

# Response to the letter to the editor: two cases of subacute thyroiditis after different types of SARS-CoV-2 vaccination

Hayri Bostan<sup>1</sup>  
<https://orcid.org/0000-0002-4957-9856>

Ilknur Ozturk Unsal<sup>1</sup>  
<https://orcid.org/0000-0003-3999-6426>

Muhammed Kizilgul<sup>1</sup>  
<https://orcid.org/0000-0002-8468-9196>

Umran Gul<sup>1</sup>  
<https://orcid.org/0000-0001-7958-486X>

Muhammed Erkam Sencar<sup>1</sup>  
<https://orcid.org/0000-0001-5581-4886>

Bekir Ucan<sup>1</sup>  
<https://orcid.org/0000-0002-0810-5224>

Erman Cakal<sup>1</sup>  
<https://orcid.org/0000-0003-4455-7276>

<sup>1</sup> Department of Endocrinology and Metabolism, University of Health Sciences, Diskapi Yildirim Beyazit Training and Research Hospital, Ankara, Turkey

## DEAR EDITORS AND COLLEAGUES,

We would like to thank Mungmunpantipantip and Wiwanitkit for their comments and contributions to our article “Two cases of subacute thyroiditis after different types of SARS-CoV-2 vaccination” (1). They commented on the possible mechanisms of vaccine-associated subacute thyroiditis (SAT) and emphasized that subclinical thyroid disorders in the pre-vaccine period should be excluded. We do agree that the exclusion of subclinical thyroid problems is a factor that strengthens the possible relationship. We would like to emphasize that these patients were euthyroid in their routine follow-up visits before the vaccination. In our article, we mentioned that both cases did not have any known thyroid or autoimmune disorder before the coronavirus disease 2019 (COVID-19) vaccination. However, recently, cases of SAT, Graves’ disease (GD) relapses, and even conversion from Hashimoto’s disease to GD have been reported after the COVID-19 vaccination (2,3). This raises the question that vaccination may be a triggering factor for relapse in patients with pre-existing autoimmune/inflammatory thyroid disorders.

Immunological mechanisms, such as molecular mimicry, epitope spreading, bystander activation, and adjuvant effect, have been postulated in COVID-19 vaccine-associated thyroid disorders (2-4). Mungmunpantipantip and Wiwanitkit speculated that post-vaccine hyperviscosity may be another mechanism that causes abnormal thyroid hormone levels. However, both the absence of a symptom suggesting hyperviscosity in our cases and the recurrent thyroid diseases reported after vaccination against COVID-19, highlights possible immunological mechanisms. In addition, previously, Tamagna and cols. stated that increased T4 levels in a patient with hyperviscosity syndrome may be due to the interference of increased protein concentrations (5). In conclusion, although hyperviscosity may explain some thromboembolic events associated with COVID-19 and its vaccination, we believe that further evidence is needed to link it with autoimmune/inflammatory thyroid diseases.

### Correspondence to:

Hayri Bostan  
Department of Endocrinology and Metabolism  
Diskapi Yildirim Beyazit Training and Research Hospital  
Ziraat Mahallesi, Sçht. Ömer Halisdemir Blv No: 1  
06110 – Altındağ, Ankara, Turkey  
[drhayribostan@gmail.com](mailto:drhayribostan@gmail.com)

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