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Update on SARS-CoV-2 vaccination of patients with inflammatory bowel disease: what clinicians need to know

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As evidences for coronavirus disease 2019 (COVID-19) is expanding, the management strategies for patients with inflammatory bowel disease (IBD) is rapidly evolving.[1,2] Vaccination against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the principal strategy to curb the ongoing pandemic, in particular to prevent severe COVID-19 cases. As the initial clinical trials of the current SARS-CoV-2 vaccines did not include people with immune-mediated diseases, clinicians remain concerned about the safety and efficacy of SARS-CoV-2 vaccination in patients with IBD and about the possible effects of treatment on vaccine efficacy. An expert consensus statement by the Korean Association for the Study of Intestinal Diseases (KASID) on SARS-CoV-2 vaccination for adult IBD patients has been published.[3] As evidence is constantly gathered, resulting in changes to vaccination policies, the purpose of this letter is to update SARS-CoV-2 vaccination information on patients with IBD.

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Currently, several studies are evaluating the effectiveness of SARS-CoV-2 vaccination in patients with IBD. A recent meta-analysis found that the pooled seroconversion rate after 2 doses of an mRNA vaccine in IBD patients was 95.17%, thus no lower than that in patients with other immune-mediated inflammatory diseases, including rheumatoid arthritis, systemic lupus erythematosus, and vasculitis.[4] The most recent data indicate that vaccinated IBD patients are well-protected against severe COVID-19 infection or death.[5,6] Thus, it is strongly recommended that unvaccinated IBD patients should be vaccinated as soon as possible.

The evidence suggests that IBD patients receiving immune-modifying therapies may exhibit attenuated immune responses after vaccination, and protection against SARS-CoV-2 infection may wane over time. In a large-scale IBD cohort study performed in the UK (CLARITY-IBD), patients on infliximab evidenced 4- to 6-fold lower antibody levels than those of ve-

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dolizumab-treated patients.[7] At 14 to 18 weeks after the second dose, the level of vaccine-induced antibodies in infliximab-treated patients decreased below the level thought necessary to afford immunity; this was not apparent in those on vedolizumab or in healthy controls.[5] Only a few corticosteroid data are available; however, patients on corticosteroids also exhibited impaired seroconversion after 2 doses of an mRNA vaccine.[4] Such findings have prompted discussion on the need for additional vaccination of IBD patients receiving immune-modifying therapies.

The Joint Committee on Vaccination and Immunisation (JCVI) of the UK developed guidelines for delivery of a third dose of an mRNA SARS-CoV-2 vaccine to moderate-to-severely immunocompromised persons and those on immune-suppressive medications.[8] As the COVID-19 situation worsened and evidence supporting a third dose accumulated, the target populations, and the interval between the primary vaccination series and the third dose, have changed several times. Also, the recommendations differ somewhat by country. The Korea Disease Control and Prevention Agency (KDCA) decided that immunocompromised individuals would receive their third dose commencing in October 2021. With the latest information, on 13 December 2021, the KDCA recommended a third dose for all individuals aged ≥18 years to be delivered at least 3 months (3–6 months) after the second dose. However, in immunocompromised individuals and those who received the Janssen vaccine, the third dose can be given 2 months after the second dose.[9] In terms of IBD patients, those taking high-dose corticosteroids (equivalent to ≥20 mg prednisolone per day) for >10–14 days, tumor necrosis factor, interleukin 12/23, or Janus kinase inhibitors are eligible for the third dose 2 months after the second dose.[8,10] Unlike the KDCA, the JCVI described eligible patients on non-biological, oral immunomodulators in more detail, as follows: methotrexate >20 mg/wk (oral and subcutaneous), azathioprine >3.0 mg/kg/day, or 6-mercaptopurine >1.5 mg/kg/day, or mycophenolate >1 g/day over the previous 3 months.[8]

The effectiveness of the third vaccine dose in patients with IBD remains unclear. However, given the risk of a blunted immune response in immunocompromised individuals following 2 vaccine doses, and the emerging SARS-CoV-2 variants, all IBD patients should receive a third dose, especially if the initial vaccination was performed during immunosuppressive therapy. It should be noted that the doses of immunomodulators commonly prescribed to patients with IBD are lower than those suggested by the JCVI. The specific timing of the third dose should be determined after consideration of the patient's medical condition and the extent of immunosuppression.

In terms of safety, a recent study on post-vaccination symptoms after the third dose of an mRNA vaccine in patients with IBD (the Coronavirus Risk Associations and Longitudinal Evaluation-IBD study, CORALE-IBD) reported reassuring results. Of the 524 participants, 41% reported post-vaccination symptoms; the frequency and severity were more marked among younger patients. However, these were no worse than after the second dose. Indeed, fewer patients reported symptoms after the third than the second dose.[11]

Although data are few, the recommendations for the 2021–2022 influenza vaccination state that such vaccination can accompany COVID-19 vaccination (on the same day). If multiple vaccines are given, the injections should be administered at different sites.[9]

SARS-CoV-2-infected pregnant women are at increased risk of intensive care unit admission, a need for mechanical ventilation, and death.[12] Thus, the KDCA recommends vaccination of pregnant women.[9] Although limited IBD-specific data are available, international societies recommend vaccination of pregnant women with and without IBD. Consultation with healthcare providers in terms of vaccination timing and precautions is appropriate.

Clinicians should recommend 3 vaccine doses to IBD patients, especially those on immune-modifying therapies. This recommendation is based on the latest data available at the time of writing (December 18, 2021). As always, the situation may change, and if so, a further update will be prepared.

ADDITIONAL INFORMATION

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Conflict of Interest

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Author Contribution

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