



Rifaximin in Diarrhea Dominant Irritable Bowel Syndrome: Does it help?

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Abstract

Introduction: Irritable bowel syndrome (IBS) especially diarrhea dominant is a common condition characterized by recurrent abdominal pain associated with altered bowel habit. Significant negative impact on quality of life (QOL). No clinically significant useful biomarkers, with a multifactorial etiology and symptom based diagnosis. Need for safe and effective therapies for IBS is unmet. **Aim of the study:** This is a prospective study to assess the efficacy, safety and side effects of the use of Rifaximin in cases with IBS with predominant diarrhea and/or bloating. **Methods of the study:** This is a prospective randomized study. He study included 68 study group. Patients were selective randomly who had IBS diarrhea and/or bloating. Group study group received Rifaximin 550mg three times daily for 2 weeks. **Results:** Most of the patients had a significant improved in their symptoms as well as quality of life. No side effects were observed during the study as well a very well safety profile. **Discussion:** Rifaximine in a dose of 550 mg three times daily for two can induce marked improvement of symptoms if IBD related diarrhea and bloating especially in patients with no improvement on other treatments. Thus we recommend it's use in these patients with adequate knowledge of its effects, side effects or contraindication.

Keywords: IBS, abdominal pain, IBS diarrhea, Rifaximin.

Introduction

Irritable bowel syndrome (IBS) is a common condition characterized by recurrent abdominal pain associated with altered bowel habit. Significant negative impact on quality of life (QOL). No clinically significant useful biomarkers, with a multifactorial etiology and symptom based diagnosis. Need for safe and effective therapies for IBS is unmet. The diagnosis of IBS is mainly according to a heterogeneous group of symptoms with recurrent GI symptoms as; abdominal pain and discomfort, bloating, altered bowel habits (diarrhea, constipation, both). The diagnosis of IBS is symptom based (Rome Criteria I, II or III)⁽¹⁾. IBS burden is around of the general population in western

countries have IBS symptoms. Only 25% ever seek medical care for their IBS. Patients with IBS visit the doctor more frequently, use more diagnostic tests, consume more medications, miss more workdays, have lower work productivity, are hospitalized more frequency, and consume more overall direct costs than patients without IBS⁽²⁾. Recent evidence suggests that a shift in the host–gut microbial relationship as seen in small intestinal bacterial overgrowth (SIBO) may contribute to the pathogenesis of irritable bowel syndrome (IBS). The overgrowth of microbiota in the small intestine can cause excessive gas production and malabsorption with a variety of nonspecific symptoms,

such as diarrhea, gas bloating, abdominal pain and constipation⁽³⁾. Recent evidence suggests a role for gut bacteria and antibiotics in the pathophysiology and treatment of IBS respectively⁽⁴⁾.

Aim of the study:

This is a prospective study to assess the efficacy, safety and side effects of the use of Rifaximin in cases with IBS with predominant diarrhea and/or bloating.

Materials and Methods

This is a prospective randomized study. He study included 68 study group. Patients were selective randomly who had IBS diarrhea and/or bloating. Group study group received Rifaximin 550mg three times daily for 2 weeks. The initial duration of the study was 24 weeks during which an assessment of the improvement were done after initial 2 weeks and then after 8 weeks and at the end of the study ; 24 weeks, through a visual analogue score from 0-10; 0 =no symptoms to 10 with severe symptoms. To simplify the scoring system (0-3 –Mild) (4-7 moderate) (8-10 severe). An initial assessment was done on the visual analogue score before starting the treatment and then at 2 weeks and at 8weeks and after 24 weeks. However for easier interpretation of data the results will be converted to a percentile (%) with the highest percentage with worse symptoms and the lower the percentile will mean better or improved symptoms and

the deduction will show the percentage of improvement.

Inclusion criteria & Exclusion criteria:

- age 18 years and above.
- not receiving antibiotics or intestinal antiseptic for at least two weeks.
- not on any sort of neuropsychiatric drugs for IBS or otherwise.
- no history of abdominal disease, gastritis-ulcer-abdominal surgery.
- no history of constipation dominant IBS.
- No patients with IBD.
- no history of Diabetes, thyroid disease, renal or hepatic disease.
- All patients were advised not to take any extra medication except those on hypertensive drugs, other with any new or severe symptoms, patients were advised to visit us back.

Results

The study included 68 patients, 39 females and 29 males, with the age group ranging from 18 to 65 years with a mean age of 41.5 years.

The following table will show the severity of the symptoms at the initial presentation and after 2 weeks of treatment and after 8 weeks and an average score after 8 weeks (end of treatment) and at the end of the study at 24 weeks. (Table 1).

