

Leaky Gut and Depression

From Michael Maes:

[Increased IgA and IgM responses against gut commensals in chronic depression: Further evidence for increased bacterial translocation or leaky gut](#)

Background

Recently, we discovered that depression is accompanied by increased IgM and IgA responses directed against gram negative gut commensals. The aim of this study was to replicate these findings in a larger study group of depressed patients and to examine the associations between the IgA and IgM responses to gut commensals and staging of depression as well as the fatigue and somatic (F&S) symptoms of depression.

Methods

We measured serum concentrations of IgM and IgA against the LPS of gram-negative enterobacteria, i.e. *Hafnia alvei*, *Pseudomonas aeruginosa*, *Morganella morganii*, *Pseudomonas putida*, *Citrobacter koseri*, and *Klebsiella pneumoniae* in 112 depressed patients and 28 normal controls. The severity of F&S symptoms was measured using the Fibromyalgia and Chronic Fatigue Syndrome Rating Scale.

Results

The prevalences and median values of serum IgM and IgA against LPS of these commensals were significantly higher in depressed patients than in controls. The IgM levels directed against the LPS of these commensal bacteria were significantly higher in patients with chronic depression than in those without. The immune responses directed against LPS were not associated with melancholia or recurrent depression. There was a significant correlation between the IgA response directed against LPS and gastro-intestinal symptoms.

Discussion

The results indicate that increased bacterial translocation with immune responses to the LPS of commensal bacteria may play a role in the pathophysiology of depression, particularly chronic depression. Bacterial translocation may a) occur secondary to systemic inflammation in depression and intensify and perpetuate the primary inflammatory response once the commensals are translocated; or b) be a primary trigger factor associated with the onset of depression in some vulnerable individuals. The findings suggest that "translocated" gut commensal bacteria activate immune

cells to elicit IgA and IgM responses and that this phenomenon may play a role in the pathophysiology of (chronic) depression by causing progressive amplifications of immune pathways.

This is an indication that it might be possible to treat depression using supplements that treat leaky gut; these include zinc, n-acetylcysteine, probiotics, and whey.