Case Report

Ileum Perforation With Aspergillosis and Subsequent Cytomegalovirus Ileitis Bleeding in A Patient Recovery From Dengue Fever

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Received: 30 August 2017; **Accepted:** 13 September 2017; **Published:** 25 September 2017

1. Case Presentation

Recovery from severe dengue fever may not be the end of the story for some people, especially in those with chronic kidney disease, as they stand the risk of contracting *Aspergillus* diseases in the next stage of the illness [1, 2]. As we know, however, case of post-dengue *Aspergillus* ileitis with perforation and subsequent *Cytomegalovirus* (CMV) enteritis was not reported.

A 67 year-old woman of chronic kidney disease had fever 5 days ago. Then, she felt worsening general weakness. Besides, vomiting, abdominal discomfort and diarrhea were also noted. There was no skin rash, dyspnea, nor tarry stool. Laboratory data showed a white blood cell count of 5,150/μL; hematocrit, 47.7 %; platelet count, 10,000/μL; K, 6.39 mmol/L; blood urine nitrogen, 84 mg/dL; creatinine, 11.27 mg/dL; aspartate aminotransferase, 211 U/L; alanine aminotransferase, 172 U/L; C-reactive protein, 11.0 mg/L; and albumin, 3.6%. Tests for dengue virus immunoglobulin (Ig) IgM, IgG and nonstructural protein 1 (NS1) antigen (Ag) were all positive. The patient recovered well after intensive fluid monitoring and therapy. The platelet count rose to 110,000/μL. At 2 weeks after admission, she got a recurrent fever, diffuse abdominal pain especially at right lower quadrant, and currant jelly stool was noticed. Abdominal computed tomography scan showed ischemic bowel with intra-abdominal abscess (Figure 1A). Laparotomy surgery confirmed perforation of terminal ileum (Figure 1B). Resection of ischemic ileum and right hemicolectomy were conducted. Biopsies of the ileum showed transmural necrosis admixed with some fungal hyphae and spores. Meanwhile, the blood *Aspergillus* galactomannan Ag index was 0.66 (normal, < 0.5). The CMV staining was negative. Two weeks later, massive tarry stool occurred, and colonoscopy found bleeding at the anastomosis site. CMV antigenemia was 51 positive cells per 200,000 macrophages. During the following 6 weeks,

the patient experienced additional 6 times of surgical intervention for partial colectomy, end-ileostomy, peritoneal toilet, loop ileostomy, and segmental resection of ileum due to recurrent stool leakage, abscess formation and small bowel bleeding. Despite antimicrobial therapy, the patient died in severe sepsis after 79 days of hospital stay. The final resected ileum biopsy confirmed CMV ileitis with perforation. The anti-CMV therapy was not given in time.

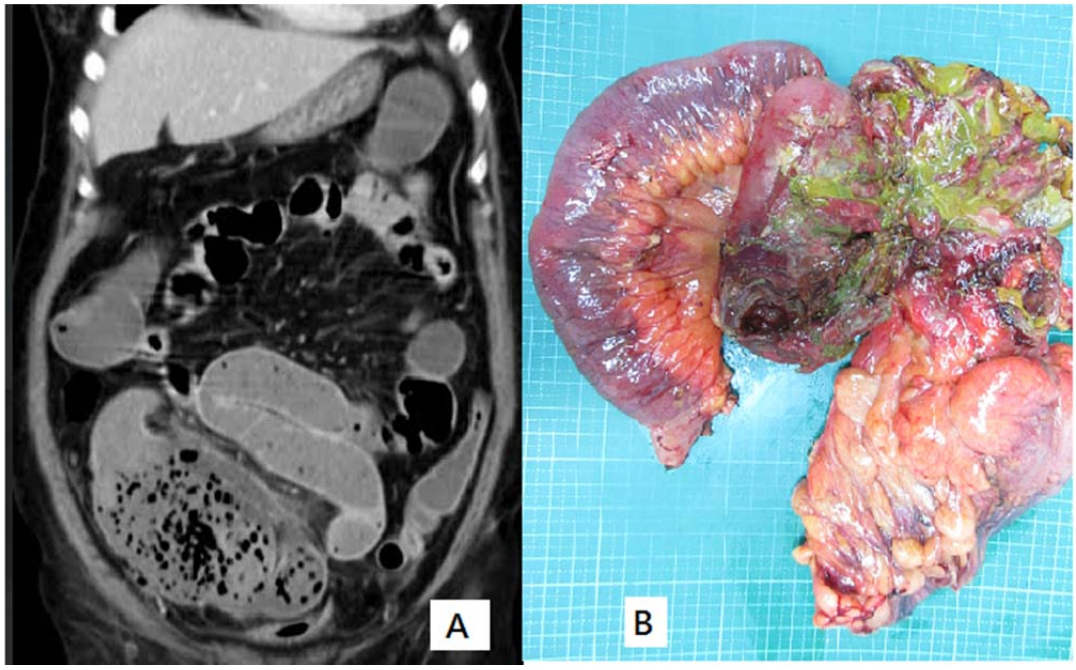

Figure 1: The computed tomography scan of the abdomen showing ischemic bowel with intra-abdominal abscess at right lower quadrant (A) and laparotomy surgery confirming perforation of terminal ileum (B)

2. Conclusion

In conclusion, gastrointestinal aspergillosis is rare and is most often discovered in immunocompromised patients. Small intestine, colon and stomach are the most common sites of involvement [3]. *Cytomegalovirus* ileitis can cause massive gastrointestinal bleeding in a patient following intra-abdominal surgery [4], similar to our case following operation for terminal ileum perforation. The currently reported case highlights ileitis with aspergillosis and subsequent CMV infection in a patient at the recovery stage of severe dengue fever. The *Aspergillus* enteritis might be attributed to dengue-related immune deficiency [5]. However, as we know, both CMV and *Aspergillus* infections in the context of dengue fever were not reported in the literature. Physicians should be alert to potential ileitis caused by aspergillosis and CMV infection in a patient at the post-dengue status.

Acknowledgment

None declared

Conflict of interests

The author declares no conflict of interest and no financial support regarding this work. The case study in this work was approved by the Institutional Review Board (IRB) of Chi Mei Medical Center (IRB no. 10503-005).

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