

The impact of probiotics in IBS management

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Introduction

This episode is the last in our series on managing irritable bowel syndrome (IBS). Although IBS may not be life-threatening, it can greatly impact the quality of life (QoL) in those with severe symptoms, estimated to be 1 in 4 patients.¹ Here, we learn how probiotics can alleviate even severe IBS by reviewing the efficacy of a specific strain through two lenses – a patient case study and a large-scale clinical trial.

Previously, we have explored coping strategies for IBS and gained valuable insight from a closer look at the diagnosis and management of two clinical cases. These lessons underscore the importance of treating both pain and altered bowel habits, and in the final episode we will consider the role of Bifidobacterium longum 35624 (B. longum; formerly B. infantis) in this strategy.

We review the potential for evidence-based probiotics to fill the therapeutic gap in more severe presentations of IBS where other interventions may have failed. With the understanding that not all probiotics are the same, we consider the efficacy of B. longum 35624 across IBS subtypes and severities.



Prof. Jean-Marc Sabaté is a consultant in Avicenne hospital and a teacher in Sorbonne Paris Nord University. He is also the co-founder and President of the French Association of Patients Suffering from Intestinal Bowel Syndrome, positioning him as highly experienced within the field of IBS.

Before illustrating his patient's history, Prof. Sabaté reminds us of the basics of IBS. Next, he dives into his clinical case to explore the role of microbiota in IBS management, explaining the patient journey that led to the use of *B. longum* 35624. He then explores how this case mirrors the positive results of *B. longum* 35624 in IBS with constipation, diarrhea and mixed presentations across mild to severe disease.

Aim of the webinar

To explore « The impact of probiotics in IBS management » Prof. Jean-Marc Sabaté covers:

- A brief overview of IBS, including the mechanisms of the pathology, how it is managed today, and the impact of microbiota in the disease pathophysiology.
- A clinical case study of severe treatment refractory IBS-D and the patient journey that led to a successful intervention with *B. longum* 35624, including supporting clinical trials.
- The latest clinical efficacy data validating the use of *B. longum* 35624 across IBS subtypes and symptom severities to improve disease severity and QoL.

Key lessons

- *IBS has a complex and multifactorial pathophysiology, and several of its disease mechanisms have been linked to microbiota in both animal and human trials.*
- *Patients with severe IBS often face reduced QoL, and may present to clinic having tried many lifestyle and pharmacological interventions, including other probiotics.*
- *However, results from one probiotic strain cannot be extrapolated to another, and clinicians should strongly consider prescribing an evidence-based probiotic for the management of IBS.*
- *This is supported by recent clinical evidence, where *B. longum* 35624 has been shown to significantly improve symptom severity and QoL.*

Overview of IBS mechanisms and treatment pathways

Clinical evidence suggests the importance of microbiota in IBS, and animal and human studies suggest microbiota are linked to several of the disease mechanisms.¹ The IBS pathophysiology includes peripheral and central factors.^{2,3,4}

Peripheral mechanisms

- Microinflammation
- Intestinal permeability
- Motor disorders
- Dysbiosis
- SIBO and biliary acid metabolism
- Food intake

Central mechanisms

- Stress, depression, and anxiety
- Sexual abuse – in some cases
- Abnormal pain control
- Visceral sensitivity (primarily hypersensitivity)

The first-line treatment of IBS involves therapeutic education and explanation, lifestyle advice and diet modifications. Pharmacologic interventions include antispasmodics, transit-modifying drugs, probiotics, and antidepressants in severe cases. Patients may also seek alternative therapies including CBT and hypnosis.

Case study: Illustrating the role of probiotics in treating severe IBS

Patient presentation:

- 66 years, female
- 47-year history of post-infectious IBS-D
- 6-7 bowel movements per day with urgency, Bristol stool scale (BSS) 6-7
- Abdominal pain, bloating, and occasional incontinence
- Symptoms aggravated by eating
- Normal BMI
- Normal endoscopy and CT scan
- Normal CRP, TSH, TGab, and stool sample
- Refractory to loperamide, cholestyramine, antispasmodics, low FODMAP, and some probiotics
- Retired, no tobacco or alcohol intake, with high-stress levels

This case represents a severe presentation of IBS with impairment of QoL caused by urgency and incontinence. Although previous microbiotic intervention was unsuccessful, it is important to note that the efficacy of probiotics cannot be extrapolated between strains and species.

