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**Clinical, experimental and pathophysiological effects of Yaq-001 in patients with cirrhosis**

Liu J, MacNaughtan J, Kerbert A, et al. [Clinical, experimental and pathophysiological effects of Yaq-001: a non-absorbable, gut-restricted adsorbent in models and patients with cirrhosis.](https://gut.bmj.com/content/73/7/1183) Gut 2024; 73: 1183-1198. doi: 10.1136/gutjnl-2023-330699.

Gut dysbiosis and gut-derived endotoxins promote a dysregulated inflammatory response. This has been implicated in the development of cirrhosis and its sequalae and is pivotal to the development of acute-on-chronic liver failure (ACLF). Antibiotic therapy has ameliorated these complications, but it is a double-edged sword in that their use increases resistance and further reduces bacterial diversity rendering the gut microbiome less robust. Liu et al., evaluated the performance of Yaq-001, a gut-restricted, non-absorbable, highly engineered, activated carbon of multiple porosities, in both animal models and patients with cirrhosis.

Yaq-001 prevented progression of liver injury and fibrosis in animal models of cirrhosis, and significantly reduced the mortality of ACLF animals. This was evidenced by partial restoration of the microbiome, and reduction in severity of endotoxaemia, cell death and inflammation amongst other parameters.

CARBALIVE-SAFETY was a first in man, multicentre, double-blind, randomised, placebo-controlled clinical trial of oral Yaq-001 in decompensated cirrhosis. The primary endpoint was to assess the safety and tolerability of Yaq-001 during the 3 months’ treatment period. Twenty-eight patients were randomised to either the treatment or placebo arm. No deaths or serious adverse events were reported. The most frequent treatment-emergent adverse event (TEAE) was diarrhoea and constipation, with the latter only reported in the active arm (14%). No significant changes in clinical parameters, nor global nutritional status were observed.

In vitro and real-world clinical trial safety data provide evidence for Yaq-001 as a novel therapy for patients with cirrhosis.