Effect of hypnotherapy and educational intervention on brain response to visceral stimulus in the irritable bowel syndrome.


Abstract

BACKGROUND:
Gut-directed hypnotherapy can reduce IBS symptoms, but the mechanisms underlying this therapeutic effect remain unknown.

AIM:
To determine the effect of hypnotherapy and educational intervention on brain responses to cued rectal distensions in IBS patients.

METHODS:
Forty-four women with moderate-to-severe IBS and 20 healthy controls (HCs) were included. Blood oxygen level dependent (BOLD) signals were measured by functional Magnetic Resonance Imaging (fMRI) during expectation and delivery of high- (45 mmHg) and low-intensity (15 mmHg) rectal distensions. Twenty-five patients were assigned to hypnotherapy (HYP) and 16 to educational intervention (EDU). Thirty-one patients completed treatments and posttreatment fMRI.

RESULTS:
Similar symptom reduction was achieved in both groups. Clinically successful treatment (all responders) was associated with significant BOLD attenuation during high-intensity distension in the dorsal and ventral anterior insula (cluster size 142, P = 0.006, and cluster size 101, P = 0.005 respectively). Moreover HYP responders demonstrated a pre-post treatment BOLD attenuation in posterior insula (cluster sizes 59, P = 0.05) while EDU responders had a BOLD attenuation in prefrontal cortex (cluster size 60, P = 0.05). Pre-post differences for expectation conditions were almost exclusively seen in the HYP group. Following treatment, the brain response to distension was similar to that observed in HCs, suggesting that the treatment had a normalising effect on the central processing abnormality of visceral signals in IBS.

CONCLUSIONS:
The abnormal processing and enhanced perception of visceral stimuli in IBS can be normalised by psychological interventions. Symptom improvement in the treatment groups may be mediated by different brain mechanisms. Clinical trial number: NCT01815164.

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Comment in

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