Impact of age, gender and addition of probiotics on treatment success for helicobacter pylori in children

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Introduction

- Helicobacter pylori (HP) may cause gastritis, peptic ulcer disease in children and adults and may even cause gastric adenocarcinoma and MALT lymphoma.
- Recent publications suggest relatively high treatment failures in the young age groups and an advantage of addition of probiotics to the treatment regimen.

Aim

- In this study we aimed to assess the effect of gender and age and the addition of probiotics on HP eradication in our cohort.

Methods

- We retrospectively collected data (2000-present) on children (age up to 18 years) who were positive for HP in one of the routine methods, had upper endoscopy and were treated.
- Decision to treat at any age was based on endoscopic findings of peptic disease or severe gastritis.

Methods

- Initial treatment included triple therapy alone, after the publications on the advantages of probiotic treatment on HP eradication the probiotic agent "probiotic forte" was routinely added to the treatment regimen.

Treatment Regimens

- First line: Amoxicillin 50 mg/kg/day, Clarithromycin 15mg/kg/day BID, omeprazole 1mg/kg/day bid±probiotic forte for 10 days.
- Second line: Amoxicillin 50 mg/kg/day, metronidazole 20mg/kg/day BID, omeprazole 1mg/kg/day bid±probiotic forte for 14 days.

Probiotica forte

- *Bifidobacterium bifidum* $1x10^9$
- *Lactobacillus acidophilus* $1.5x10^9$
- *Lactobacillus casei* $0.5x10^9$
- *Lactobacillus rhamnosus* $0.5x10^9$
- *Streptococcus thermophilus* $1x10^9$

Results

- 409 children were treated with first line therapy, 168 (41%) and 241 (59%) of them were treated with or without probiotic agent respectively.
- 327 (80%) had a breath test or stool antigen for assessment of eradication.
- Eradication was noted in 94/130 patients (72%) and in 128/197 patients (65%) with or without probiotic agent respectively (p=0.23).

Results

- Second line treatment was successful in 72% and 45% respectively (p=0.053).
- Success rates at ages 2-11 years and 11-18 years were 61% and 71% respectively (p=0.068).
- Successful eradication rates for boys were higher than girls (75% vs. 63% respectively p=0.028).

Conclusions

- Boys have better HP eradication rates compared to girls.
- Although a trend was noted for better success rates in older age and with addition of probiotic agent, this has not reached a statistical significance.
- Nevertheless, the addition of probiotic agent may be more efficient in 2nd line treatment.