

عنوان مقاله:

A Review on Suggested Mechanisms in Thrombocytopenia and Thrombosis Following ChAdOx1 nCoV-19 Vaccination

محل انتشار:

مجله تحقیق در پزشکی مولکولی، دوره 9، شماره 4 (سال: 1400)

تعداد صفحات اصل مقاله: 8

نویسندگان:

Negar Mottaghi Dastgerdi - *Department of Pharmaceutics, School of Pharmacy, Iran University of Medical Sciences, Tehran, Iran (Email: Faghihi.h@iums.ac.ir; Homafaghihipharm@gmail.com; ORCID: ۰۰۰۰-۰۰۰۳-۱۵۰۵-۴۹۳۶)*

Homa Faghihi - *Department of Pharmacognosy and Pharmaceutical Biotechnology, School of Pharmacy, Iran University of Medical Sciences, Tehran, Iran (Email: Mottaghi.n@iums.ac.ir, Mottaghi.negar@gmail.com; ORCID: (۰۰۰۰-۰۰۰)-۸۳۸۶-۷۷۴X)*

خلاصه مقاله:

Background: ChAdOx1 nCov-19 vaccine is a viral vector-based vaccine with desirable protection (about 70.4%, two weeks after the second dose). Few reports were released on thrombocytopenia associated with thrombotic events shortly after the ChAdOx1 nCov-19 vaccination. However, the exact pathophysiologic mechanism of this vaccine-induced thrombotic complication has not yet been elucidated. Vaccine-induced thrombotic thrombocytopenia syndrome (VITTS) is associated with detecting anti-platelet factor ۴ (PF۴) antibodies that are not yet linked to previous exposure to heparin. Materials and Methods: In the current review, based on relevantly reported cases, possible mechanisms are suggested on the relationship between the anti-platelet factor ۴ (anti-PF۴) antibody assays, previous exposure to heparin, and the involved mechanisms of post-vaccination thrombocytopenia and thrombotic events, which might help the experts for selecting the appropriate therapeutic measures. Results: Possibly involved mechanisms in VITTS after ChAdOx1 nCoV-19 vaccination include binding of anti-PF۴ antibodies to heparin/PF۴ complex or receptor-binding domain (RBD) protein-PF۴ complex. Another mechanism could be the binding of anti-RBD antibodies to the RBD protein-PF۴ complex. Finally, anti-RBD or anti-PF۴ antibodies may bind to the heparin-RBD protein-PF۴ complex. The binding of either of the mentioned antibodies to these complexes via the Fc/angiotensin-converting enzyme ۲ receptors can cause activation/removal of platelets leading to thrombocytopenia and thrombosis. Conclusion: The suggested mechanisms in this article provide a relationship between the results of anti-PF۴ antibody assays, previous exposure to heparin, and the involved mechanisms of post-vaccination .thrombocytopenia and thrombotic events, which might help the experts in selecting the therapeutic measures

کلمات کلیدی:

.Anti-PF۴ antibodies, ChAdOx1 nCoV-19, Heparin, Thrombocytopenia Thrombosis

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1881431>



