

# LOW-FAT DIET, GUT MICROBIOTA, SERUM METABOLITES, AND THE RISK OF STEATOTIC LIVER DISEASE IN A COMMUNITY-BASED COHORT IN CHINA

Wanshui Yang

UEG Week Berlin 2025

Poster

Hepatobiliary

October 5, 2025

**Higher adherence to low-fat diet was associated with reduced risk of steatotic liver disease in a prospective cohort study of 2,942 Chinese adults, with effects potentially mediated by gut microbiota changes and reduced serum acylcarnitines.**

## KEY POINTS

- In the Anhui Liver Disease Study cohort followed from 2020 to 2025, higher low-fat diet adherence was associated with 21% lower steatotic liver disease risk (HR 0.79, 95% CI 0.64–0.98) and 22% lower metabolic dysfunction-associated steatotic liver disease risk (HR 0.78, 95% CI 0.61–0.99).
- A microbiota-based score reflecting low-fat diet-related changes in 15 bacterial genera was inversely associated with steatotic liver disease risk (OR 0.31, 95% CI 0.10–0.95).
- Low-fat diet adherence was inversely associated with serum acylcarnitines including carnitine and propionylcarnitine, which were themselves positively linked to steatotic liver disease risk.
- The findings suggest low-fat diet may reduce steatotic liver disease risk through coordinated modulation of gut microbiota and suppression of acylcarnitine biosynthesis pathways.
- This prospective evidence may be relevant to hepatologists and gastroenterologists managing patients with or at risk for metabolic dysfunction-associated steatotic liver disease.

VIEW THIS CONTENT ON GUTFLIX

<https://gutflix.eu/search/d/d02ae30e-a814-11f0-8d34-0242ac140006>



**AI-generated summary**

This summary was generated by an AI large language model based on the content transcript. It is for informational purposes only and should not be considered a substitute for clinical judgment. Always rely on your professional expertise and the full clinical context when making clinical decisions.