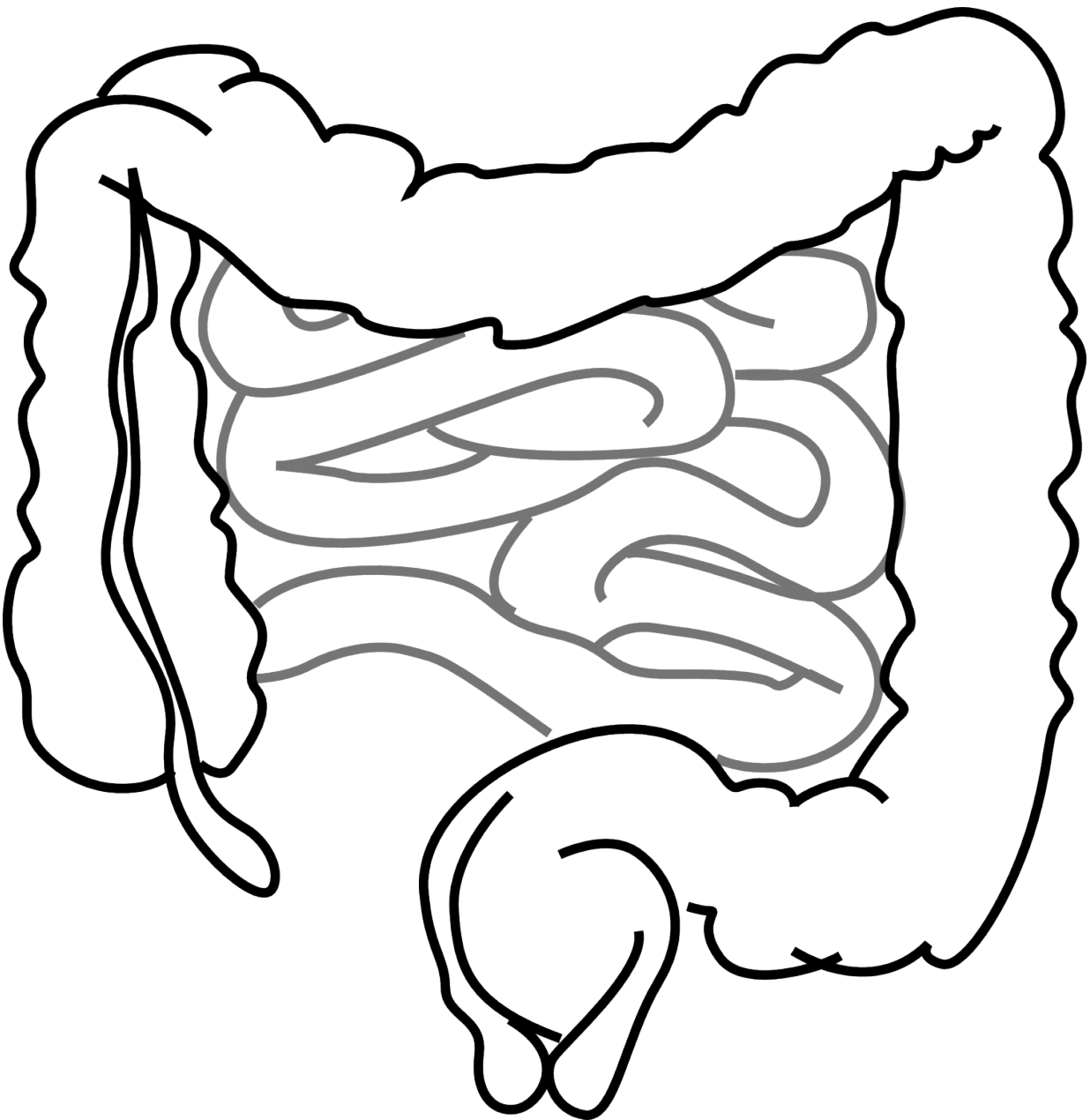


Exhausted immune cells linked to irritable bowel syndrome

June 20 2017



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Adelaide researchers have for the first time discovered that a specific type of irritable bowel syndrome is associated with exhaustion of the immune system in patients.

The discovery has been made by a team led by Dr Patrick Hughes, Senior Lecturer with the Adelaide Medical School, University of Adelaide, and a member of the Nutrition & Metabolism theme, South Australian Health and Medical Research Institute (SAHMRI).

Now published in the international journal *Gut*, the research focused on a small sample of [patients](#) with various types of [irritable bowel disease](#), and, for the first time, followed them for a year comparing blood samples when patients experienced symptoms to when they were symptom free.

All patients with diarrhoea-predominant irritable [bowel syndrome](#) (IBS-D) were found to have the same kind of exhaustion in their T-cells.

"For the first time, we've discovered that in patients with irritable bowel syndrome associated with diarrhoea, their T-cells seem to be 'out of puff' or run down," Dr Hughes says.

"These normally active immune cells are less responsive to stimulation, secreting fewer mediators and dividing less. This type of response is often observed in chronic infections.

"This is an important discovery, particularly as it helps to further distinguish between the different types of [irritable bowel syndrome](#). This

may eventually help us to better understand how to diagnose and treat the disease," he says.

Dr Hughes says there is much research into IBS to show its links with stress, and it is known that cortisol and stress hormones can inhibit the immune system. But until now, such T-cell exhaustion had not been described in IBS-D patients.

"Irritable bowel syndrome takes a real toll on patients," Dr Hughes says. "It can affect people in the prime of their lives, it's a chronic disease that can last a long time, and the treatments currently available are poor.

"Anything we can do to better understand the [disease](#) and to help reduce its debilitating effects on patients will be welcome," he says.

More information: Chris Mavrangelos et al. Longitudinal analysis indicates symptom severity influences immune profile in irritable bowel syndrome, *Gut* (2017). [DOI: 10.1136/gutjnl-2017-314308](https://doi.org/10.1136/gutjnl-2017-314308)

Provided by University of Adelaide

Citation: Exhausted immune cells linked to irritable bowel syndrome (2017, June 20) retrieved 3 May 2024 from <https://medicalxpress.com/news/2017-06-exhausted-immune-cells-linked-bowel.html>

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