Restless legs syndrome and leg cramps in fibromyalgia syndrome: a controlled study

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Restless legs syndrome is characterised by an unpleasant, difficult-to-describe sensation in the legs that produces an invariable urge to move them frequently.[1-3] This symptom typically occurs at rest or before sleep and is alleviated by activity.[1-3] Restless legs syndrome may occur without or with an associated condition, such as rheumatoid arthritis.[1 3] We investigated the prevalence of restless legs syndrome and of leg cramps in patients with fibromyalgia syndrome, a common condition with widespread musculoskeletal aching and tender points,[2 4] and in controls.

Subjects, methods, and results

One hundred and thirty five consecutive new female patients referred with primary fibromyalgia, 54 women with rheumatoid arthritis without concomitant fibromyalgia, and 87 healthy, pain free women acting as controls were studied at our outpatient rheumatology clinic. All patients with fibromyalgia fulfilled the criteria of Yunus *et al.*[4] No subjects had peripheral neuritis.

White cell count; haemoglobin concentration; erythrocyte sedimentation rate; serum calcium, electrolyte, blood urea nitrogen, creatinine, and liver enzyme values; and thyroid function were normal in the patients with fibromyalgia. Patients with rheumatoid arthritis had normal serum calcium, electrolyte, blood urea nitrogen, and creatinine values. Symptoms as well as tender points were evaluated by a questionnaire with ordinal grading (none, mild, moderate, severe). Global anxiety, depression, and mental stress were assessed by the following questions: "Do you think you are anxious or tense or have worries?," "Do you feel depressed, low, and blue?," and "Do you feel under mental stress?"

For statistical analysis symptoms were dichotomised (moderate or severe= yes; none or mild=no). When the sample was stratified by age (at the median), a Mantel-Haenszel χ^2 test was used to control for potential impact of age on leg symptoms. Analysis of variance was used for interval variables, followed by the Student-Neuman-Keuls test to examine differences between the groups. Correlations between 12 preselected variables of interest were analysed by Pearson's correlation coefficient. A two tailed P value of <0.05 was regarded as statistically significant.

The mean (SD) age (years) of women with fibromyalgia syndrome was 46 (12) years, of controls 43 (11) years, and of women with rheumatoid arthritis 51(13) years, with no significant difference between the patients with fibromyalgia and controls but a significant difference between patients with fibromyalgia and those with rheumatoid arthritis (P<0.01).

Symptoms of restless legs syndrome and leg cramps were significantly more prevalent in patients with fibromyalgia and in those with rheumatoid arthritis than controls (table 1).

Correlation analysis of the patients with fibromyalgia showed no significant correlations between restless legs symptoms or leg cramps and age, pain severity, number of tender points, fatigue, poor sleep, global anxiety, stress, or depression. Paraesthesia, however, correlated with both restless legs (r=0.26, P<0.03) and leg cramps (r=0.17, P<0.05), and muscle cramps correlated with restless legs symptoms (r=0.26, P<0.003).

Comment

Our study shows an association between fibromyalgia syndrome and restless legs syndrome as well as leg cramps and confirms a previously reported association between rheumatoid arthritis and restless legs.[3] The basis of this association is not clear. Fibromyalgia is not a psychiatric condition,[2] and we found no association between restless legs syndrome and psychological state. It has been suggested that restless legs syndrome and periodic limb movement disorder, along with other dysfunctional syndromes such as irritable bowel syndrome, form a spectrum with overlapping features and a common biophysiological mechanism of neuroendocrine abnormality.[2] Such an abnormality may also be the underlying mechanism in restless legs syndrome,[5] which is treatable with clonazepam, carbamazepine, and levodopa.[1 2 5]

In conclusion, restless legs syndrome and leg cramps are significantly more prevalent in patients with fibromyalgia syndrome and those with rheumatoid arthritis than in normal controls. An awareness of this association will help doctors manage the distressing leg symptoms among patients with fibromyalgia.

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Table 1—*Number (%) of subjects with restless legs syndrome and leg cramps among study groups*

	Fibromyalgia (n=135)	Controls (n=88)	Rheumatoid arthritis (n= 54)	χ^2 (df=1)* Fibromyalgia v controls	χ^2 (df=1)* Fibromyalgia v rheumatoid arthritis	χ^2 (df=1)* Rheumatoid arthritis v controls
Restless legs	42 (31)	2 (2)	8 (15)	25.8; P<0.001	6.0; P=0.014	5.2; P=0.023
Leg cramps	55 (41)	2 (2)	11 (20)	39.0; P<0.001	6.1; P=0.014	9.7; P=0.002

*Mantel-Haenszel χ^2 stratified by younger (< 44 years) and older (≥ 44 years) age groups.