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## Correspondence

**Reply to Comment on: “Reduced humoral response to two doses of COVID-19 vaccine in patients with inflammatory bowel disease”**

Dear editor,

First, we would like to thank Dr. Sookaromdee and colleagues for the interest in our study [1]. Currently, there is general consensus on the strong utility of the COVID-19 vaccines, particularly for “frail” subjects and this includes patients with chronic conditions such as inflammatory bowel disease (IBD) [2]. Our study’s focus moved from the necessity to understand which factors could have a substantial impact on the efficacy and safety of COVID-19 vaccines. In this regard, the influence of the variables at baseline was investigated using binary logistic regression multivariate analyses for seropositivity rates, and using linear regression multivariate analyses for anti-SARS-CoV-2 IgG levels. Sookaromdee and colleagues emphasized the possible role of a previous unknown/asymptomatic infection with SARS-CoV-2. Indeed, it is well known that any previous immunological contact with the virus determines an enhanced immune response to COVID-19 vaccines [3]. We fully agree with this point, which, indeed, we had analyzed. Anti-SARS-CoV-2 IgG positivity at baseline was assessed in both IBD patients and healthy controls. The rates were comparable between the two groups (8.9% vs. 10.7%, respectively;  $p = 0.17$ ). Therefore, the difference in the magnitude of the humoral response between patients and controls is not related to any difference in previous unknown infections with SARS-CoV-2. Conversely, a deregulation of the immune system in IBD patients could be hypothesized, including a defective spleen function [4]. Furthermore, restricting the analysis only to patients with IBD, anti-SARS-CoV-2 IgG positivity at baseline was independently associated with the median levels of IgG anti-SARS-CoV-2 after 8 weeks from the second dose of COVID-19 vaccine, together with age, treatment for IBD, and use of mRNA-1273 compared with BNT162b2 vaccine [5]. Finally, we agree with the fact that tracking underlying immunological disorders may help to identify those patients who could

need additional/booster doses of vaccine, including the analysis of genetic polymorphisms [6]. Obviously, more research is needed in this setting before these tests can be applied in clinical practice.

**Declaration of Competing Interest**

FSM served as an advisory board member and/or received lecture grants from AbbVie, Biogen, Galapagos, Janssen, MSD, Pfizer, Samsung Bioepis, Takeda Pharmaceuticals. AO served as an advisory board member for AbbVie, Galapagos, MSD, Janssen, Pfizer, Takeda Pharmaceuticals, and received lecture grants from AbbVie, MSD, Sofar, Chiesi, Janssen, Pfizer, and Takeda Pharmaceuticals. All other authors: nothing to disclose.

**References**

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