

Selenium supplementation in patients with subclinical hypothyroidism affected by autoimmune thyroiditis: Results of the SETI study.

[Article in English, Spanish]

Piro @j¹, Rotondi M², Cristiano A¹, Maffezzoni F¹, Pasquali D³, Marini F¹, Coperchini F², Paganelli M⁴, Apostoli P⁴, Chiovato L², Fertin A¹, Cappelli C⁵.

Author information

- 1 Endocrine and Metabolic Unit, Department of Medical and Surgical Sciences, University of Brescia, Italy.
- 2 Unit of Internal Medicine and Endocrinology, ICS Maugeri I.R.C.C.S., Chair of Endocrinology, University of Pavia, Via S. Maugeri 10, 27100 Pavia, Italy.
- 3 Department of Medical, Surgical, Neurologic, Metabolic and Aging Science, University of Campania "Luigi Vanvitelli", Naples, Italy.
- 4 Department of Medical and Surgical Specialties, Radiologic Sciences and Public Health, Occupational Medicine Section, University of Brescia, Italy.
- 5 Endocrine and Metabolic Unit, Department of Medical and Surgical Sciences, University of Brescia, Italy. Electronic address: carlo.cappelli@unibs.it.

Abstract

OBJECTIVE: The purpose of this prospective study was to assess the effects of selenium supplementation on TSH and interferon- γ inducible chemokines (CXCL9, CXCL10 and CXCL11) levels in patients with subclinical hypothyroidism due to Hashimoto's thyroiditis.

PATIENTS AND METHODS: Patients with subclinical hypothyroidism due to Hashimoto thyroiditis were prospectively enrolled in the SETI study. They received 83mcg of selenomethionine/day orally in a soft gel capsule for 4 months with water after a meal. No further treatment was given. All patients were measured thyroid hormone, TPOAb, CXCL9, CXCL10, CXCL11, iodine, and selenium levels at baseline and at study end.

RESULTS: 50 patients (43/7 female/male, median age 43.9 \pm 11.8 years) were enrolled, of which five withdrew from the study. At the end of the study, euthyroidism was restored in 22/45 (48.9%) participants (responders), while 23 patients remained hypothyroid (non-responders). There were no significant changes in TPOAb, CXCL9, CXCL10, CXCL11, and iodine levels from baseline to the end of the study in both responders and non-responders. TSH levels were re-tested six months after selenomethionine withdrawal: 83.3% of responding patients remained euthyroid, while only 14.2% of non-responders became euthyroid.

CONCLUSIONS: The SETI study shows that short-course supplementation with selenomethionine is associated to a normalization of serum TSH levels which is maintained 6 months after selenium withdrawal in 50% of patients with subclinical hypothyroidism due to chronic autoimmune thyroiditis. This TSH-lowering effect of selenium supplementation is unlikely to be related to changes in humoral markers of autoimmunity and/or circulating CXCL9.

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KEYWORDS: Hipotiroidismo; Hypothyroidism; Interferon- γ inducible chemokines; Quimiocinas inducibles por interferon γ ; Selenium supplementation; Suplementos de selenio

PMID: 31196739 DOI: [10.1016/j.endinu.2019.03.018](https://doi.org/10.1016/j.endinu.2019.03.018)