Unusual Invasive Colon aspergillosis and CMV colitis simultaneously in the immunocompromised patient

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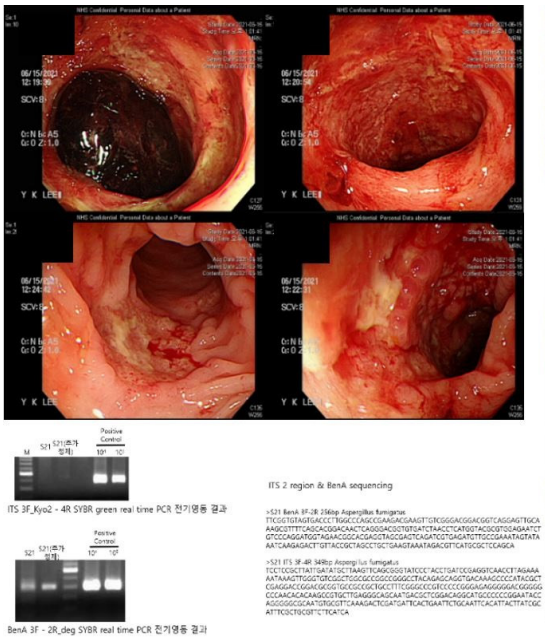
Introduction: Gastrointestinal invasive aspergillosis(IA) is often reported as a part of disseminated infection, and rarely as an isolated organ infection. The risk of occurrence of IA increases in those with the high degree of immunosuppression or those with other risk factors for invasive disease, such as neutropenia or the use of steroids. Furthermore, it is very rare that IA colitis and Cytomegalovirus(CMV) colitis occur simultaneously. This case shows isolated intestinal aspergillosis and CMV co-infection in immunocompromised patient.

Case: A 58-year-old male visited the emergency room complaining dyspnea and general weakness. He was a heavy alcoholic with a history of hypertension and dyslipidemia. Upon the arrival in the emergency room, his blood pressure was 132/88 mmHg, oxygen saturation was 80% in room air, and the body temperature was 38.5 ˚C. Lab data showed WBC count $1.31x10^9$/L, CRP of 25.38 mg/dL arterial blood gas analysis of pH7.426, pCO_2 18.3mmHg, pO_2 77.1mmHg, and HCO_3 12.0mmol/L. Chest CT showed multi-segmental consolidation and ground glass opacity on both lung field. The patient was initially diagnosed as pneumonia. IV antibiotics and IV methylprednisolone(1mg/kg) were started. After 7 days of ventilator and ICU care, pneumonia was improved. But hematochezia led to CT which, eventually, revealed an active bleeding in lower rectum. Emergency VDA was performed twice, and multiple ulcers in entire colon were found followed by the random biopsy. The biopsy revealed CMV infection and fungal hyphae with ulceration. For further examination, PCR test for hyphae was performed. The result confirmed aspergillus fumigatus infection. IV ganciclovir and amphotericin B were started immediately. And few weeks later, he recovered from bleeding. This case characterized by the absence of pulmonary disease at time of histologically-confirmed fungal and viral disease.

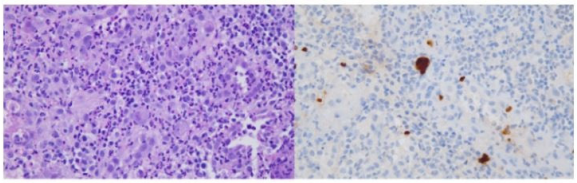
Discussion: We report a case of primary intestinal aspergillosis and CMV. Digestive tract may represent a portal of entry for aspergillus species in immunocompromised patients and CMV reactivation site. And even small amounts of steroid use can contribute to lowered immunity.



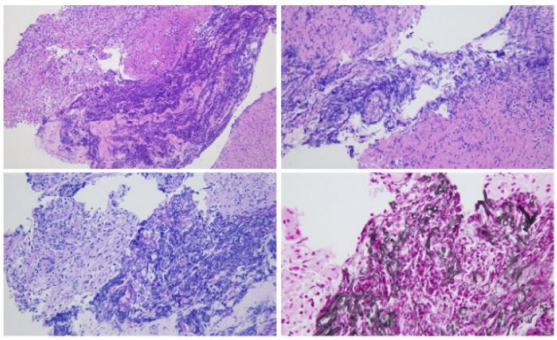
ITS 3F_Kyo2 - 4R SYBR green real time PCR 전기영동 결과

BenA 3F - 2R_deg SYBR real time PCR 전기영동 결과

ITS 2 region & BenA sequencing



A. CMV infected cells (arrow head) are larger than adjacent normal cells, containing basophilic intranuclear inclusion bodies (x20 objective, HE), B. Immunohistochemistry for CMV highlighs the infected cells (x20 objective, CMV)



A. Biopsy reveals necrotic debris with crushing artifacts (x10 objective, HE), B. In high magnification, there are a few pale pink-colored, stick-like materials (arrow) (x20 objective, HE), C and D. PAS and GMS stain highlight the fungal hyphae (arrow head) in necrotic exudates (C: x20 objective, PAS, D: x40 objective, GMS)