



## 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 ( $5.6 \pm 1.8$ ;  $1.4 \pm 0.6$ ) than in the standard therapy group ( $7.6 \pm 0.8$ ;  $3.9 \pm 0.8$   $P=0.4$  and  $P=0.02$  respectively). The length of time to the first formed stool was mean of  $6.8 \pm 1.0$  days among the patients treated with standard therapy, but it was significantly shorter among the patients in the S.B. group ( $4.1 \pm 0.5$  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. lg1  $10.4 \pm 0.9$ ; *Lactobacillus* sps. lg2  $6.9 \pm 0.5$ ; *Escherichia coli* lg3  $8.4 \pm 0.6$ ) than group with oral-rehydration lg1  $8.0 \pm 0.5$   $P=0.05$ ; lg2  $5.2 \pm 0.4$   $P=0.01$ ; lg3  $6.2 \pm 0.3$   $P=0.02$  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*

