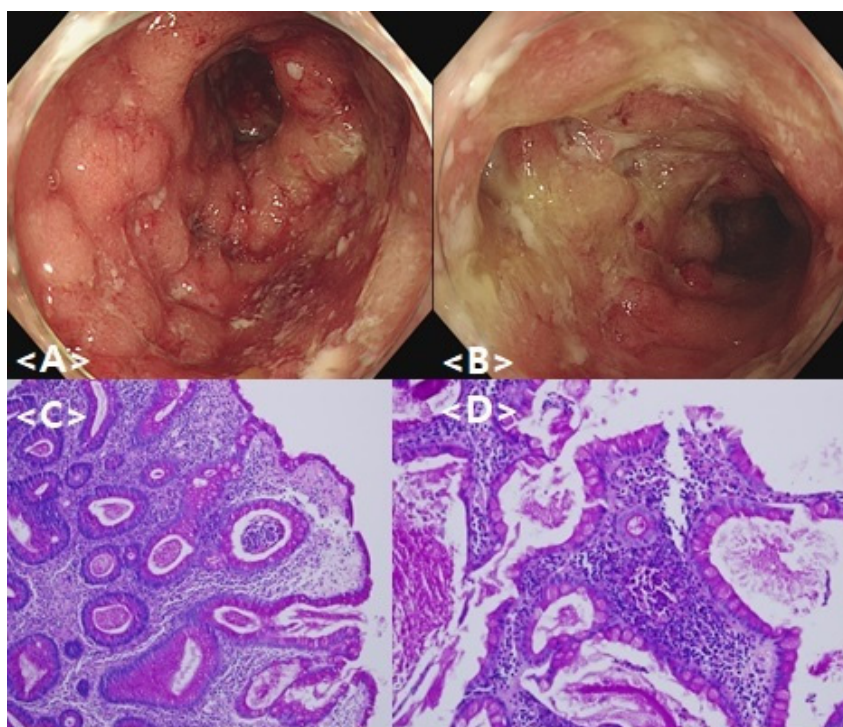


Worsened Ulcerative colitis after COVID-19 vaccination

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Ulcerative colitis (UC) is a disease which ulcers occur in the mucosa of large intestine and cause mucosal swelling, hyperemia. It is chronic recurrent disease which exact cause has not yet been identified. It appears as symptoms of bloody stool, diarrhea. This case report is about UC that worsened after COVID-19 virus vaccination. A 49-year-old female visited emergency room with diarrhea and bloody stool for 15 days. Colonoscopy was done 8 months ago when she had bloody stool. It revealed multiple mucosal erythema and erosions, and pathologic exam showed chronic active inflammation with lymphocyte aggregation, focal crypt epithelial dysplasia. Although the possibility was UC was considered, she did not visit the hospital because symptoms disappeared. She got 3rd COVID vaccine 3 weeks ago. After the vaccination, she began to have diarrhea 4-5 times a day, which worsened with bloody stools and fever. When she visited emergency room, she had fever of 39.1°C, with mild tenderness on whole abdomen. Blood test revealed WBC 11500, Hb 10.3g/dL, PLT 498K/uL, Procalcitonin 4.61ng/mL (0-0.49), and CRP 23.35 mg/dL (0-0.3). Abdominal CT scan showed diffuse edematous swelling of colon. Although antibiotics and fluids were supplied for days, symptoms persisted. Stool tests including bacterial, viral pathogens were negative. Colonoscopy was performed in the possibility of acute exacerbation of UC. It showed severe swelling, spontaneous bleeding of the mucosa of the entire colon, and several ulcerative lesions were observed. Pathologic examination revealed chronic active colitis with cryptitis, lymphoid aggregates. Under the diagnosis of UC, systemic steroid was given. At the 3rd day of administration, symptoms improved, and CRP decreased to 1.96mg/dL. This report introduced a case of UC worsened after COVID vaccination. It can be assumed that mRNA vaccines act based on the upregulation of immunological pathways and are involved in the development of immune-mediated diseases. Although specific immunological pathway of mRNA vaccination and UC has not been identified, Clinical significance between mRNA vaccination and resulting immune-mediated disease is noteworthy.



<A,B> Colonoscopy showed severe swelling, redness, and spontaneous bleeding of the mucous membrane of the entire colon, and several ulcerative lesions were observed.

<C,D> Histological examination revealed chronic active colitis with cryptitis, crypt abscess, marked crypt distortion, lymphoid aggregates, and crypt epithelial hyperplasia.