

## Long-Term Outcome of Rifaximin Therapy in Non-constipation Irritable Bowel Syndrome

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To the Editor,

The article by Pimentel et al. [1] on rifaximin retreatment of irritable bowel syndrome (IBS) was read with interest because of the shortage of published long-term data in this area. However, there are two concerns with this report. First, the patients in the study were recruited from a university medical center and therefore may not be representative of a community practice patient population. Second, use of prophylactic medication was not outlined, and this could influence the rate of IBS recurrence after rifaximin therapy.

To investigate these issues, a retrospective chart review of patients with diarrhea-predominant or alternating IBS from a community-based gastroenterology center was performed. Medical charts of patients with non-constipation IBS and suspected small intestinal bacterial overgrowth who received rifaximin 800–1,800 day for 10–14 days between 2005 and 2011 were captured from an electronic database based on medical codes for bacterial overgrowth ( $n = 95$ ). Small intestinal bacterial overgrowth was suspected in patients with an abnormal rise in hydrogen and/or methane above 20 ppm from baseline at or before 90 min if diagnosed after 2009 or at or before 180 min if diagnosed before 2009 or in patients who displayed other clinical features suggestive of the disorder (e.g., postprandial distention and foul gas). In patients who

required rifaximin retreatment for recurrent symptoms, most (65%) received the same treatment regimen as prescribed initially.

Seventy patients (74%) had an adequate response to initial rifaximin treatment (i.e., had significant relief of IBS symptoms based on clinical notes and patient reporting after rifaximin therapy). Of these patients, 49 (70%) received  $\geq 1$  retreatment courses of rifaximin during a mean follow-up of 3.5 years (range 0.75–6.4). Response to rifaximin retreatment and the durability of the response did not decline with increasing number of retreatment episodes (Table 1).

Seven adequate responders (9%) received rifaximin without initial prophylactic therapy. Of these, four patients did not receive prophylactic therapies during a mean of 3.1 years (range 0.5–5) and required a mean of 2 (range 1–3) additional rifaximin treatments. Sixty-six patients (94%) received rifaximin in combination with  $\geq 1$  prophylactic therapy administered singly: tegaserod ( $n = 13$ ), erythromycin ( $n = 45$ ), naltrexone ( $n = 26$ ), and probiotics ( $n = 20$ ). Long-term, low-dose rifaximin was required to maintain remission in seven patients because other prophylactic therapies were ineffective. Nineteen of the 66 initial adequate responders who received prophylactic therapy experienced sustained symptom improvement during a mean follow-up of 2.7 years (range 0.4–12.2). Of the 49 patients who had  $\geq 1$  rifaximin retreatment while receiving prophylactic therapy, an average of 2.2 rifaximin retreatments was required (range 1–7) during a mean of 3.8 years (range 0.75–6.4).

These data demonstrate that the majority of patients (74%) with non-constipation IBS in a community gastroenterology practice experienced relief of IBS symptoms after their initial course of rifaximin and that most responded to rifaximin retreatment. These observations are

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**Table 1** Symptom response and duration of efficacy in patients with non-constipation IBS who received rifaximin

Number of treatment episodes	Mean response to rifaximin therapy <sup>a</sup>	Median duration of response, mo $\pm$ SD
Initial ( $n = 70$ )	$1.8 \pm 0.35$	NA
$\geq 1$ ( $n = 49$ )	$1.9 \pm 0.33$	$7 \pm 10$
$\geq 2$ ( $n = 34$ )	$1.9 \pm 0.24$	$10 \pm 10$
$\geq 3$ ( $n = 10$ )	$1.7 \pm 0.67$	$9 \pm 9$
$\geq 4$ ( $n = 5$ )	$2 \pm 0$	$9 \pm 22$
$\geq 5$ ( $n = 4$ )	$1.5 \pm 1$	$12 \pm 18$
$\geq 6$ ( $n = 3$ )	$2 \pm 0$	$14 \pm 18$
$\geq 7$ ( $n = 1$ )	$2 \pm 0$	$9 \pm 0$

IBS irritable bowel syndrome, NA not available, SD standard deviation

<sup>a</sup> Response to rifaximin was categorized as failed, good, or very good using a 3-point scale (0 = failed; 1 = good; 2 = very good) based on clinical notes

similar to those reported by Pimentel et al. [1] in patients from a university medical center, suggesting that rifaximin

may be beneficial in a variety of IBS patient populations. Because patients who received prophylactic therapy generally had severe IBS symptoms or a prolonged history of IBS, no conclusions regarding the need for retreatment in patients who received prokinetic therapy after rifaximin treatment can be drawn. Further research to determine the efficacy of different rifaximin-inclusive treatment regimens for maintenance of remission would be beneficial.

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## References

1. Pimentel M, Morales W, Chua K, et al. Effects of rifaximin treatment and retreatment in nonconstipated IBS subjects. *Dig Dis Sci*. 2011;56:2067–2072.

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