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Letter to the Editor Response

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Response to Letter to the Editor From Raven: Three Cases of Subacute Thyroiditis Following SARS-CoV-2 Vaccine

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We would like to thank Dr. Raven et al for their letter to the editor (1) supporting our article on subacute thyroiditis cases following SARS-CoV-2 vaccine (2). They reported a case of subacute thyroiditis following SARS-CoV-2 mRNA vaccination and a case of Graves' disease following adenovirus vector SARS-CoV-2 vaccination (1).

Following the reports of subacute thyroiditis associated with inactivated SARS-CoV-2 vaccinations (CoronaVac) (2), and Graves' disease after mRNA SARS-CoV-2 vaccinations (Pfizer-BioNTech) (3), other cases related to viral vector vaccines as well as other mRNA-based SARS-CoV-2 vaccines have been reported in the literature (4, 5). One of the common features of both subacute thyroiditis and Graves' disease following SARS-CoV-2 vaccination is that they occur a few days after vaccination. In addition, the clinical manifestations of these side effects appear to be similar despite the use of different types of vaccines for COVID-19.

SARS-CoV-2 spike protein, which is included in the inactivated SARS-CoV-2 vaccine (2), cross-reacts with human tissue proteins, including thyroid peroxidase (6). Both mRNA and adenovirus vector based COVID-19 vaccines encode the SARS-CoV-2 spike protein (7, 8). Therefore, autoimmunity may be triggered through molecular mimicry. In addition, adjuvants in vaccines can induce autoimmune/inflammatory syndrome in genetically susceptible individuals (2). Nevertheless, the rarity of these side effects despite mass vaccination suggests individual predisposition. However, there are no data to explain individual susceptibility or predictors of such adverse effects.

Another uncertainty is the timing of repeated or booster doses in cases of COVID-19 vaccine-induced thyroid disease: Is it necessary to postpone the vaccination in the event of adverse reactions? The catastrophic COVID-19 pandemic continues despite mass vaccination. On the other hand, most cases of vaccine-induced thyroid disease appear to be of a self-limiting nature (2). Therefore, until more data on this topic become available, we believe that clinicians should carefully evaluate their patients who develop symptoms suggestive of thyroid diseases after receiving COVID-19 vaccination and closely follow them if vaccine-related thyroid pathologies emerge, rather than postponing the vaccination schedule.

Additional Information

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