



Treatment of salmonellosis and shigellosis with *Saccharomyces boulardii*

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Introduction

The shigella and salmonella are the most common pathogen of acute intestinal infections in Ukraine. There are not great benefits of antibiotic therapy of infectious diarrhea. There has recently a growing interest in use of *Saccharomyces boulardii* (S.B.) in the treatment of infectious diarrhea. The effects of prescribing of the non-pathogenic yeast for treatment of shigellosis and salmonellosis are not fully clear.

Material and Methods

We randomly assigned 173 patients with salmonellosis caused by *Salmonella enterica enteritidis* (86 female, 87 males) aged between 19 and 49 (mean age 31) years. The efficacy of S.B. were investigated in patients who were treated with S.B. at a daily dose between 500/750 mg, ciprofloxacin daily dose 500 mg (3 days) and oral-rehydration solution. Standard therapy was ciprofloxacin daily dose 1000 mg (5 days) and oral-rehydration. The efficacy of S.B. was determined on the basis of frequency and consistency of stool, changes of symptoms and differences of microbiological composition of feces.

Results

The mean frequency of stool in periods 24-48 hours and 96-120 hours after enrollment were significantly lower in the S.B. group (5.6 ± 1.8 ; 1.4 ± 0.6) than in the standard therapy group (7.6 ± 0.8 ; 3.9 ± 0.8 $P=0.4$ and $P=0.02$ respectively). The length of time to the first formed stool was mean of 6.8 ± 1.0 days among the patients treated with standard therapy, but it was significantly shorter among the patients in the S.B. group (4.1 ± 0.5 days $P=0.02$). Results of fecal culture in compared groups were different. The mean data of microbiological structure in group with the S.B. therapy was significantly different (*Bifidobacterium* sps. Ig1 10.4 ± 0.9 ; *Lactobacillus* sps. Ig2 6.9 ± 0.5 ; *Escherichia coli* Ig3 8.4 ± 0.6) than group with oral-rehydration Ig1 8.0 ± 0.5 $P=0.05$; Ig2 5.2 ± 0.4 $P=0.01$; Ig3 6.2 ± 0.3 $P=0.02$ respectively).

Conclusion

The addition of *Saccharomyces boulardii* with therapy reduces frequently of stool and fluid loss and shortens the duration of diarrhea in patient with salmonellosis. The present study shows that in patient with salmonellosis and shigellosis, *Saccharomyces boulardii* allows to shorten antibacterial therapy. It is the reason of successfully increasing level of the normal microflora in intestine, which is effected in salmonella and shigella infection.

Keyword(s): shigellosis, Treatment, Probiotic, *Saccharomyces boulardii*

