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Targeting intestinal microflora in inflammatory bowel disease

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TO THE EDITOR

In their recent review article[1], Andoh and Fujiyama examined the various therapeutic approaches targeting intestinal microflora in patients with inflammatory bowel disease (IBD). I would like to provide some additional data to complete and update their comments. First of all, when considering the role of probiotics in IBD treatment it must be emphasized that, in addition to *Bifidobacteria*, the *Nissle 1917 E. coli* strain and cocktails of microorganisms such as *VSL # 3* mentioned in the article, other probiotic agents have been tested in the short- and long-term treatment of either ulcerative colitis and Crohn's disease, the results of those studies being reported in major international scientific journals.

For instance, *Saccharomyces boulardii*, a non-pathogenic yeast, which is widely used in the treatment of diarrhea and is effective in preventing relapse of *Clostridium difficile* infection[2], has been employed in the maintenance treatment of patients with inactive Crohn's disease[3]. Thirty-two patients were randomly allocated to a six-month maintenance therapy either with mesalazine alone (500 mg of sustained-release microgranules, 3 times daily) or with the same mesalazine preparation 500 mg twice daily plus *Saccharomyces boulardii* 500 mg once daily. Clinical relapse, defined as CDAI > 150 with an increase of 100 points over the baseline values for more than 2 wk, was observed in 37.5% of patients receiving mesalazine alone and in only 6.25% of subjects in the group treated with mesalazine plus *Saccharomyces boulardii* ($P = 0.04$ by Fisher's exact test).

Furthermore, in 25 patients with a history of poor tolerance to corticosteroids, who had a clinical flare-up of mild to moderate left-sided ulcerative colitis while on maintenance with mesalazine, *Saccharomyces boulardii* (250 mg, 3 times daily) was added to the ongoing mesalazine treatment for 4 wk[4]. Clinical evaluation was performed before and after the treatment with Rachmilewitz's activity index. Clinical remission, -Endoscopically confirmed clinical emission was achieved in 68% of cases on an intention-to-treat basis.

Although the effect of each probiotic agent is different, placebo-controlled clinical trials employing *Lactobacillus GG* in the maintenance treatment of Crohn's disease have failed to show any significant effect in preventing recurrences at 6-24 mo[5,6]. However, the probiotic is able to maintain clinical remission of ulcerative colitis[7].

Finally, when considering the possible role of antibiotics in IBD, the recent data on rifaximin, a poorly absorbable antibacterial agent, must be quoted. A double-blind, placebo-controlled trial showed that addition of 800 mg rifaximin twice a day for 12 wk is effective in inducing clinical remission of active Crohn's disease[8]. It was reported that 400 mg rifaximin twice daily for 4 wk can achieve clinical remission in 76% of ulcerative colitis patients who had relapse while on mesalazine maintenance[9].

The virtual absence of systemic side-effects and the encouraging results reported so far suggest rifaximin can effectively inhibit the intestinal flora in IBD patients without severe side effects.

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