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**Protective function of sclerosing cholangitis on IBD**

Bedke T, Stumme F, Tomczak M, et al. [Protective function of sclerosing cholangitis on IBD.](https://gut.bmj.com/content/73/8/1292) Gut 2024; 73: 1292-1301. doi: 10.1136/gutjnl-2023-330856.

Mice with sclerosing cholangitis (SC) show reduced colitis severity due to increased infiltration of anti-inflammatory Foxp3+ (forkhead box protein 3) regulatory T (Treg) cells. In a colitis model using genetically modified mice that lack Treg cells, those with SC exhibited worsened colitis.

SC-induced alterations in the intestinal microbiota, particularly the enrichment of the Lachnospiraceae family, are linked to reduced colitis severity. Faecal microbiota transfer (FMT) from SC mice to germ-free wild-type mice lessened colitis severity compared to FMT from healthy donors, suggesting that SC-associated microbiota changes have protective effects against colitis.

Human studies corroborate these findings, showing higher FOXP3 mRNA and protein levels in intestinal biopsies from PSC (primary sclerosing cholangitis)-IBD patients versus those with Crohn’s disease (CD) or ulcerative colitis (UC) only. Germ-free mice receiving FMT from PSC-IBD patients had reduced colitis severity, with a notable increase in Lachnospiraceae. Ursodeoxycholic acid (UDCA) treatment did not impact these results however.

As previously reported, PSC-IBD patients exhibit milder colitis compared to those with IBD alone. SC appears to induce favourable microbiota changes, enriching Lachnospiraceae, which may promote Foxp3+ Treg cell accumulation and their anti-inflammatory effects. This study highlights the liver-intestine disease connection, suggesting SC can alleviate IBD symptoms through microbiota-mediated Treg cell expansion. Future research should identify specific Lachnospiraceae taxa and their metabolites to develop new therapeutic strategies for PSC and IBD, focusing on microbiota modulation and Treg cell enhancement.