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## Screening faecal microbiota transplant donors for SARS-CoV-2 by molecular testing of stool is the safest way forward

We thank Gianluca Ianiro and colleagues1 for highlighting an important concern faced by faecal microbiota transplant (FMT) stakeholders, including stool banks, regulators, and especially recipients, during the current coronavirus disease 2019 (COVID-19) pandemic. The authors are right in highlighting the concern arising from the detection of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in stool samples and the safety implications for FMT donor screening policies. However, we strongly believe that the approach taken by the authors in excluding donors on the basis of having developed COVID-19 symptoms, having had contact with patients with confirmed COVID-19 disease, or having recently travelled to regions affected by COVID-19, is insufficient and potentially unsafe. The world is currently amid a global pandemic, exacerbated by a large burden of asymptomatic or mild cases; as of March 19, 2020, more than 80 000 known cases have been reported in Europe and the UK.2 Exclusion on the proposed criteria of clinical disease, or travel exposure to perceived high-risk countries, or both, can no longer be considered sufficient. This point is particularly important, because cities and countries where FMT donor stool banks are based now have community outbreaks and in some areas they are registering as many, if not more, patients with COVID-19 than earlier reported rates from high-risk category countries.2 Furthermore, the authors have not taken into account the large group of asymptomatic carriers who could potentially shed virus in the stool for an undefined period of time, and that during this period they should be ineligible as donors.<sup>3,4</sup>

There have been two safety alerts by the US Food and Drug Administration on serious adverse events that were likely to have resulted from the transmission of pathogenic organisms via a FMT. The alert from March 12, 2020, was the result of potentially detectable enteropathogenic Escherichia and Shiga-toxin-producing E coli.5 In the current situation, screening policies for FMT donors ought to remain stringent, safe, effective, and scientifically justified wherever possible. The recipients of FMT globally are often patients who are older (aged >65 years), with multiple comorbidities, or immunocompromised with Clostridioides difficile infections. Therefore, minimising the potential to transmit pathogens through FMT depends on FMT providers and robust screening procedures.

The University of Birmingham Microbiome Treatment Centre is the second largest provider of FMT for treatment globally, and we are running the largest FMT trial for inflammatory bowel disease (STOP-Colitis)<sup>6</sup> in the world to date. Our donor eligibility criteria, based on our published guidelines, would exclude FMT derived from any individual with symptoms of COVID-19.7 In addition to these criteria, as of January, 2020, FMT produced from the date of detection of the first cases of COVID-19 have been guarantined from use until a time when a validated stool test for SARS-CoV-2 becomes available. We are not currently processing any new donors, but we anticipate that this situation will delay the availability of FMT for only a short period of time, because such tests are in rapid development.8 We believe that the molecular screening of stool from all donors for SARS-CoV-2 will be the safest way forward, because this approach would adequately address and mitigate against the risk posed from asymptomatic carriage and might also provide a useful measure of asymptomatic prevalence in the wider community.

We declare no competing interests.

Christopher A Green, \*Mohammed N Quraishi, Sahida Shabir, Naveen Sharma, Richard Hansen, Daniel R Gaya, Ailsa L Hart, Nicholas J Loman, Tariq H Iqbal m.n.quraishi@bham.ac.uk

University of Birmingham Microbiome Treatment Centre, Birmingham B15 2TT, UK (CAG, MNQ, SS, NS, THI); University Hospitals Birmingham NH5 Foundation Trust, Birmingham, UK (CAG, MNQ, NS, THI); Institute of Microbiology and Infection, University of Birmingham, Birmingham, UK (CAG, NJL, THI); Department of Paediatric Gastroenterology, Royal Hospital for Children Glasgow, Glasgow, UK (RH); Gastroenterology Unit, Glasgow Royal Infirmary, Glasgow, UK (DRG); and Department of Gastroenterology, St Marks Hospital, London, UK (ALH)

- I laniro G, Mullish BH, Kelly CR, et al. Screening of faecal microbiota transplant donors during the COVID-19 outbreak: suggestions for urgent updates from an international expert panel. Lancet Gastroenterol Hepatol 2020; published online March 17. https://doi.org/10.1016/ S2468-1253(20)30082-0.
- European Centre for Disease Prevention and Control. Situation update for the EU/EEA and the UK, as of 19 March 2020. March 19, 2020. https://www.ecdc.europa.eu/en/cases-2019ncov-eueea (accessed March 19, 2020).
- 3 Xu Y, Li X, Zhu B, et al. Characteristics of pediatric SARS-CoV-2 infection and potential evidence for persistent fecal viral shedding. Nat Med 2020; published online March 13. DOI:10.1038/s41591-020-0817-4.
- Bai Y, Yao L, Wei T, et al. Presumed asymptomatic carrier transmission of COVID-19. JAMA 2020; published online Feb 21. DOI:10.1001/jama.2020.2565.
- 5 US Food and Drug Administration. Fecal microbiota for transplantation: safety alert – risk of serious adverse events likely due to transmission of pathogenic organisms. March 12, 2020. https://www.fda.gov/safety/ medical-product-safety-information/fecalmicrobiota-transplantation-safety-alert-riskserious-adverse-events-likely-duetransmission (accessed March 17, 2020).
- 6 Quraishi MN, Yalchin M, Blackwell C, et al. STOP-Colitis pilot trial protocol: a prospective, open-label, randomised pilot study to assess two possible routes of faecal microbiota transplant delivery in patients with ulcerative colitis. BMJ Open 2019; 9: e030659.
- Mullish BH, Quraishi MN, Segal JP, et al. The use of faecal microbiota transplant as treatment for recurrent or refractory Clostridium difficile infection and other potential indications: joint British Society of Gastroenterology (BSG) and Healthcare Infection Society (HIS) guidelines. Gut 2018; 67: 1920-41.
- 8 Wang W, Xu Y, Gao R, et al. Detection of SARS-CoV-2 in different types of clinical specimens. JAMA 2020; published online March 11. DOI:10.1001/jama.2020.3786.

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