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Article · May 2021

DOI: 10.36346/sarjps.2021.v03i03.002

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ISSN 2664-4142 (Print) & ISSN 2664-6749 (Online)
South Asian Research Journal of Pharmaceutical Sciences
Abbreviated Key Title: South Asian Res J Pharm Sci

| Volume-3 | Issue-3 | May-Jun -2021 | **DOI: 10.36346/sarjps.2021.v03i03.002**

Review Article

Prohibition of Heparin for Thrombus Resulted From COVID.19 Vaccine: Etiology and Trouble Shooting

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Article History
Received: 16.04.2021
Accepted: 24.05.2021
Published: 30.05.2021

Abstract: Since late of 2019 COVID.19 represent the most widespread pandemic affect the globe , due to its quick spread, rapid evolution of the virus and imbalance between medical research and viral development and progression. Despite presence of several therapeutic protocols and fast synthesis of vaccine to the virus, it still the top problem facing the world. Presence of vaccine to COVID.19 in short time is the outcome of an excellent work of medical researchers, but dilemma observed as presence of abnormal coagulation disorders after usage of certain types of COVID.19 vaccines.Heparin is forbidden for thrombosis resulted from COVID.19 vaccine, simply this is due to inactivated coagulation factor (factor XI) content in these vaccines, which may lead to deactivation of heparin in presence of thrombin and fibrin clot, we recommend to use pentasaccharide danaparoid anticoagulants to resolve vaccine resulted thrombus.

Keywords: COVID.19 Vaccine, Heparin, Factor XI, Thrombosis.

INTRODUCTION

Rare coagulation disorders observed among recipients of certain types of COVID.19 vaccine, these phenomena obviously amid adolescent females. These abnormal thrombosis attributed to two reasons, one related to recipient of that type of COVID.19 vaccine and the second reason related to vaccine itself.

High level of certain types of sex hormones during adolescence period, lead to alteration of certain biological process, and induce rising of concentrations of certain types of cytokines. Raised Estradiol levels throughout females puberty, lead to elevation of IL-6, these increasing of these proinflammatory modulating agent lead to tissue injury, aggregation of thrombocytes and activation of coagulation system.

Presence of inactivated factor XI in some types of COVID.19 vaccine and activation these thrombosis agent due to action of interleukin-6, resulted in thrombin existence.

Thrombin activated factor XI, lead to activation of coagulation system and formation of fibrin clot. Continuous presence of thrombin due to constant rising of IL-6 and resultant fibrin clot, make adding heparin of useless function. In existence of heparin, ternary complexes between thrombin, fibrin and heparin designed. In these complexes the coagulant action of thrombin is reserved, whereas the anticoagulant activity of fibrin-bound heparin deactivated [1].

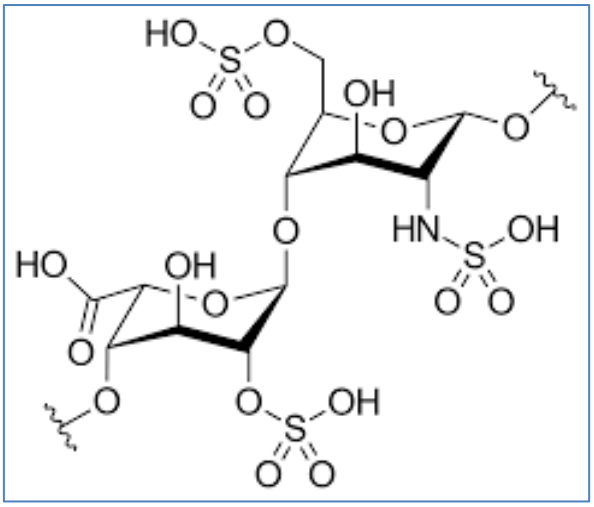

Fig-1: chemical structure of heparin

CONCLUSION AND RECOMMENDATIONS

So usage of heparin to treat clot resulted as a consequence of COVID.19 vaccine have no value and contraindicated, we advise health care professional to use danaparoid and especially the pentasaccharide may be better anticoagulant than heparin.

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CITATION: Mosab Nouraldein Mohammed Hamad (2021). Prohibition of Heparin for Thrombus Resulted From COVID.19 Vaccine: Etiology and Trouble Shooting. *South Asian Res J Pharm Sci*, *3*(3): 44-45.