. There were also multiple enlarged lymph nodes in periintestinal fat along with 1500 cc pus in peritoneal cavity. After jejunostomy and cecostomy, patient transferred to intensive care unit (ICU). Unfortunately, because of peritonitis, he succumbed to septic shock and died less than 12 h after surgery.

Macroscopic examination of tissues showed foci of perforations in the bowel fragments with thickening of walls in some areas. Multiple irregular white nodules were seen in periintestinal fat. The ileocecal valve was deformed and cecum was infiltrated with irregular white nodules and strictures that obliterated the bowel lumen.

Microscopic study revealed severe and widespread caseating granulomas with confluent feature, rimmed by lymphocyte at the periphery. The granulomas involved the full wall thickness of bowel, extending to periintestinal fat and mesentrium. All omental lymph nodes were also involved with extensive necrotizing granulomas (Fig. 1a).

Ziehl–Neelsen stain showed numerous acid fast bacilli compatible with *Mycobacterium avium* intracellular (MAI) (Fig. 1b).

### 3. Discussion

In developed nations, disseminated MAC is the major cause of opportunistic bacterial infection in AIDS patients [5]. Nowadays, the common cause of gastrointestinal perforation in AIDS patients are lymphoma and disseminated mycobacterial infection, whereas

in the past, cytomegalovirus (CMV) infection and Kaposi sarcoma have been the major causes [7]. *Mycobacterium tuberculosis*, cytomegalovirus and cryptococcus have been found responsible for ileum and jejunal perforation [9–13].

Pathologic findings in MAC infection include inflammation, edema, ulceration of mucosa and mucosal folds thickening [8]. Disseminated MAC is presented with abdominal pain, fever, night sweat, weight loss and diarrhea [14]. Its nonspecific manifestations may lead to delay diagnosis and subsequently complications such as intestinal perforation.

To the best of our knowledge there has been only one study that documents spontaneous perforation of small bowel by MAC in an AIDS patient [8]. The present case is unique because the small intestinal perforation by disseminated MAC is not limited to ileum but is also observed in cecum. Pathologic examination showed granulomas with caseous necrosis and multiple acid fast bacilli compatible with MAC (Fig. 1a and b).

The major factor contributed to the poor outcome of the present case is the fact that the patient has not been on HAART therapy or any prophylactic medication. The delay in diagnosis of disseminated MAC due to nonspecific manifestation has contributed to the complication.

We recommend considering MAC infection in differential diagnosis of acute abdomen in HIV positive patients. Furthermore, in a case of small intestine involvement in AIDS patients, the responsible organisms should be exactly determined, because treatment will be different according to the organism. To help decrease the MAC infection rate and avoid fatal complications [6], it is recommended that, MAC prophylaxis be applied in HIV positive patients who cannot tolerate or access HAART therapy [5].

### Conflict of interest

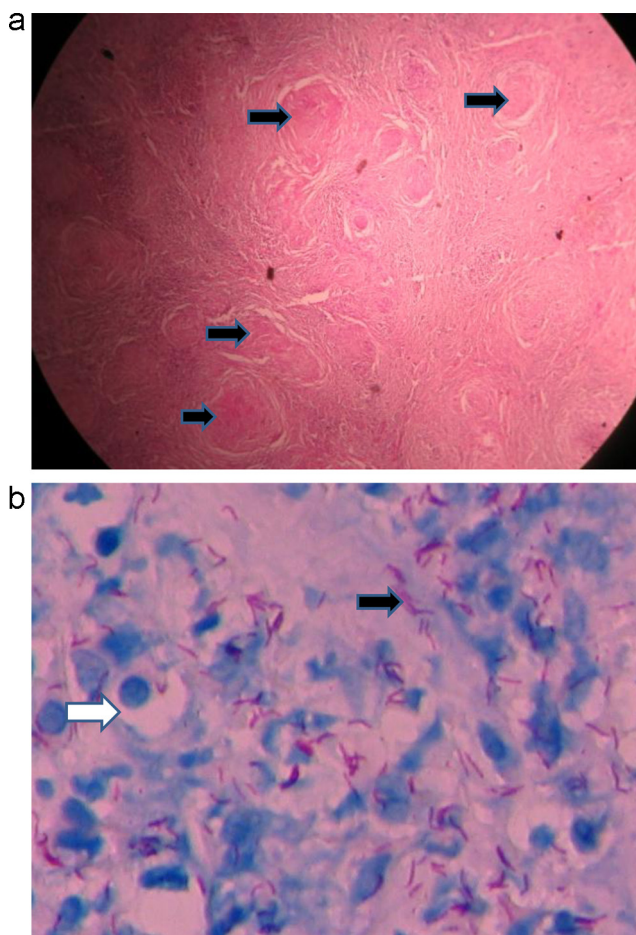
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### Financial disclosure

