

High-Dose Berberine: Support for Irritable Bowel Syndrome

by Michelle Morgan

What is Already Known

- berberine is an alkaloid present in several herbs including the bark of *Phellodendron amurense*
- berberine-containing herbs have been used traditionally for anti-diarrhoeal activity in China and India
- berberine has been used successfully in several clinical studies, for example, at a dosage of 400 mg/day for traveller's diarrhoea (but less successfully for cholera), and the mechanism is likely to involve more than antibacterial activity
- berberine has continued to be used as an over-the-counter antibacterial product in China for many decades
- clinical studies have verified hypoglycaemic and hypolipidaemic activity demonstrated at daily doses of berberine of 500 mg or more (commonly 900 mg or more)
- some mild gastrointestinal discomfort observed, including at doses of 900-1000 mg/day
- contraindicated in pregnancy

In China, berberine has been used to treat irritable bowel syndrome. There are few details available in English, however, in one controlled trial, berberine at a dose of 600 mg/day for 14 days improved symptoms, especially diarrhoea with a total rate of effectiveness of 70%.¹ In two clinical trials, the total effective rate in patients with diarrhoea-predominant IBS improved from 70% when treated with berberine to 90% when berberine was combined with a probiotic. One trial used a dose of 900 mg/day of berberine, taken for 3 weeks.^{2,3}

The results of a double-blind, controlled trial conducted in China were published in 2015.⁴ Patients with diarrhoea-predominant IBS, and who fulfilled the Rome III criteria, were randomised to receive treatment with berberine (400 mg/day) or placebo (vitamin C at a dose of 400 mg/day) for 8 weeks. Patients were assessed after 8 weeks, and for follow-up at week 12. One hundred and thirty-two adults completed the trial. Treatment with berberine:

- reduced the frequency of diarrhoea significantly from baseline values ($p < 0.01$), and the frequency of diarrhoea was significantly lower in the berberine group compared to placebo ($p = 0.032$);

- reduced abdominal cramping by 64.6%, compared to the placebo group which experienced a reduction of 29.4% (berberine superior to placebo; $p < 0.01$);
- but not placebo, resulted in a significant decrease in the frequency of urgent need for defaecation;
- significantly improved overall IBS symptom score, depression and anxiety scores, as well as quality of life.

Eight patients of the 70 who completed berberine treatment, reported slightly upset stomach.

This trial, and an earlier study, showed that symptoms return several weeks after the cessation of treatment, so berberine may be suitable within a broader treatment protocol.

Key Points at a Glance

- Berberine has been used singly, or combined with probiotics, to treat irritable bowel syndrome in China.
- In a double-blind, placebo-controlled trial berberine (400 mg/day) significantly reduced symptoms in patients with diarrhoea-predominant IBS such as diarrhoea and abdominal cramping, and improved quality of life.
- Symptoms may return upon cessation of treatment, so berberine may be suitable as part of a broader treatment protocol.

REFERENCES

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