RLS and SIBO Abstract APSS

RESTLESS LEGS SYNDROME (RLS) IS ASSOCIATED WITH AN INCREASED PREVALENCE OF SMALL INTESTINAL BACTERIAL OVERGROWTH: IS RLS MEDIATED BY INFLAMMATORY AND IMMUNOLOGICAL MECHANISMS?

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Introduction: Patients with gastrointestinal (GI) diseases such as celiac disease and Crohn's disease have a high prevalence of Restless legs Syndrome (RLS). Our review of the literature indicates that 30 of the 40 causes of secondary RLS are associated with inflammation. The current study was designed to look at the prevalence of another GI disorder, irritable bowel syndrome (IBS) in RLS. Because a previous meta-analysis indicates that 54% of patients with IBS have small intestinal bacterial overgrowth (SIBO), we also determined the presence of SIBO by a positive lactulose breath test (LBT) (1).

Methods: RLS patients were screened from a population where the presence or absence of GI symptoms was neither encouraged nor discouraged. The presence or absence of GI disease was determined and RLS subjects with IBS or non-specific or no GI complaints were submitted to LBT. Sixty-one RLS patients (43 F, 18M avg age 56.8 yrs) were screened. Two patients were excluded from the calculations of the prevalence of IBS in our RLS population because the presence or absence of IBS was not documented. After the determination of the prevalence of IBS in our RLS patient population, 56 RLS patients underwent LBT testing. Five patients did not have a LBT because of the presence of other GI diseases and they were excluded from further analysis.

Results: The prevalence of IBS in our RLS population was 23/59 = 38.9% as compared to the prevalence of IBS in the general population of 14.1% ($P < .001$) (2). A positive LBT suggestive of SIBO was present in 36/56 = 64.2% of our RLS patients and in 3/28 = 10.7% of a normal population where RLS and GI symptoms were excluded (18F, 10 M avg age 45.3 yrs). Assuming a false positive rate of 10.7%, a full 64.2%-10.7%= 53.5% of positive LBTs can be attributed to their association with RLS in an unselected population. There was an incomplete overlap of IBS and a positive LBT: 14/23 = 60.8% of RLS patients with IBS displayed a positive LBT and 14/36 = 38.9% of RLS patients with a positive LBT displayed IBS.

Conclusions: Evidence of IBS and SIBO are common in RLS but there is not complete overlap. The high prevalence of SIBO in our RLS patients along with the fact that 75% of cases of secondary RLS are associated with inflammation suggests that RLS may be mediated through inflammatory or immunological mechanisms. Since inflammation is also associated with iron deficiency, these results are also in agreement with the iron deficiency hypothesis for RLS.

(1) Ford AC, Spiegel BM, Talley NJ, Moayeddi P. Small intestinal bacterial overgrowth in irritable bowel syndrome: Systematic review and meta-analysis. Clin Gastroenterol Hepatol 2009; 7: 1279-86.

(2) Hungin AP, Chang L, Locke GR, Dennis EH, Barghout V. Irritable bowel in the United States: Prevalence, symptom patterns and impact. Aliment Pharmacol Ther 2005; 21: 1365-75.

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