

Rapid Recovery Hyperbarics

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Altered brain structure in IBS: potential contributions of pre-existing and disease-driven factors;

Davis KD, Blankstein U, Chen J, Diamant NE; Gastroenterology (Dec 2009)

BACKGROUND AND AIMS:: Brain imaging studies have identified abnormal rectal-evoked responses and cortical thinning in patients with irritable bowel syndrome (IBS). . However, it is not known whether these abnormalities are pre-existing or develop as result of long-term IBS. Therefore, we tested whether abnormal structural gray matter integrity in IBS correlates with individual disease symptoms, duration of the IBS, or the personality characteristic of pain catastrophizing. **METHODS::** Eleven IBS patients and 16 age-matched healthy subjects underwent structural MRI. Voxel-based morphometry (VBM) and cortical thickness analysis (CTA) were used to identify abnormalities in subcortical and cortical regions respectively, and their correlation to individual characteristics. **RESULTS::** The IBS group showed increased hypothalamic gray matter and cortical thinning in the aMCC compared to controls, a strong negative correlation between dorsolateral prefrontal cortex thickness and pain catastrophizing, and a positive correlation between anterior insula thickness and pain duration. In the insula, there was cortical thinning in patients with short-term IBS but long-term IBS pain was associated with a more normal insula thickness. **CONCLUSIONS::** Our findings provide new insight into IBS and chronic pain through evidence for structural changes that could fit with functional abnormalities. This is the first report of an increased hypothalamus in IBS, a result that may be related to the association between IBS, stress and the HPA axis. Furthermore, we have identified some supraspinal abnormalities that may be pre-existing and contribute to vulnerability, and others that may develop over time possibly due to chronic abnormal inputs.

Another reason why HBOT works for IBS and heals the brain! www.hbot4u.com

