

**Aims/Background** To prospectively assess visuospatial memory performance in IBS, in comparison to disease controls Crohn's disease (CD) and healthy controls (HC).

**Method** At baseline (Visit 1) and 6 months (Visit 2), IBS patients (baseline n=39; age (M): 28 yrs; IQ:105.5), matched CD patients (baseline n=18;age (M):32 yrs; IQ:103.4), and matched HC (baseline n=40;age (M):28 yrs; IQ:108.5), were assessed using a selection of cognitive tests from the CANTAB and Stroop test. Abdominal pain severity at time of testing was reported by IBS patients on a scale ranging from 0–100.

**Results** At Visit 1 & 2, IBS patients displayed visuospatial memory deficits [Paired Associates Learning (PAL) test]; greater errors at the 6 pattern stage (baseline:  $p<0.05$ ), which also approached significance across Visit 1 & 2 ( $p=0.05$ ); greater number of trials needed to complete the PAL Visit 1 & 2 ( $p<0.05$ ). Pain severity did not correlate with PAL performance ( $p>0.05$ ).

**Conclusion** Visuospatial memory dysfunction is a stable feature of IBS. These results may inform future management of this debilitating disorder in which there is a great unmet medical need.

## REFERENCES

- 1 Kennedy PJ, Clarke G, Quigley EM, *et al.* (2012). Gut memories: towards a cognitive neurobiology of irritable bowel syndrome. *Neuroscience and biobehavioral reviews*. 36: 310–40.
- 2 Kennedy PJ, Clarke G, O'Neill A., *et al.* (2012). An assessment of cognitive function in irritable bowel syndrome (IBS): Are deficits in episodic memory stress-related and mediated by tryptophan metabolism along the kynurenine pathway? *Digestive Disease Week, San Diego, USA, 2012*.

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## A PROSPECTIVE STUDY OF COGNITIVE PERFORMANCE IN IRRITABLE BOWEL SYNDROME: VISUOSPATIAL MEMORY DEFICITS AS A STABLE FEATURE

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**Introduction** The cognitive neurobiological model of IBS (Kennedy *et al.*, 2012), a disorder of the brain-gut axis, proposes that key pathophysiological features, such as altered hypothalamic-pituitary-adrenal (HPA) axis function, or heightened immune activity, may lead to impaired cognitive performance. Recently IBS patients were found to exhibit visuospatial memory deficits (Kennedy *et al.*, 2013). However, a prospective assessment is essential to confirm if cognitive dysfunction is a stable feature of IBS.