Editorial

Nutrition and Inflammatory Bowel Disease

In inflammatory bowel disease (IBD), numerous pathogenic factors alter nutritional status, and, although they occur usually very early in the disease process, they still remain often misdiagnosed. Some of these nutritional abnormalities may also persist during remission, presumably interfering with disease course and/or response to treatment. Therefore, it is important to increase our knowledge on the interactions between nutrition and IBD, not only in terms of pathogenesis, but also to provide to patients better care.

Nutritional and/or metabolic alterations participate in IBD pathogenesis and may explain part of their impact on patients' functional performances and quality of life. Beside protein-energy malnutrition and micronutrients deficiencies, recent research taking into account the specific role suggested for hypertrophic mesenteric white adipose tissue in Crohn's disease, have also resulted in a growing number of studies exploring the role of adipokines as inflammatory mediators. These data are summarized by Karmiris *et al*. (pp. 855).

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Although the advent of anti-TNF-alpha antibodies and the growing use of immunosuppressive molecules changed considerably therapeutic strategies in IBD, nutrition still keeps a potential role in IBD treatment. As developed by Kappelman and Bousvaros (pp. 867), malnutrition is of particular concern in children suffering from Crohn's disease and may result in complications such as growth failure, delayed puberty, or osteoporosis. In addition, enteral nutrition (EN) represents a safe treatment in paediatric Crohn's disease, with some evidence suggesting that children respond better than adults. Nevertheless, as noted by Dupont *et al*. (pp. 875), EN may also be used in some clinical situations in adults, with recent studies suggesting supplemental EN as an alternative for maintenance treatment both in patients where remission has been obtained by medical treatment and in those in remission after surgery.

Provision of specific nutrients is another research direction to evaluate the potential benefit of nutritional support in IBD. Numerous experimental work overviewed by Philip Calder (pp. 885) demonstrates the strong potential for several polyunsatured fatty acids in regulating systemic and intestinal inflammatory and immune response. This evidence should encourage investigators to perform "better designed and larger trials to assess the therapeutic potential" of these fatty acids.

Prebiotics, probiotics, and synbiotics may also be considered as interesting in IBD management. Recent literature concerning these functional foods is reviewed in the articles by Steed *et al*. (pp. 898) and Seksik *et al*. (pp. 906). Nevertheless, as stated by the authors, although they appear of interest, in particular regarding the increasing role attributed to the interactions of microbial flora and intestinal immune response in IBD pathogenesis, many questions remain unanswered and further clinical and fundamental studies are needed.

Finally, very exciting results have recently suggested that bacteria from the intestinal flora can be considered not only as of therapeutic interest through their probiotic potential, but also as tools for driving therapeutic molecules to the target organ *i. e.* the inflamed intestine. Beside genetically modified *Lactococcus lactis* for intestinal delivery of human interleukin-10 which have been suggested to be of potential therapeutic interest in IBD, Yuvaraj *et al*. (pp. 913) provide original data on human scFv SIgA expressed on *Lactococcus lactis* which may be used as vectors for targeted drug delivery in IBD or other intestinal disease.

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