# Correspondence on 'Safety and efficacy of faecal microbiota transplantation for active peripheral psoriatic arthritis: an exploratory randomised placebo-controlled trial'

Did the first randomised trial of faecal microbiotal transplantation in psoriatic arthritis have a negative outcome due to the paradoxical triggering of a reactive type arthritis disease flare?

We read with great interest the report by Kragsnaes *et al* on faecal microbiota transplantation (FMT) in active psoriatic arthritis (PsA).[1] The authors cited the example of reactive arthritis (ReA) as an exemplar of how dysregulation of the intestinal microbiome may contribute to the immunopathogenesis of human arthritis by disturbance of the gut–joint axis. We appreciate that limitations in word count may have constrained Kragsnaes *et al* on commenting further on gut dysbiosis in arthritis. PsA, ankylosing spondylitis (AS), the related inflammatory bowel disease (IBD)-associated arthropathies and ReA all fit within the umbrella term of spondyloarthritis (SpA) where a characteristic feature is subclinical IBD. Indeed, the prevalence of subclinical IBD in AS approaches 50%, and the severity of IBD is directly linked to the severity of arthritis.[2] Subclinical IBD is less frequent in PsA and is in the region of 20%.[3] For a comprehensive evaluation of the gut dysbiosis in PsA, the intestinal barrier–microbiotal interaction would need specific consideration in this group, but we acknowledge that detailed phenotyping was not possible.

While the narrative in SpA–gut axis has historically resolved around the synovium–gut axis, there is strong evidence that experimental arthritis may concomitantly target the gut and the enthesis in both the TNF transgenic mouse and the SKG mouse models.[3 4] Indeed, the gut enthesis axis is an important consideration in man where therapy of IBD with integrin blockers may flare peripheral and axial entheseal pathology.[5] Kragsnaes *et al* employed the Spondyloarthritis Research Consortium of Canada (SPARCC) index where a mean 4.3 unit improvement was noted in the FMT sham group versus 1.9 units in the FMT group.[1] This raises the novel concept that FMT might be transiently disturbing the intestinal homeostasis and favours a flare in disease before later restoration of immune homeostasis, although this was not studied in their report.

We note that ReA may come on for up to 28 days following invasive enteric infections such as salmonella and shigella, which has remained somewhat enigmatic to explain. Perhaps the diarrhoeal effect of washing out the normal microbiota in ReA has a parallel in FMT in that restoration of the normal intestinal microbiome community following diarrhoea may be mechanistically mirrored by the FMT, that likewise disturbs intestinal homeostasis. The question arises as to why did the authors escalate to biological disease modifying drugs (bDMARDs) so quickly? Would steroids have sufficed in the short term and observe until week 24 to reassess changes? This raises the possibility that the FMT-induced changes in the microbiota could be long lasting?

Nevertheless, these intriguing findings remain preliminary and need replication. However, it is clear that there may be a need to partition for patients with PsA and other SpA groups with bone fide subclinical intestinal involvement to evaluate whether 'switching' microbiotal compositions could generally be a detrimental event for the gut–enthesis axis.

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