The impact of COVID variants on IBD management: Do we start from scratch again?

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The COVID-19 pandemic caused by the severe respiratory syndrome coronavirus-2 (SARS-CoV-2) has manifested several challenges in inflammatory bowel disease (IBD) management. One of the initial key considerations was regarding the impact of immunosuppression on COVID-19 incidence and outcomes, as well as on immunity following infection or vaccination\(^1\)\(^2\). With a rise in cases due to the emergence of SARS-CoV2 variants, the question now is whether this information can be upheld.

The United Kingdom (UK) identified a variant called B.1.1.7 which has now become the dominant strain and has spread to over 70 countries\(^2\). Another variant, B.1.351, emerged independently in South Africa, whilst the Brazil variant, P.1, has only recently been identified in January 2021. The UK and South Africa variants have a mutation (N501Y) in the receptor-binding domain of the spike protein that is reported to be linked to a 40-70% higher transmission rate\(^3\). Some early studies are reporting a higher incidence of death with B.1.1.7 than the original strain\(^2\)^\(^4\). There is variable protection from the current licensed COVID vaccines against these emergent variants\(^3\)^\(^5\). Consequently, this has led many countries to impose further lockdowns, travel bans and strict quarantine rules for those that have visited these areas where the variants are endemic.

The new variants share the same symptomatology with the initial strain, however a loss of taste or smell were slightly less commonly seen with B.1.1.7\(^6\). Despite evidence of increased transmissibility, it is important to note that as yet there remains little evidence that this is associated with a more severe phenotype or an increase in mortality\(^4\). However, it is important to note that an observed reduction in mortality and intensive care admission may be secondary to the advancement in testing and therapeutic strategies against COVID-19.

The above changes seen in COVID-19 within the general population pose a number of questions for our IBD community. Our initial experience of COVID-19 has suggested that medications we use in our IBD patients do not appear to confer a higher risk of infection, severity or poorer outcomes\(^7\). It may not be possible to currently confirm that the same is true for the new variants. Moreover, further mutations of this virus are likely to develop in the future, which may lead to altered infectivity, virulence, and severity. What impact this will have on our IBD patients regarding their disease, potential flares, and concomitant medications remains to be seen.
A critical additional consideration is whether immunosuppression impacts on antiviral\(^8\) and immune responses\(^9\) for many IBD patients. The combination of viral mutation plus immunosuppression may be enough to weaken anti-vaccine responses to the point that available vaccines no longer confer meaningful anti-SARS-CoV2 immunity, at least in respect to the mutant viral forms.

We therefore suggest that IBD patients should still proceed with caution in the current pandemic. Furthermore, we suggest that vaccine efficacy in the general population should be very cautiously extrapolated in the immunosuppressed population. Considering there is already evidence for a lower immunogenic response to the new variants with the currently licensed vaccines\(^4\), and the fact that immunosuppression can further reduce immunogenicity is cause for concern for our IBD population.

Despite a plethora of research into the effects of the primary sequenced COVID-19 there is now a need to develop observational prospective studies to evaluate the impact of these new variants on patients with IBD. It is essential that the healthcare community promotes ongoing research into the efficacy of available and new vaccines as they become available for use. An exemplar model has been the UK CLARITY IBD initiative (https://www.clarityibd.org/) to assess seroconversion following SARS-CoV-2 infection in patients with IBD receiving systemic anti-TNF therapy (infliximab) or gut selective anti-alpha4beta7 integrin therapy (vedolizumab). In doing so we will ensure adaptable and resilient future strategies to enable rapid evidence-based adaptations to vaccination strategies which may include vaccine selection, combination vaccines or use of boosters in order to confer optimal immunity to IBD populations.

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References:


