

LETTER TO THE EDITOR

COVID-19 vaccination and lichen planus

Dear Editor, we would like to share ideas on “Oral lichen planus following the administration of vector-based COVID-19 vaccine (Ad26.COV2.S) (Troeltzsch et al., 2021).” The clinical association between the immune response to vaccine and pathogenesis of lichen planus is interesting. Clinically, vaccine-induced lichen planus is reported in some vaccinations such as hepatitis B vaccination. For COVID-19 vaccination, it might be possible. An important possible pathogenesis of vaccine-induced lichen planus is autoimmune development triggered by epitope. A good example of the epitope of vaccine that can trigger autoimmune is epitope S (Limas & Limas, 2002). In case that it is an abnormal immunity process or autoimmunity, an abnormal antibody specific to the vaccine epitope should be detectable (Calista & Morri, 2004). However, in the report by Troeltzsch et al. (2021), there is no data on complete work-up for autoimmunity and antibody profile.

Another possible underlying mechanism is vaccine-associated hyperviscosity. After COVID-19 vaccination, hyperviscosity might occur (Joob & Wiwanitkit, 2021). The mechanism of vaccine induces hyperviscosity is due to an antibody surge after vaccine administration, which results in a rapid increase of plasma concentration (Joob & Wiwanitkit, 2021). This pathological process is confirmed as a possible pathomechanism of some COVID-19 vaccine-related adverse effects, such as zoster-like dermatological lesions (Mungmunpantipantip & Wiwanitkit, 2021). In the case of the hyperviscosity problem, lichen planus is a rare but possible clinical presentation (Xiao, 1990; Xu, 1991). Xiao investigated primary contributing factors in hemorheology of oral lichen planus and identified high blood viscosity as an important factor (Xiao, 1990). Xu (1991) found that high blood viscosity results in the disturbance of microcirculation and further induced inflammation process underlying lichen planus formation. A good example is the occurrence of lichen planus in polycythemia disorder, which also has a hyperviscosity problem. Therefore, if hyperviscosity occurs after COVID-19 vaccination, it might induce the formation of lichen planus (Oueslati et al., 2020). Again, no laboratory data are available in the report by Troeltzsch et al. (2021); hence, it is difficult to confirm that lichen planus in the case presented by Troeltzsch et al. should be due to which pathogenesis.

CONFLICT OF INTEREST

None.

AUTHOR CONTRIBUTIONS

Rujittika Mungmunpantipantip: Conceptualization; Data curation; Formal analysis; Validation; Visualization; Writing-original draft; Writing-review & editing. **Viroj Wiwanitkit:** Conceptualization; Data curation; Supervision; Validation; Visualization.

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