

FROM GUT TO LIVER: MICROBIOTA-BASED INTERVENTIONS FOR NAFLD

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Abstract body

Introduction: Nonalcoholic fatty liver disease (NAFLD) is a widespread metabolic disorder associated with intestinal dysbiosis, low-grade systemic inflammation, and small intestinal bacterial overgrowth (SIBO). Targeting the gut-liver axis through microbiome-modulating therapies may represent a promising approach to disease management.

Aims & Methods: The aim was to investigate gut microbiota alterations in NAFLD patients and assess the efficacy of microbiota-based therapy on metabolic, inflammatory, and structural liver parameters. The study included 152 NAFLD patients and 47 controls. Gut microbiota composition was evaluated using qRT-PCR, and SIBO was diagnosed via hydrogen breath testing. The therapeutic protocol included rifaximin (200 mg TID for 14 days), *Saccharomyces boulardii* CNCM I-745 (1 capsule BID for 30 days), and essential phospholipids (600 mg TID for 30 days). Liver function tests, inflammatory markers, and steatometry were assessed before and after treatment.

Results: Alterations in gut microbiota composition indicative of dysbiosis—including increased Firmicutes/Bacteroides ratio and Actinobacteria abundance—were identified in NAFLD. Strong correlations emerged between the F/B index and triglycerides ($r = 0.78$), $\text{TNF-}\alpha$ ($r = 0.77$), and between Actinobacteria and hsCRP ($r = 0.66$). SIBO rates declined significantly post-treatment (51% $\rightarrow$ 17%). Liver enzymes, inflammatory markers, and steatometric parameters improved substantially ($p < 0.05$).

Conclusion: Microbiota-targeted therapy combining rifaximin, *S. boulardii*, and phospholipids effectively corrected dysbiosis, reduced inflammation, improved metabolic parameters, and promoted liver structural recovery in NAFLD patients. These findings support incorporating microbiome-focused interventions into routine clinical practice for NAFLD.

References

Disclosure

Nothing to disclose: Yes

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General conditions

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