

# Belly fat hinders digestive disease medications

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The mass and composition of our bodies can significantly affect the way medications are metabolized and absorbed. Investigators at Cedars-Sinai have found that inflammatory bowel disease (IBD) patients with higher

levels of intra-abdominal visceral adipose tissue—a distinctive type of fat inside the abdomen—had lower rates of remission when treated with certain anti-inflammatory medications.

The findings are published in the journal *Gastroenterology*.

"Even though biologic medications have significantly improved outcomes for our [patients](#) with Crohn's disease or [ulcerative colitis](#), some people do not respond well to these therapies. In our study, we found that the patients with higher amounts of internal abdominal fat were less likely to improve and experience remission from their disease," said gastroenterologist Andres J. Yarur, MD, the corresponding author of the study.

Unlike some conventional anti-inflammatory drugs that treat inflammation in a non-selective way, biologics work by blocking specific targets that cause inflammation in the body.

Patients in the study with higher visceral fat levels had lower concentrations of the biologic medications in their blood after treatment, and lower rates of steroid-free remission and bowel healing.

"It may not be [body weight](#) or body mass index [BMI] that is the reason some of our patients benefit from these approved biologic medications. It seems the [fat tissue](#) on the inner side of the abdomen, in particular, impacts treatment, so we may need to use higher doses of the drugs to help these patients," said Gil Melmed, MD, a co-author of the study and director of Inflammatory Bowel Disease Clinical Research at Cedars-Sinai.

Investigators treated 141 IBD patients with one of three biologic medications: infliximab, ustekinumab or vedolizumab. Reliable body composition measurements were taken for both the IBD group and the

51 healthy control subjects to ensure fat composition for the two groups were similar.

"We found that higher visceral adiposity was associated with higher levels of pro-inflammatory cytokines, suggesting that fat tissue promotes inflammation, the opposite of what we want, and increases resistance to biologic drug therapy. More research is needed because we don't know whether lowering visceral fat or giving higher doses of the medications would improve drug efficacy," said Melmed.

Yarur, the study's principal investigator, agrees, adding that a different kind of medication may be more effective in patients with a high intra-abdominal visceral fat.

"We need to investigate drugs with different mechanisms of action, especially other [small molecules](#), to see if our findings hold. As the [prevalence of obesity](#) and [metabolic syndrome](#) increases in our population, we need to find interventions that would improve the body composition of these IBD patients who are not currently helped by these biologic treatments," said Yarur.

**More information:** Andres J. Yarur et al, Higher Intra-Abdominal Visceral Adipose Tissue Mass Is Associated With Lower Rates Of Clinical And Endoscopic Remission In Patients With Inflammatory Bowel Diseases Initiating Biologic Therapy: Results Of The Constellation Study, *Gastroenterology* (2023). [DOI: 10.1053/j.gastro.2023.06.036](#)

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