Table 1 shows the severity of the symptoms at different intervals

*	START 100% severity	2 WKS 100% severity	8 WKS 100% severity	AVG 100% severity	24W END 100% severity	Average % of improvement	Statistical significance
ALL PTS	51%	32%%	24%	28%	22%	24.5%	P<0.05) sig
FEMALES	56% %	36%	25%	33%	25%	29.7%	P<0.05) sig
MALES	51%	32%	25%	29%	28%	28.5	P<0.05) sig

All patients received the treatment without any other medications except for proper as recommended food and water intake. During the study most of the patient achieved considerable continues improvement. Most of the patients had a significant improved in their symptoms as well as quality of life. No side effects were observed during the study as well a very well safety profile.

Discussion

Patients with IBS may have alterations in the intestinal microbiota⁽⁵⁻⁷⁾. Thus leading investigators to consider targeting the intestinal microbiota for the treatment of this condition. Although some patients have had improvement with neomycin therapy, clinical trials have shown that it has marginal efficacy, and side effects limit the use of the drug⁽⁸⁾ <http://www.nejm.org/doi/full/10.1056/NEJMoa1004409> - ref8 Rifaximinan oral,

nonsystemic, broad-spectrum antibiotic that targets the gut and is associated with a low risk of bacterial resistance⁽⁹⁻¹¹⁾. It has shown efficacy in small-scale studies of IBS^(12,13) [http://www.nejm.org/doi/full/10.1056/NEJMoa1004409 - ref13](http://www.nejm.org/doi/full/10.1056/NEJMoa1004409-ref13) . In Egypt the levels of pollution are relatively considered to be higher through food and water, so during the early stage about designing the study we thought that the results may be even better than other (though) few studies. Indeed the results were even better than expected and thus supports the recent evidence suggests that a shift in the host–gut microbial relationship as seen in small intestinal bacterial overgrowth (SIBO) may contribute to the pathogenesis of irritable bowel syndrome (IBS). The overgrowth of microbiota in the small intestine can cause excessive gas production and malabsorption with a variety of nonspecific symptoms, such as diarrhea, gas bloating, abdominal pain and constipation⁽³⁾. Rifaximine in a dose of 550 mg three times daily for two can induce marked improvement of symptoms if IBD related diarrhea and bloating especially in patients with no improvement on other treatments. Thus we recommend it's use in these patients with adequate knowledge of its effects, side effects or contraindication.

References

- 1-Longstreth et al. Gastroenterology.2006; 130(5): 1480-1491.
- 2-Brandit LJ, et al. Am J Gastroenterol. 2009; 104(spl.): S1.
- 3-Quigley E., Quera R. (2006) Small intestinal bacterial overgrowth: roles of antibiotics, prebiotics, and probiotics. Gastroenterology 130(2 Suppl. 1): S78–S90 [PubMed].
- 4- Pimentel M., Morales W., Chua K., Barlow G., Weitsman S., Kim G., et al. (2011b) Effects of rifaximin treatment and retreatment in non-constipated IBS subjects. Dig Dis Sci 56: 2067–2072 [PubMed].
- 5-Ringel Y, Carroll IM. Alterations in the intestinal microbiota and functional bowel symptoms. Gastrointest Endosc Clin N Am 2009; 19: 141-150
- 6-Posserud I, Stotzer P, Bjornsson E, Abrahamsson H, Simren M. Small intestinal bacterial overgrowth in patients with irritable bowel syndrome. Gut 2007; 56: 802-808
- 7-Kassinen A, Krogius-Kurikka L, Makivuokko H, et al. The fecal microbiota of irritable bowel syndrome patients differs significantly from that of healthy subjects. Gastroenterology 2007; 133: 24-33
- 8-Pimentel M, Chow EJ, Lin HC. Normalization of lactulose breath testing correlates with symptom improvement in irritable bowel syndrome: a double-blind, randomized, placebo-controlled study. Am J Gastroenterol 2003; 98: 412-419
- 9-Gerard L, Garey KW, DuPont HL. Rifaximin, a nonabsorbable rifamycin antibiotic for use in nonsystemic gastrointestinal infections. Expert Rev Anti Infect Ther 2005; 3: 201-211
- 10-Jiang ZD, DuPont HL. Rifaximin: in vitro and in vivo antibacterial activity -- a review. Chemotherapy 2005; 51: Suppl:67-72
- 11-Debbia EA, Maioli E, Roveta S, Marchese A. Effects of rifaximin on bacterial virulence mechanisms at supra- and sub-inhibitory concentrations. J Chemother 2008; 20: 186-194
- 12-Sharara AI, Aoun E, Abdul-Baki H, Mounzer R, Sidani S, Elhadj I. A randomized double-blind placebo-controlled trial of rifaximin in patients with abdominal bloating and flatulence. Am J Gastroenterol 2006; 101: 326-333
- 13-Pimentel M, Park S, Mirocha J, Kane SV, Kong Y. The effect of a nonabsorbed oral antibiotic (rifaximin) on the symptoms of the irritable bowel syndrome: a randomized trial. Ann Intern Med 2006; 145:557-563.

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