Reviewer's report

Title: Lower CD28+ T cell proportions were associated with CMV-seropositivity in patients with Hashimoto's thyroiditis

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Reviewer: Kouki Mori

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Comments on 1582222207880279

The authors demonstrated that increases in CD28-negative T cells and CD45RO+ T cells in the circulation of patients with Hashimoto's thyroiditis (HT), as found in those with other autoimmune diseases or elders. This study provides us some interesting information on the pathogenesis of HT. However, the authors need to address several issues before acceptance of this manuscript in the journal.

1. Patients
The authors should describe clearly the number of HT patients complicated with other autoimmune diseases because HT occurs frequently in patients with autoimmune disorders which could influence peripheral T cell phenotypes. Whereas the authors demonstrate that the age was not different significantly between the groups, Table 1 shows clearly that elder persons were included in the HT group more than the control group. This could be a serious problem because peripheral T cell phenotype is dramatically affected by the age of patients, as mentioned in the Discussion (p.11, 2nd paragraph).

2. Methods
The information on the assay condition used in the quantitative PCR (temperatures, cycles, primer sequences, amounts of DNA and so on) should be provided. Were negative controls included in the PCR and immunohistochemistry?

3. Discussion
Is the CMV seropositivity in HT patients similar to that of patients with other autoimmune diseases? If different, the findings demonstrated in this study could result from CMV infection, not from thyroid autoimmunity. In addition, the authors should discuss the significance of alterations in peripheral T cell subpopulations found in the HT group in relation to the pathogenesis of HT. How do they affect or reflect the pathological process of HT? Finally, the authors should present clearly what studies have demonstrated that HT results from local autoimmune mechanism in the thyroid gland (p.11, 1st paragraph).

Level of interest: An article whose findings are important to those with closely
related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.