

Association of Irritable bowel syndrome and antibodies against endogenous gonadotropin-releasing hormone and its receptor. A systematic review and meta-analysis.

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Background

Irritable bowel syndrome (IBS) seems to have an unclear pathogenesis in the majority of patients. Antibodies against gonadotropin-releasing hormone (GnRH) have previously been discovered in the blood of these patients on a significant occurrence. This meta-analysis aims to assess if there is a significant association between GnRH antibodies and IBS.

Methods

We defined a search strategy and implemented it to the PubMed, Ovid, Scopus and Web of Science databases for English language publications. The data were evaluated for acceptability, and controlled studies, either clinical trials, case control, cross sectional or cohort studies reporting the prevalence of GnRH antibodies in IBS patients were included. RevMan software version 5.4 was used for performing the analysis.

Conclusion

This current meta-analysis revealed that GnRH IgM Antibodies may have an influence on the development of Irritable bowel syndrome, as Irritable bowel syndrome is related to a higher incidence of IgM antibodies against GnRH and its receptor when compared to healthy persons

Results

The total number of patients in the included studies was 1095 (270 patients in the IBS group, and 825 patients in the control group). By comparing IBS group and control group, we found a statistically significant association between IBS and increased prevalence of GnRH IgM antibodies (RR = 2.29, 95% CI = 1.58 to 3.31, p-value < 0.0001). In GnRH receptor IGM antibodies outcome, we found a statistically significant association between IBS and increased prevalence of GnRH IgM antibodies compared with controls (RR = 3.80, 95% CI = 1.72 to 8.38, p-value = 0.0010). No heterogeneity was observed among studies (P = 0.85, I² = 0%). For GnRH receptor IgM antibodies, the pooled analysis showed a statistically significant association between IBS and increased prevalence of GnRH receptor IgM antibodies compared with controls (RR = 3.80, 95% CI = 1.72 to 8.38, P = 0.0010). No heterogeneity was observed among studies (P = 0.17, I² = 44%).

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