

Pain treatments less effective for those with irritable bowel

19 August 2014, by David Ellis

(Medical Xpress)—University of Adelaide researchers have discovered that the immune system is defective in people suffering from irritable bowel syndrome, which is a major reason why sufferers have ongoing issues with pain.

The research - the first of its kind in the world - could also help to explain why some [painkillers](#) may not offer satisfactory relief to sufferers.

Irritable bowel syndrome (IBS) affects up to 10% of the community. There are different forms of IBS but all of them involve unexplained gut pain, which often has the greatest impact on sufferers' quality of life.

Scientists in the University's Nerve-Gut Research Laboratory have now demonstrated the mechanisms involved, and the differences between the immune pain response in healthy people and those suffering from IBS. The results of their work have been published in the journal *Brain, Behavior, and Immunity*.

"This study is the first to give us a real understanding of the interaction between [the immune system](#) and pain symptoms in IBS patients," says lead author Dr Patrick Hughes, NHMRC Peter Doherty Fellow with the University's School of Medicine.

"The gut contains specialised immune cells, known as monocytes and macrophages. Our research has shown that in healthy people, these [immune cells](#) normally secrete opioid chemicals, like morphine, that block pain. But in people with IBS, the opioid production by these cells is defective," he says.

"So it's no wonder that people with IBS are experiencing ongoing periods of unexplained pain. And if the immune system is defective, it may also mean that painkilling medications taken by the patient to relieve their symptoms are not being

adequately converted to pain relief."

The research involved samples from more than 100 people, half of them healthy and half suffering from IBS.

Dr Hughes says the exact cause of pain in IBS sufferers remains unknown, "but we have now confirmed, and detailed, information about the important role of the [immune system](#) in this pain response".

"It's our hope that this work could eventually lead to more targeted treatments for IBS sufferers, to help treat or prevent the long-term [pain](#) they experience," he says.

More information: Patrick A. Hughes, Melissa Moretta, Amanda Lim, Dallas J. Grasby, Daniel Bird, Stuart M. Brierley, Tobias Liebregts, Birgit Adam, L. Ashley Blackshaw, Gerald Holtmann, Peter Bampton, Peter Hoffmann, Jane M. Andrews, Heddy Zola, Doreen Krumbiegel, "Immune derived opioidergic inhibition of viscerosensory afferents is decreased in Irritable Bowel Syndrome patients," *Brain, Behavior, and Immunity*, Available online 22 July 2014, ISSN 0889-1591, [dx.doi.org/10.1016/j.bbi.2014.07.001](https://doi.org/10.1016/j.bbi.2014.07.001).

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