Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

SARS-CoV-2 vaccination for patients with inflammatory bowel disease

We read with interest the position statement of the British Society of Gastroenterology Inflammatory Bowel Disease (IBD) section and IBD Clinical Research Group.[1] Although we largely agree with the key messages that SARS-CoV-2 vaccination should be strongly supported for patients with IBD and that the anticipated risks are low, we wish to raise a few relevant remarks based on previously published studies on vaccination for other pathogens in this patient group. Alexander and colleagues[1] rightfully argue that the response to pneumococcal, influenza, and hepatitis A vaccination in patients with IBD receiving immunosuppressive agents is diminished compared with that in control individuals. However, we disagree that the response to vaccination in patients receiving anti-tumour necrosis factor (anti-TNF) agents is lower than that in patients receiving conventional immunomodulators. In a systematic review and meta-analysis of 17 studies, we showed that patients with IBD using anti-TNF agents were more likely to seroconvert after the first dose of hepatitis A vaccine (OR 12·1, 95% CI 2·14–68·2) than were patients using conventional immunomodulators.[2] Regarding pneumococcal vaccination, a study involving 141 patients with IBD showed that the response to pneumococcal vaccination was not inferior (63%) in patients receiving anti-TNF therapy compared with patients receiving conventional immunomodulators (60%).[3] Patients on combination therapy had a significantly lower response (52%) than did those receiving either anti-TNF therapy or conventional immunomodulators. A systematic review on pneumococcal vaccination comprising 2077 participants found a superior response in patients using an anti-TNF treatment compared with those using conventional immunomodulators. One explanation could be that anti-TNF agents cause a more specific inhibition of the immune system than do conventional immunomodulators.[4]

It should be noted that approved SARS-CoV-2 vaccines are very different from the currently licenced vaccines that were previously tested in patients with IBD. Both the mRNA and adenovirus vector vaccines encode the production of SARS-CoV-2 spike protein, leading to the production of neutralising antibodies and virus-specific T-cell responses.[5] We agree that, in the current absence of immunogenicity studies and the unfortunate situation of vaccine paucity, patients with IBD should accept whichever approved vaccine is offered to them. However, we hypothesise that mRNA vaccines might prove to be the better option for patients with IBD using immunosuppressants than might adenovirus vector vaccines for two reasons. First, the licenced adenovirus vector vaccines (ie, Janssen or Oxford/AstraZeneca) are less effective than mRNA vaccines (ie, Pfizer/BioNTech or Moderna) in healthy individuals. Thus, effectiveness in immunocompromised individuals is expected to be lower as well, even though optimal protection of this susceptible population is needed. Second, the adenovirus vector formulation might generate adenovirus-specific immunity, which might limit the effectiveness of booster doses that could be necessary for immunocompromised individuals.[5]

We declare no competing interests.

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Authors' reply

We thank Garcia Garrido and colleagues for their comments on the British Society of Gastroenterology Inflammatory Bowel Disease (IBD) and IBD Clinical Research Group section position statement[1] and the studies cited in their Correspondence, including the valuable meta-analysis of the impact of immunosuppression on pneumococcal vaccination.[2] However, the results of this meta-analysis should be interpreted with caution in patients with IBD, as most of the studies included (18 of 22) were from patients with other immune-mediated inflammatory diseases (mostly rheumatoid arthritis), in which the only conventional immunomodulator reported was methotrexate. Additionally, in the few IBD studies included, anti-TNF treatment significantly impaired vaccine responses, whereas immunomodulators did not. The 2020 study by van Aalst and colleagues[3] also substantiates impaired pneumococcal vaccine (PCV13) responses in patients receiving anti-TNF agents. The key message is that there is clear evidence of impaired pneumococcal vaccine responses in patients with IBD taking