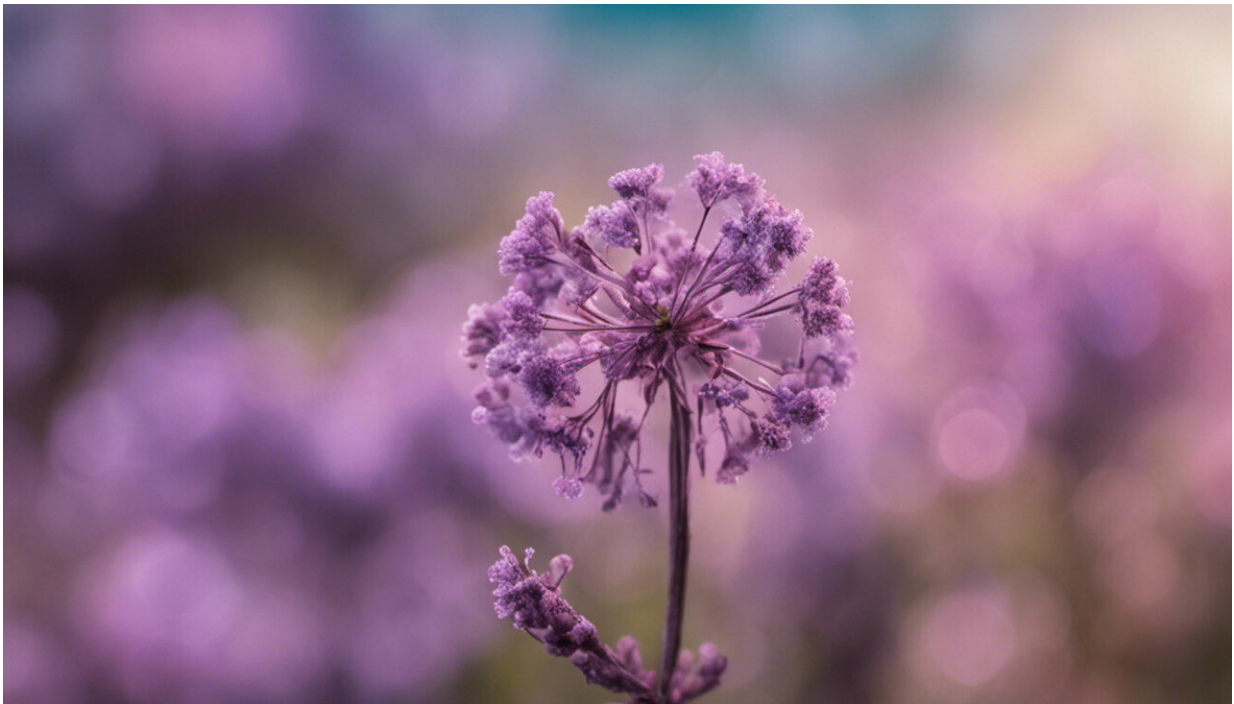


New imaging technique for effective therapy in Crohn's disease

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Credit: AI-generated image ([disclaimer](#))

Patients suffering from Crohn's disease, a chronic inflammatory intestinal disorder, develop painful constrictions in the bowel. Due to a lack of methods until now, these complications cannot be characterized with sufficient precision to initiate targeted treatment. An interdisciplinary research group at MedUni Vienna has investigated a

new imaging technique that can improve the treatment of intestinal strictures. The results of the study were recently published in *Radiology*.

Intestinal strictures are a common problem in patients with Crohn's disease, a chronic inflammatory bowel disease that affects more than 20,000 people in Austria. These strictures lead to cramping pain and digestive problems and therefore practically always require treatment. While purely inflammatory strictures respond very well to [drug therapies](#), fibrotic narrowing, i.e., those associated with irreversible tissue changes, require [surgical intervention](#). However, combinations of inflammation and [fibrosis](#) are often present in varying degrees. Up to now, there is no imaging procedure which allows a therapy-relevant differentiation of inflammation of the intestinal wall and fibrosis.

New tracer applied for the first time

In the search for precise imaging methods, a novel [nuclear medicine](#) tracer was used for the first time as part of MedUni Vienna's interdisciplinary research work at the University Department of Radiology and Nuclear Medicine. This so-called FAPI tracer binds specifically to the fibroblast activating protein (FAP) of the connective tissue cells that lead to fibrosis in the diseased intestinal wall.

Using the new tracer, a very good correlation of molecular imaging with the pathological extent of fibrosis could be demonstrated with the utilization of the diagnostic procedure PET-MRI. Even the differentiation between moderate and severe intestinal wall fibrosis became possible, which plays a role in the therapy decision.

"In future, the molecular imaging we have developed could be used to identify those patients who would benefit from surgical intervention at an early stage, thereby sparing them the need for less effective drug therapy for fibroid-stenosis," says co-study leader Michael Bergmann

from the Department of Visceral Surgery at MedUni Vienna's Department of General Surgery, summarizing the great potential of these research findings.

The study, led by the Department of Radiology and Nuclear Medicine, also involved scientists from the Clinical Institute of Pathology and the Department of Gastroenterology and Hepatology at the Department of Internal Medicine III. Follow-up studies are now planned in which the new method will be applied on a larger scale. "In this context, we shall examine the course of [patients](#) with fibroid-stenosis and possible reversibility under new drug therapies," says first author Martina Scharitzer (Department of Radiology and Nuclear Medicine).

More information: Martina Scharitzer et al, Evaluation of Intestinal Fibrosis with ⁶⁸Ga-FAPI PET/MR Enterography in Crohn Disease, *Radiology* (2023). [DOI: 10.1148/radiol.222389](https://doi.org/10.1148/radiol.222389)

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