

Presentation 1:

A randomised, placebo-controlled study on fecal microbiota transplantation for patients with diarrhea-predominant irritable bowel syndrome (FMT-IBS study)

Prof NG Siew-chien

Professor

Department of Medicine and Therapeutics, Faculty of Medicine
The Chinese University of Hong Kong

Summary:

Irritable bowel syndrome (IBS) is the most prevalent functional gastrointestinal disorders, affecting 10% of the world population. Currently there is no effective treatment for curing IBS, and the pathogenesis of it is still unknown. Accumulated evidence suggested the potential role of gut microbiota in IBS. Faecal microbiota transplantation (FMT) is the transplantation of faecal microbiota from health donors to patients to help recover from disease. FMT has been shown to improve symptoms in a proportion of patients with IBS, but the results from previous studies were highly conflicting. In this study, we performed a randomised trial to assess the efficacy of FMT in patients with diarrhea-predominant IBS. We randomised 56 patients with diarrhoea-predominant IBS 1:1 to FMT or placebo via the duodenal route at baseline and week 4. The primary outcome was ≥ 50 points decrease in IBS severity scoring system (IBS-SSS) score at week 12. Secondary outcomes were improvement in bloating and change in gut microbiota at week 12. After 12-week follow-up, those in the placebo group were assigned to receive open-label FMT. At week 12, 57.1% in the FMT group and 46.4% in the placebo group achieved the primary endpoint. More patients receiving FMT than placebo had improvement in bloating (72% vs 30%; $p = 0.005$). Faecal microbiome of patients in the FMT group showed a reduction in bacteria like *Ruminococcus gnavus* and enrichment of bacteria such as *Lawsonibacter* at week 12, while no change in the placebo group. Functional analyses showed that the hydrogen sulphide-producing pathway decreased in patients who had FMT ($p < 0.05$) accompanied by a reduction in contributing bacteria. There were no serious adverse events related to FMT. In conclusion, FMT performed twice at an interval of four weeks did not significantly reduce IBS-SSS score. However, more patients had improvement in abdominal bloating, which was associated with a reduction in hydrogen sulphide-producing bacteria.