



# Immune-Mediated Colitis with Concurrent Clostridium Difficii CDI

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## Abstract

Immune checkpoint inhibitors (ICIs) are widely used for patients with primary lung cancer in the recent years and have better overall survival versus previously used chemotherapy [1]. Some adverse events of immunotherapy, such as diarrhea and colitis, can lead to treatment discontinuation due to the risk of fatal outcome. We present the case of pembrolizumab-induced colitis with concurrent clostridium difficile infection (CDI) in a patient with metastatic non-small cell lung cancer (NSCLC) [2,3]. 58-year-old man was hospitalized due to the symptoms of persisting watery diarrhea and diffuse abdominal pain. Laboratory tests on the day of admission were significant for mild iron deficiency anemia, hypoalbuminemia, hypoproteinemia, leukocytosis, and increased C-reactive protein (68,94 mg/L) [4]. His stool polymerase chain reaction (PCR) test was positive for Clostridium difficile A and B toxins [5,6]. The treatment for CDI had started with intravenous metronidazole (500 mg every 8 hours) and intravenous vancomycin (1000 mg every 12 hours). Flexible sigmoidoscopy detected edema, erythema, fibrin-covered erosions, loss of vascular pattern in sigmoid colon and rectum. Histological evaluation of the biopsy revealed increased lamina propria cellularity, glandular apoptotic changes, crypt abscesses, shortening, mucin cells depletion and increased number of intraepithelial lymphocyte (Figure 1). Most of them were CD3(+) cytotoxic T-lymphocytes (Figure 2). However, his symptoms failed to improve with antibiotics management. Due to the ongoing treatment with pembrolizumab and the lack of response to the severe CDI antibiotic treatment, the diagnosis of an IMC was made. After excluding an infection with cytomegalovirus, EBV by PCR in colonic tissue, an immunosuppression with intravenous prednisolone 120 mg daily was initiated. His diarrhea began to improve, abdominal pain resolved, and CRP levels decreased in six days. All patients receiving ICIs with diarrhea and infection should be suspected of immune-mediated colitis (IMS).

## References

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