Treatment with *B. longum* 35624 was initiated based on promising results from randomized clinical studies showing improved symptoms and inflammatory cytokine profile, and improved abdominal, bloating, and composite symptom scores.^{5,6}

Within weeks, the patient achieved several positive treatment outcomes. Bowel movements decreased from 6-7/day to 1-2/day, with BSS improving from 7 to an average of 3-5. Bloating and abdominal pain reduced. Overall, the IBS symptom severity score (IBS-SSS) improved from 315 (severe) to 145 (mild), which translated to an improved QoL.

B. longum 35624 shows clinical efficacy across IBS subtypes and severities¹

Our patient case study mirrors the positive results across IBS subtypes and severities in a recent prospective, open-label, multicenter study:¹

- Adults with IBS (Rome IV)
 - n = 233 patients evaluated
- Approximately equal proportions of primary subtypes:
 - IBS-C: 30.5%
 - IBS-D: 38.2%
 - IBS-M: 26.2%
 - IBS-U: 5.2%
- 94.5% of patients had moderate-to-severe IBS
- Daily treatment with 1 capsule of *B. longum* 35624 for 30 days
- Primary endpoints; the proportion of patients with:
 - a decrease of > 50 points in the IBS-SSS score
 - an increase of > 10 points in the IBS-QoL score
- Secondary endpoints:
 - A change in IBS-SSS and IBS-QoL scores
 - Proportion of patients shifting from one severity category to another
 - Stool consistency
 - Proportion of patients and gastroenterologists satisfied with treatment

Both primary endpoints were reached with significance, with *B. longum* 35624 decreasing IBS symptoms across subtypes and severities (IBS-SSS scores: 208 ± 104 vs. 303 ± 81 at baseline, $p < 0.001$) and increasing QoL (IBS-QoL score: 60.2 ± 20.5 at baseline vs. 68.8 ± 20.9 , $p < 0.001$), with significant improvements in all sub-domains of IBS-SSS and -QoL scores ($p < 0.001$). QoL impact was statistically significant but subthreshold to predefined clinical significance (> 10-point score change) except in 36.9% of patients, which may relate to short trial duration.

The improvement in symptoms and QoL translated into changes in severity categories, which is not shown in many probiotic studies. 57% of patients shifted from one category to a lower severity category. In some cases, patients shifted from high to low severity, or from moderate severity to remission. Additionally, treatment was well tolerated, with less than 5% of patients having adverse events and no severe events observed. Upon study completion, approximately 2 in 3 patients and gastroenterologists were satisfied with the treatment.

B. longum 35624 offers hope of symptom relief across the IBS spectrum

This study assessed the impact of *B. longum* 35624 in a real-life setting and the use of Rome IV inclusion criteria meant that patient presentation was more severe.⁷ Such patients typically have impaired QoL and may present in outpatient settings reporting symptoms refractory to all treatments.

The failure of one probiotic cannot be extrapolated to another. The results from this study inculcate that *B. longum* 35624 at this dose is efficacious from mild cases to even the most severe and, unlike many studies, assessed QoL and disease severity at baseline, and demonstrated improvement in the disease category.

Conclusion

IBS is a common condition with complex pathophysiology, including multiple peripheral and central disease mechanisms for which microbiota have been implicated in clinical studies. The role of *B. longum* 35624 in alleviating symptoms and improving QoL has been explored here through a clinical case study and a large randomized clinical trial, demonstrating treatment potential across IBS subtypes and severities. When choosing a probiotic for the management of IBS symptoms, clinicians should make their selection based on robust clinical evidence while also considering the individual patient profile, disease severity, and disruption to QoL.

References to learn more about the topic of the webinar

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