LETTERS

Faecal microbiota transplantation in clinical practice

Dear Sir,

We would like to add some remarks to the report of a consensus meeting about faecal microbiota transplantation (FMT) by Cammarota *et al.*¹

Already, donor faeces banks exist at an institutional or national level in Germany, UK and The Netherlands, to support treatment of patients with recurrent *Clostridium difficile* infection (CDI).² Unfortunately, these centres were not consulted for advice, and it is felt that some conclusions of the report need clarification and adjustments.

First, the statement about expert centres is inaccurate. The critical steps for safe and effective FMT are (1) patient selection, (2) donor (stool) selection and screening, and (3) biobanking of faeces suspensions. We agree that donor screening should be performed by expert centres in which microbiologists and infectious disease specialists participate. However, infusion of a donor faeces solution through a nasoduodenal tube, via colonoscopy or by enema does not justify standard referral of patients with recurrent CDI to a specialised centre. Whenever possible, this should even be discouraged to prevent unnecessary secondary spread of C. difficile.³

Second, the consensus report mentions advantages of the use of frozen donor facces. Unfortunately, the authors do not mention one of its most important advantages, which is the potential of storage until the donor has been retested prior to actual use of the donor facces. Retesting precludes the possibility of missing newly acquired pathogens in donor facces during the window phase between initial testing and donation. We have experienced the appearance of *Blastocystis* spp, rotavirus and Extended Spectrum Beta-Lactamase (ESBL)-positive *Escherichia coli* in the stool of asymptomatic donors on retesting.

With support of a national grant from ZonMw, the non-profit 'Netherlands Donor Feces Bank' (NDFB, http://www. ndfb.nl) was founded to overcome the above problems and to ensure the availability of extensively screened donor faeces samples for patients that may benefit from FMT.⁴ The working group consists of experts in the fields of microbiology, infectious diseases, gastroenterology, biobanking and methodology, and has extensive experience with FMT.⁵ The voluntary donors are carefully selected and screened. Donor faeces is processed to ready-to-use faecal suspensions (200 mL) and stored in a biobank. Per suspension, 60 g of donor faeces is used because a previous systematic review suggested a decreased response rate with $<50 \text{ g.}^6$ Only after retesting of the donor, suspensions are sent out to physicians in hospitals throughout The Netherlands for treatment of patients with recurrent or severe CDI. Before sending out the donor faeces suspensions, the working group is consulted on the indication, and in specific patients, on the mode of delivery. In this way, expert advice is ensured for each individual patient that is treated with donor faeces suspensions of the NDFB. The NDFB stores faeces samples of each donor faeces suspension that is used to guarantee traceability in case of unexpected side effects and collects data about long-term outcome.

In conclusion, a (centralised) stool bank optimises the safety of FMT and permits the infusion of donor faeces solutions to individual patients in local hospitals.

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REFERENCES

- Cammarota G, Ianiro G, Tilg H, et al. European consensus conference on faecal microbiota transplantation in clinical practice. *Gut* 2017;66:569–580.
- 2 Amirtha T. MICROBIOME RESEARCH. Banking on stool despite an uncertain future. *Science* 2016;352:1261–2.
- 3 Kuijper EJ, van den Berg RJ, Debast S, et al. Clostridium difficile ribotype 027, toxinotype III, The Netherlands. Emerging Infect Dis 2006;12:827–30.
- 4 Terveer EM, Keller JJ, van Nood E, et al. Development of a National Donor Feces Bank for fecal microbiota transplantation in The Netherlands. Abstract ID 5101, poster 26th European Clinical Congress of Clinical Microbiology and Infectious Diseases, Amsterdam, The Netherlands, 2016.
- 5 van Nood E, Vrieze A, Nieuwdorp M, et al. Duodenal infusion of donor feces for recurrent *Clostridium* difficile. N Engl J Med 2013;368:407–15.
- Gough E, Shaikh H, Manges AR. Systematic review of intestinal microbiota transplantation (fecal bacteriotherapy) for recurrent *Clostridium difficile* infection. *Clin Infect Dis* 2011;53:994–1002.