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# Association between thyroid autoimmunity and fibromyalgia

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## Abstract

Evidence exists that autoimmune thyroiditis is present in a high percentage of fibromyalgia (FM) and associated with the presence of typical symptoms of FM. However, the role of thyroperoxidase antibody (TPO Ab) in the manifestation of FM is still unclear. The goal of this study was to investigate the prevalence of positive TPO Ab in euthyroid FM patients, and whether TPO Ab positivity is associated with the clinical manifestations in euthyroid FM patients. Thyroid assessment was done by free T4, TSH and TPO Ab. The clinical parameters including Fibromyalgia Impact questionnaire (FIQ), pain visual analogical scale (VAS) and tender point counts were evaluated in euthyroid primary FM patients, not associated with autoimmune rheumatic disease. The immunologic tests including rheumatoid factor and antinuclear antibody were measured. We compared the prevalence of positive TPO Ab between FM patients, and healthy control. We also compared clinical and laboratory parameter in FM patients according to the presence of TPO Ab. 149 patients of FM, 68 healthy controls were recruited. FM patients showed higher prevalence of positive TPO Ab than healthy controls (28 out of 149 patients, 19%; 5 out of 68 healthy controls, 7%;  $P=0.04$ ). There was no difference of clinical and laboratory parameters in FM patients between 2 groups subdivided by the presence of TPO Ab. In our study, euthyroid FM patients showed significantly higher prevalence of positive TPO Ab, as compared to age and sex matched healthy control. However, TPO Ab positivity was relatively low and not associated with the clinical manifestations in euthyroid FM patients. This finding support thyroid autoimmunity may influence the development of FM, but the evidence which support that FM is related to autoimmune etiology is not clear, and FM severity may not be affected by the presence of thyroid autoantibody.

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