1. Introduction

Irritable bowel syndrome (IBS) is a female-predominant stress-related gastrointestinal disorder with a high psychiatric comorbidity. Previous evidence (1) has indicated that IBS is associated with an altered cortisol awakening response. However, heterogeneity in IBS study populations may contribute to differing findings reported across research studies. It is thus currently unclear whether altered HPA axis activity is a feature of IBS per se or related to comorbid depression and anxiety.

2. Aims & Hypothesis

Aims: Assess the nature of the cortisol awakening response in a cohort of females with IBS without comorbid depression or anxiety and healthy controls.

Hypotheses: We hypothesised that females with irritable bowel syndrome would have significantly altered cortisol awakening response, that would be consistent across multiple testing days.

4. Results

Cortisol Awakening Response

Cortisol levels were significantly higher post-waking at both visits (visit 1: p = 0.01; visit 2: p = 0.004). There was a slower initial rise of cortisol awakening response in IBS compared to healthy controls; this was most apparent in week 2, where IBS patients were more likely than controls to display peak cortisol levels at 45 minutes (p = 0.046) and less likely at 30 minutes (p = 0.058).

In both visits, IBS patients had slightly higher AUCg (which assesses total morning cortisol output), although this was not significant (Visit 1, p = 0.71; Visit 2, p = 0.65). There was not a significant difference between IBS and healthy controls in AUCi, which assesses the change in morning cortisol output (Visit 1, p = 0.98; Visit 2, p = 0.81).

5. Discussion & conclusions

• Although overall cortisol output was not significantly different in IBS patients, the profile of their cortisol awakening response was altered, with cortisol peaking later post-wakening.

• The current results offer further evidence of altered HPA axis activity in irritable bowel syndrome; further research is required into the nature and stability of these changes over time.

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7. References