

COVID-19

A Drill Down Analysis

Volume I



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DIABETES: A POSSIBLE OUTCOME IN PATIENTS RECOVERING FROM COVID-19

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Abstract

Inflammation, a natural response to tissue injury, is harmful and could be related to several diseases & infections, including SARS-CoV-2. Clinical symptoms of severe acute respiratory syndrome coronavirus-2 are fever, cough, fatigue, dyspnea and may result in acute respiratory distress syndrome, cytokine storm and multiple organ failure. Activated T lymphocytes and macrophages might tip towards local immunological activation that may be secondary to unregulated pro-inflammatory cytokines. Cytokines further play a part in inducing and sustaining pancreatic islet cell destruction to cause diabetes. Thus COVID-19 patients are with prevalent comorbidities of diabetes, and even those with glucose levels in the normal range are highly susceptible for developing diabetes in the nearby future.

Keywords: COVID-19, INFLAMMATION, CYTOKINES, DIABETES

INTRODUCTION

Coronavirus has turned disastrous in the current century. Initial attacks of severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome coronavirus (MERS-CoV) have been overtaken by novel coronavirus 2019 (Paules et al., 2020) in terms of sheer number of infectious cases and several fatalities and on 11 March 2020, World Health Organization declared the coronavirus disease of 2019 (COVID-19) outbreak a pandemic (COVID-19 Response Team, 2020). Coronavirus is a member of the family Coronaviridae and order Nidovirales (Mousavizadeh & Ghasemi, 2020). Out of the seven human infecting coronavirus; alpha coronavirus 229E, alpha coronavirus NL63, beta coronavirus OC43, beta coronavirus HKU1 are known to cause the common cold. Severe disease-causing strains include beta coronavirus MERS-CoV, beta coronavirus SARS-CoV and beta coronavirus SARS-CoV-2 named due to 79.5 % homologous similarity with SARS-CoV. Pathogen COVID-19 was known initially as 2019 novel coronavirus (2019-nCoV) and further named as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) by World Health Organization (Zheng et al., 2020).