

## Hypothesis: Estradiol Component of Certain Covid.19 Vaccines Rising D.dimer Concentration

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### ABSTRACT

COVID.19 pandemic alter the people activities worldwide from education, economy to the social and even politic life, as a result of the huge influence of this bio-crisis, extensive research done about this viral infection ,successes produce vaccines to this viral infection within short time.

However, harmful consequences flow injection of certain types of this vaccines observed worldwide, ranging from mild symptoms as fever and pain at site of injection to the death. Estradiol constituent of those types of vaccine play an important role coagulation problem (thromboembolism) flowed receiving of it. Suitable precautions must be considered before administering this types of vaccine.

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### Introduction

Abnormal coagulation observed in few cases after receiving certain types of COVID.19 vaccine, majority of these cases happened among adult female mainly those in early puberty, which associate with physiological changes in sex hormones.

One of these hormone is Estradiol which raised throughout adolescence and then slow down after passing this period of age, increasing of it induces change of immunomodulating agents, certainly Interleukin-6. Raise of these proinflammatory cytokines, causes tissue injury, aggregations of thrombocytes and stimulation of coagulation system, which may result with formation of clot in dissimilar tissues of the body [1].

However thromboembolic (TE) events are quite rare between young women, they bare grave consequences. Their incidence rises in the existence of risk factors such as thrombophilia and protracted exposure to high levels of exogenous estrogen, such as oral contraceptive agents and estrogen replacement therapy [2].

Exogenous estrogen ( Estradiol ) content of certain types of COVID.19 , leads to severe complications in persons have normal physiological level of Estradiol greater than others such as women at puberty and those whom live with health disorders which rise level of this hormone , such as hyperthyroidism, malignancies of testes and ovaries , liver cirrhosis.

High levels of Estradiol in those people lead to increase of interleukin-6, tissue injury, stimulation of thrombin, aggregation

of platelets and formation of colt, and increase the risk of thromboembolism among them. Presence of inactivated factor XI in some type of COV-2 Vaccines [3], with thrombotic action of interleukin- 6 increase the risk of clot formation and unfortunately death may occur if no quick and proper medical intervention.

### Conclusion

Rising D. dimer levels after administering of certain types of COVID.19 related to Estradiol (E2) content of it.

### Recommendation

Individual with suspected high level of estradiol must be under close medical monitoring.

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