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[Review](#)     [Endocrine](#). 2018 Mar;59(3):499-505. doi: 10.1007/s12020-018-1532-5.

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# The effect of vitamin D supplementation on thyroid autoantibody levels in the treatment of autoimmune thyroiditis: a systematic review and a meta-analysis

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## Abstract

**Purpose:** Although observational studies suggested that vitamin D plays a role in autoimmune thyroiditis (AIT), intervention trials yielded inconsistent findings. We therefore conducted a systematic review and a meta-analysis to evaluate the effects of Vitamin D on decreasing autoantibodies in patients with AIT.

**Method:** We identified all studies that assessed the changes of TPO-Ab and Tg-Ab in patients with AIT under the treatment of vitamin D from PubMed, Embase, The Cochrane Library, Chinese National Knowledge Infrastructure, Wanfang, and VIP Database.

**Results:** Six randomized controlled trials (RCTs) were included in this systematic review representing a total of 344 patients with AIT. The results showed that Vitamin D supplementation significantly dropped TPO-Ab titers [three studies, random effects standardized mean difference (SMD): -1.11, 95% CI -1.52 to -0.70,  $P < 0.01$ ] at six months, but not at no more than 3 months [random effects SMD: -0.12, 95% CI: -0.69 to 0.44,  $P = 0.67$ ]. As compared with control group, participants who received vitamin D supplementation demonstrated significantly lower Tg-Ab [random effects SMD: -0.55, 95% CI: -1.05 to -0.04,  $P = 0.033$ ]. In addition, no serious adverse effect was reported.

**Conclusions:** The current evidence suggests that vitamin D supplementation could decrease serum TPO-Ab and Tg-Ab titers of patients with AIT in the short-term (about six months). More high quality studies are needed to further confirm the effects, especially the long-term effects of Vitamin D supplementation on thyroid autoantibodies levels in the treatment of AIT.

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