Abstract citation ID: znac247.093

SP8.2.4 Mindfulness-based Cognitive Therapy (MBCT) reduces symptoms in patients with chronic visceral pain, and is associated with the alteration of pain-evoked neural activity and resting functional connectivity in the descending pain modulatory system

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Aims: Chronic visceral pain can cause repeated presentations to surgical services. Cognitive therapies show promise but are not often considered in the surgical setting. This study aims to assess the efficacy and mechanisms of MBCT-IBS, a mindfulness-based cognitive intervention for irritable bowel syndrome (IBS).

Methods: Fifteen women with IBS underwent a 6-week MBCT-IBS training course. Before and after this they completed validated questionnaires on symptoms, and functional MRI brain scans during thermal pain and at rest.

Results: MBCT-IBS led to improved symptoms (p<0.05). Increased temperatures were required to achieve 5/10 pain ratings (mean 1.21°C, p<0.001), indicating reduced pain sensitivity. Neuroimaging showed that MBCT-IBS led to altered pain responses in the anterior cingulate, the prefrontal cortex, the amygdala and the precuneus (Z>2.3, p<0.05). In the left dorsolateral prefrontal cortex (dPFC) this correlated with reduced pain severity scores (r(11)=-0.614, p=0.025). Altered functional connectivity was seen between the right dPFC and multiple regions involved in emotional and sensory aspects of pain processing, including the amygdala. There was also altered...
connectivity between the amygdala and sensorimotor cortices (Z>2.3, p<0.05).

Conclusions: MBCT-IBS was an effective treatment for IBS. The fact that there was altered activity in and connectivity between key parts of the descending endogenous pain modulatory system suggests that MBCT-IBS may be an effective intervention for patients with dysfunctional pain pathways in whom the pathological cause for their pain is unclear. It is non-invasive and inexpensive, and has the potential to reduce the incidence of unnecessary surgical intervention in patients with chronic visceral pain.