

## Letter to the Editor

# Reply to Response to “A Case of Ulcerative Colitis Relapse Characterized by Systemic Type I Interferon Responses After COVID-19 Vaccination” by Mungmunpantip and Wiwanitkiton

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To the Editors:

We appreciate valuable comments by Mungmunpantip and Wiwanitkiton<sup>1</sup> on our article, “A Case of Ulcerative Colitis Relapse Characterized by Systemic Type I Interferon Responses After COVID-19 [coronavirus disease 2019] Vaccination.”<sup>2</sup> They agree with our idea that type I interferon (IFN) responses triggered by COVID-19 vaccination might underlie the immunopathogenesis of ulcerative colitis (UC) relapse in this case. However, they suggest that we need to consider involvement of a prevaccination immunological problem or a concurrent medical disorder before drawing conclusions. Regarding the possibility of a prevaccination immunological problem, neither clinical nor laboratory findings related to IFN-driven autoimmune disorders, such as systemic lupus erythematosus, were found.<sup>3</sup> We also excluded a possibility of concurrent infection of cytomegalovirus using the pp65 antigen method. Mungmunpantip and Wiwanitkiton<sup>1</sup> suggest the possibility of an arbovirus infection in the development of UC relapse, especially following COVID-19 vaccination.<sup>4,5</sup> Although we have not examined the possibility of an arbovirus infection, infections from viruses belonging to this family are very rare in Japan. Therefore, we speculate that COVID-19 vaccination followed by systemic type I IFN responses might have triggered the UC relapse in this case. This idea has been supported by the fact that messenger RNA derived from the COVID-19 vaccine might be a strong inducer for type I IFN responses upon being sensed by pattern recognition receptors.<sup>6</sup>

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## Author Contributions

Y.M. and T.W. drafted the manuscript. T.W., K.M., and M.K. revised the manuscript.

## Conflicts of Interest

The authors declared no conflict of interest.

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