COLCHICINE- A POSSIBLE ROLE IN THERAPY OF CORONAVIRUS COVID-19 DISEASE

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Recent developments in coronavirus COVID-19 with tocilizumab have identified cytokine storm as a therapeutic target (1, 2).

Some immunomodulation drugs like cortisone and hydrocloroquine have been tested, producing insignificant results. Cortisone has not been recommended in the therapy of COVID-19 disease (1, 2).

The mechanisms of the injury described for coronavirus COVID-19 (3), in rat coronavirus RCOV (4), and previously for influenza with lung injury (5), indicate that the injury is partly promoted by neutrophils and macrophages, and therefore could be responsive to treatment with colchicine.

It seems that patients with the most severe disease course have significantly more neutrophils than those with a more benign course. The threshold seems to be approximately 7 x 10^9/l neutrophils (6).

As a result, the group of patients with neutrophilia (> 7 x 10^9/l) could probably draw greatest benefits from immunomodulation with colchicine. At the same time, all symptomatic patients could possibly benefit from colchicine as well.

With colchicine being most efficient in the first twelve hours of other forms of acute tissue injury caused by local cytokine hypersecretion, such as gout arthritis (7), the optimal timing of its administration could be as early as neutrophilia is detected.

Thus, it would be necessary to urgently verify these hypotheses in animal models, like K18-hACE2 mice (8), and, if feasible, to start a randomized control trial of the drug starting with a low dose of colchicine 0.5-1 mg q.d.

To the best of author's knowledge, this is the first time that possible benefits of colchicine therapy for coronavirus COVID-19 disease are hypothesized.

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