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### References

- [1] C.G. Lange, I.J. Woolley, R.H. Brodt, Disseminated mycobacterium avium-intracellular complex (MAC) infection in the era of effective antiretroviral therapy: is prophylaxis still indicated? *Drugs* 64 (7) (2004) 679–692.
- [2] A.R. Huppma, J.M. Orenstein, Opportunistic disorders of the gastrointestinal tract in the age of highly active antiretroviral therapy, *Hum. Pathol.* 41 (12) (2010) 1777–1787.
- [3] B. Pertini, Non-tuberculous mycobacterial infections, *Scand. J. Infect. Dis.* 38 (2006) 246–255.
- [4] C.R. Horsburg, The pathophysiology of disseminated *Mycobacterium avium* complex disease in AIDS, *J. Infect. Dis.* 179 (Suppl. 3) (1999) S461–S465.
- [5] P.C. Karakousis, R.D. Moore, R.E. Chaisson, *Mycobacterium avium* complex in patients with HIV infection in the era of highly active antiretroviral therapy, *Lancet Infect. Dis.* 4 (2004) 557–565.
- [6] J. Thoden, A. Potthoff, J.R. Bogner, N.H. Brockmeyer, S. Esser, K.G. Pfistershammer, et al., Therapy and prophylaxis of opportunistic infections in HIV-infected patients: a guideline by the German and Austrian AIDS societies (DAIG/OAG) (AWMF 055/066), *Infection* 41 (2013) 91–115.
- [7] C. Kosmidis, G. Anthimidis, K. Vasiliadou, Acute abdomen and HIV infection, in: E. Aghdassi (Ed.), *HIV Infection in the Era of Highly Active Antiretroviral Treatment and Some of Its Associated Complications*, InTech, 2011, pp. 141–150, [www.intechopen.com](http://www.intechopen.com).
- [8] M. Kawana, R.S. Starr, K.T. Tashima, D.O. Treaba, T.P. Flanigan, Spontaneous perforation of the terminal ileum in an AIDS patient on highly active antiretroviral therapy with disseminated non-tuberculous mycobacterial infection, *Int. J. Infect. Dis.* 12 (2008) 603–606.
- [9] T. Deb, T.Y. Singh, N.B. Singh, M.B. Sharma, A. Debbarma, Multiple tubercular ulcer perforation of ileum in an AIDS patient: case report, *J. Commun. Dis.* 30 (1998) 175–178.
- [10] A.C. Guex, H.C. Bucher, N. Demartines, U. Fluckiger, M. Battegay, Inflammatory bowel perforation during immune restoration after one year of antiretroviral and antituberculous therapy in an HIV-1-infected patient: report of a case, *Dis. Colon Rectum.* 45 (2002) 977–978.



**Fig. 1.** (a) Multiple granulation tissues that involved full wall thickness of small bowel (black arrows). Objective;  $\times 10$ . (b) Ziehl–Neelsen staining of the perforated small intestine shows multiple slender long acidiform bacilli compatible with *Mycobacterium avium* intracellular (black arrows) with histiocyte cells (white arrows). Objective;  $\times 40$ .

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