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The mast cell stabiliser ketotifen decreases visceral hypersensitivity and improves intestinal symptoms in patients with irritable bowel syndrome

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Abstract

Background: Mast cell activation is thought to be involved in visceral hypersensitivity, one of the main characteristics of the irritable bowel syndrome (IBS). A study was therefore undertaken to investigate the effect of the mast cell stabiliser ketotifen on rectal sensitivity and symptoms in patients with IBS.

Methods: 60 patients with IBS underwent a barostat study to assess rectal sensitivity before and after 8 weeks of treatment. After the initial barostat, patients were randomised to receive ketotifen or placebo. IBS symptoms and health-related quality of life were scored. In addition, mast cells were quantified and spontaneous release of tryptase and histamine was determined in rectal biopsies and compared with biopsies from 22 age- and gender-matched healthy volunteers.

Results: Ketotifen but not placebo increased the threshold for discomfort in patients with IBS with visceral hypersensitivity. This effect was not observed in normosensitive patients with IBS. Ketotifen significantly decreased abdominal pain and other IBS symptoms and improved quality of life. The number of mast cells in rectal biopsies and spontaneous release of tryptase were lower in patients with IBS than in healthy volunteers. Spontaneous release of histamine was mostly undetectable but was slightly increased in patients with IBS compared with healthy volunteers. Histamine and tryptase release were not altered by ketotifen.

Conclusions: This study shows that ketotifen increases the threshold for discomfort in patients with IBS with visceral hypersensitivity, reduces IBS symptoms and improves health-related quality of life. Whether this effect is secondary to the mast cell stabilising properties of ketotifen or H(1) receptor antagonism remains to be further investigated. Trial Registration Number NTR39, ISRCTN22504486.

Comment in

Therapeutic potential of ketotifen in irritable bowel syndrome (IBS) may involve changes in mast cells at sites beyond the rectum.

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Gut. 2011 Mar;60(3):423; author rpely 423. doi: 10.1136/gut.2010.225078. Epub 2010 Oct 4.

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Is irritable bowel syndrome a rhinitis of the gut?

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