Fecal microbiota transplant in immunocompromised patients: Encouraging results in a vulnarable population

Kelly CR, Ihunnah C, Fischer M, et al. Fecal Microbiota Transplant for Treatment of Clostridium difficile Infection in Immunocompromised Patients. Am J Gastroenterol 2014; 109: 1065-71.

Definitely, fecal microbiota transplantation (FMT) is a promising research area in disorders with dysbiosis. It is not a novel therapy, however recent advances in gut microbiota research enabled physicians to practice FMT in a more scientific basis. One of the main drawbacks in FMT is the safety and adverse events, which are not thoroughly documented in large series. Among these, immunocompromised (IC) patients are the most feared and neglected population. Actually, data regarding the safety of FMT in this vulnerable population gives a more concrete confidence to physicians demanding FMT.

Kelly CR et al recently published a multicenter retrospective series on the use of FMT in IC patients with recurrent, refractory or severe *Clostridium difficile* infection (CDI) (1). Eighty patients were enrolled after screening in 16 centers in US. These were 75 adult and 5 pediatric patients. Mean follow-up period was nearly 1 year. Reasons for IC included: HIV/AIDS (n=3), solid organ transplant (n=19), oncologic condition (n=7), immunosuppressive therapy for inflammatory bowel disease (IBD; n=36), and other medical conditions/medications (n=15). The CDI cure rate after a single FMT was 78%, with 62 patients suffering no recurrence at least 12 weeks post FMT. Twelve patients underwent repeat FMT, of whom eight had no further CDI. Thus, the overall cure rate was 89% (which was satisfactory).

There were 12 (15%) cases with adverse events (AE). Of these, four were related, five were possibly related, and three were unrelated to FMT. Three patients underwent colectomy, although none were for CDI. One patient with ulcerative colitis (UC) had a colectomy less than 1 month post FMT for progressively worsening UC, which had not improved after treatment of CDI. Another patient with UC underwent colectomy 105 days post FMT for indeterminate colitis and a third UC patient underwent colectomy 293 days post FMT for worsening UC. Patients with IBD did not experience a higher incidence of severe AEs (11%) or mild AEs (14%) compared with patients IC because of other conditions (18% severe AEs; 16% mild AEs) $p \leq 0.3224$.

There were 36/80 (45%) patients with IBD. Among them, 14% experienced complications post-FMT. Most of them were disease exacerbations after FMT. However, these patients were already refractory to standard treatments and despite short-term complications, three benefited from FMT in terms of their CDI and the course of their IBD. It is not possible to determine whether these flares were attributable to FMT, CDI, or progression of the underlying disease. There is only one case report in the literature possibly linking disease flare in a UC patient after FMT (2).

As a result, FMT in IC patients have an acceptable rate of adverse events and possibly safe in this population. With special emphasis on IBD patients, the AE rates are not higher than other IC patients and there is a clear benefit in this refractory patient group. But we still need prospective longitudinal studies specifically designed for safety concerns in IBD population.

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