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**Objective.** The evaluation of the efficacy and safety of *L. reuteri* DSMZ17648 intaking once or twice a day during 28 days for *H. pylori* positive patients.

**Patients and methods.** The study included 60 patients (male 23, age 45.5 + 13.2 years). Exclusion criteria were: taking of PPIs or antibiotics in the past 30 days. Bacterial load of *H. pylori* by <sup>13</sup>C-UBT and endoscopy with morphological study by the OLGA system were performed initially and at end of treatment. The patients were divided into 2 groups: 30 patients in the 1<sup>st</sup> group received *L. reuteri* DSMZ17648 (Helinorm/Pylopass™) 200 mg once a day, 30 patients in the 2<sup>nd</sup> group - twice a day.

**Results.** The bacterial load reduction of *H. pylori* was found in 56.5% of patients in the 1<sup>st</sup> group and in 70.4% patients in the 2<sup>nd</sup> group (Table 1). The average breath test value didn't change in the 1<sup>st</sup> group (initially 10.2 ± 5.2‰, after treatment 9.9 ± 7.6‰, p = 0,424). In the 2<sup>nd</sup> group we found a significant decrease the average of *H. pylori* dissemination (12.2±7.3‰ vs. 7.9±6.6‰, p=0,02) (Table 2; Figure 1). The morphological evaluation after 28 days of treatment showed the reduction of the degree of gastritis in the 1<sup>st</sup> group in 25% of patients and in the 2<sup>nd</sup> group – in 28.6%. (Table 3).

It was noted, when the average of *H. pylori* dissemination determined by <sup>13</sup>C-UBT decreased, also the degree of inflammation of the gastric mucosa according to the morphological study was statistically significant reduced (Table 4).

No side effects were recorded. Similar improvement of dyspepsia symptoms was observed in both groups (Figure 2).

Table 1. The changes of the <sup>13</sup>C-UBT test after 28 days

	group 1 (n=27)		group 2 (n=27)	
reduction	14	51.9%	19	70.4%
no changes	4	14.8%	3	11.1%
elevation	9	33.3%	5	18.5%

Table 2. The changes of average of the <sup>13</sup>C-UBT after 28 days treatment

	before treatment	after treatment	p
group 1	10.2±5.2‰	9.9±7.6‰	0.424
group 2	12.2±7.3‰	7.9±6.6‰	0.02

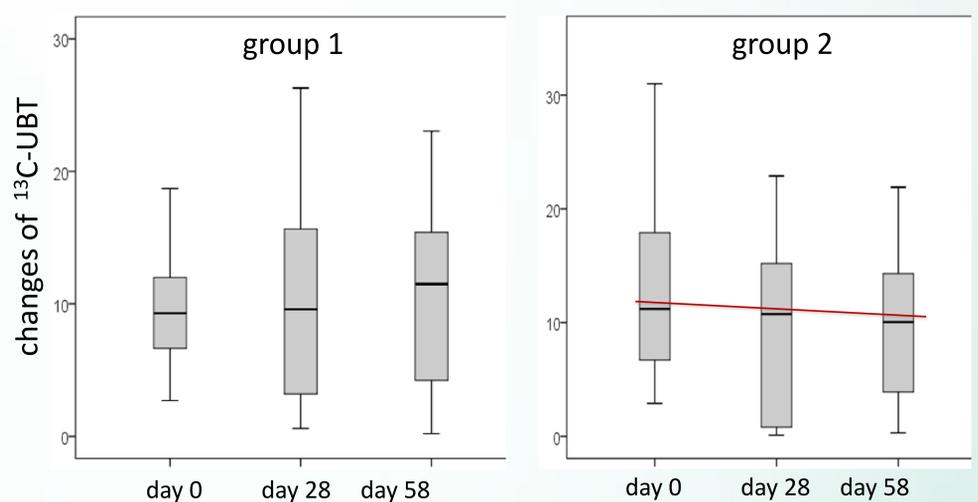


Figure 1. The changes of average of the <sup>13</sup>C-UBT after 28 days treatment and 28 days follow-up

Table 3. Morphological dynamics after 28 days

Grade of gastritis	group 1 (n=20)		group 2 (n=21)	
reduction	5	25%	6	28.6%
without changes	14	70%	12	51.1%
elevation	1	5%	3	14.3%

Table 4. Correlation between morphological and microbiological data

The first variable	The second variable	The value of the Spearman correlation coefficient	p	The strength of the correlation relation
Dissemination of <i>H. pylori</i> by <sup>13</sup> C-UBT	Grade of gastritis	0.475	<0.001	Medium
Dissemination of <i>H. pylori</i> by <sup>13</sup> C-UBT	Stage of gastritis	0.387	0.003	Medium
Stage of gastritis	Grade of gastritis	0.740	<0.001	Strong

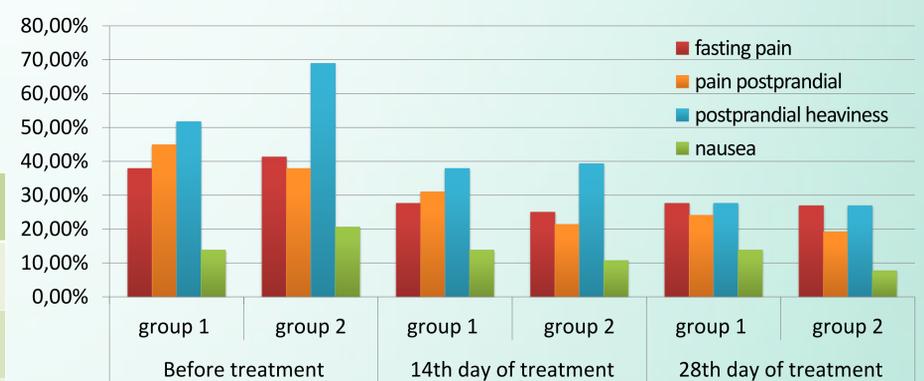


Figure 2. The dynamics of clinical symptoms of the disease

**Conclusion:** We found that the 28-day *L. reuteri* DSMZ17648 intaking twice a day lead to the reduction of *H. pylori* load in the stomach.