



# Is it True that a Covid-19 Vaccine May be Associated with Deep Vein Thrombosis or Pulmonary Embolism?

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## Commentary

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## Abstract

There are some scientifically baseless arguments that a vaccine developed against COVID-19 cause deep vein thrombosis (DVT) or pulmonary embolism. In this study, we, as independent scientists, wanted to release to the world public whether the vaccines developed against COVID-19 will cause DVT or pulmonary embolism. We have stated below all the details of these situations one by one, along with their possibilities, in the main content of our article.

## Introduction

Vaccines are the most effective way to prevent infectious diseases. This excellent treatment method, which protects human beings from infectious diseases, dates back to 4000 BC. The first vaccine that man discovered and got rid of diseases through vaccination in modern history is the smallpox vaccine. The information acquired by human beings from this smallpox vaccine plays a significant role in getting rid of many other infectious diseases [1].

The COVID-19 disease, which has suppressed our world in the age we live in, caused not only the destruction of people's lives but also a decrease in socio-economic well-

being [2]. Technological advances have led to the production of the vaccine against COVID-19 disease in a short period of 1 year and offering it to the service of humanity. These rapidly produced vaccines encountered obstacles to ensuring social immunity and breaking the chain of the disease with the help of the negative propaganda of vaccine opponents. Lastly, it brought along the prohibition of the use of a vaccine against COVID-19 disease. The basis of this prohibition is the claim that individuals who are vaccinated with a vaccine have deep vein thrombosis (DVT) and pulmonary embolism. In this study, we, as independent scientists, want to release our opinions to the world public on whether such symptoms can be seen after vaccination with possible mechanisms in the light of a scientific basis.

It is known that in all societies the general frequency of genetic hypercoagulopathy is between 1.7% and 3.5%. As is known, hypercoagulopathy may lead to DVT or pulmonary embolism by affecting the parameters of coagulation mechanisms or myocardial infarction or cerebrovascular disease [3]. DVT and pulmonary embolism that are experienced after a vaccine may have been observed in individuals with a genetic predisposition to hypercoagulopathy. Therefore, we do not find it correct and ethical to reach such a conclusion without screening the coagulation cascade whether a vaccine cause DVT or pulmonary embolism. To avoid this controversial blame, it is useful to consider the Virchow triad before vaccination [4]. In other words, if it is revealed whether there is coagulation cascade disorders in individuals who are or will be vaccinated, the situation will be clarified because it will be known clearly whether it is caused by the vaccine or due to the aforementioned situation [5].

One possible cause of DVT or pulmonary embolism occurring after a vaccine is the possibility that individuals who received the vaccine had encountered the COVID-19 disease virus shortly before the vaccine. In other words, when we consider the possibility of being in the incubation period without the symptoms of COVID-19 disease in individuals to be vaccinated, DVT or pulmonary embolism may be reported in some individuals. Because the clinical symptoms of the new SARS-COV-2 virus include a history of DVT and pulmonary embolism.

All vaccines have the ability to activate the immune system [6]. We also predict that although the coagulation cascade is partially affected due to this activation, it cannot be activated enough to cause DVT or pulmonary embolism. Before the COVID-19 vaccine, there are many vaccines such as polio, smallpox, influenza, etc. offered to the service of human beings, and rarely, non-life-threatening side effects such as redness and mild fever are known [7]. Although vaccine technology is so advanced in today's world, in other words, although every detail is taken into consideration, we think that it may be an unfortunate coincidence to blame a vaccine for causing DVT or pulmonary embolism without eliminating the situations mentioned in paragraphs 3 and 4 above.

The importance and significance of vaccines should be thoroughly explained to the public by health authorities in order for human beings to get rid of the disaster of COVID-19 disease. In fact, we think that a spokesperson should be elected from the science committees that countries have established themselves, and that other science committee members should not speak so that they do not confuse the society.

Vaccines are indispensable protective agents for breaking the chain of infection. In other words, since individuals who are vaccinated will probably not be able to carry the disease, the possibility of infecting it from one person to another will decrease, and the chain will be broken and the pandemic will disappear naturally one day [2].

Furthermore, If deep vein thrombosis or pulmonary embolism were associated with a vaccine, why have not developed DVT Pulmonary Embolism in all other people vaccinated with this vaccine. Or, another word, if not associated developed DVT Pulmonary Embolism with this vaccine, why were not developed against the other commercial vaccines used during this pandemic situation or why not reported similar situation with other vaccines. Those above questions remain as important topic questions behind a vaccine.

Summary of the summary: Before vaccination, individuals should be questioned whether they have a familial history of thrombophilia. If there is a problem with the Virchow triad in the individuals to be vaccinated, low-molecular-weight heparin treatment and follow-up should be performed in these individuals before vaccination, so we also predict that we can prevent the development of DVT or pulmonary embolism or possible cerebrovascular diseases or myocardial infarction. Also, in terms of scientific ethics, it is certain and inevitable that the withdrawal of a vaccine from the market without revealing whether the findings and information about vaccines are completely based on vaccines will weaken us in the fight against COVID-19. We would like to point out that we attach importance to the authorities' not making accusations and respecting ethical values in such health incidents that concern the society.

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