

Heberferon May Contain The SARS-Cov-2 Infection

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ABSTRACT

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Introduction

Human coronavirus is an important agent causing mild-to-severe respiratory tract infections in humans. It is clear that viral dissemination is determinant in the establishment of severe COVID-19[1]. Therefore, the shortening of time to virus clearance will impact very favorable in the disease outcome in COVID-19 infected patients. Due to its direct (2-5 OAS, PKR) and indirect (immune mediated) antiviral properties, interferons (IFNs) have been used for the treatment of viral infections[2]. Insufficient activation of IFN system is referred as principal cause of innate immune failure to control viral persistence. T cell-mediated adaptive immune response is a fundamental factor for clearing and maintaining long-term suppression of viral infections[3]. We designed and conducted an open-label randomized and controlled clinical trial that assessed the efficacy and safety of the combination of IFNs alpha-2b and gamma (HeberFERON) versus IFN- α 2b patients with COVID-19.

HeberFERON significantly cleared the virus after four days of treatment when compared with Heberon Alpha R (IFN-alpha2b) alone. Heberon Alpha R alone also showed efficacy in the viral elimination. Both formulations of IFNs were safe and positively impacted on the resolution of the disease symptoms. None of the patients developed severe COVID-19[4]. In the ESPERANZA trial in asymptomatic patients, a lower rate of viral elimination was observed for both IFNs. However, the HeberFERON group showed a 70.6% of elimination in comparison to 46.7% for control group[5]. It was suggested that administration of antiviral medications at the beginning of the infection (within 7-10 days of starting the

symptoms) might improve outcome of patients with COVID-19[6]. Additionally, early treatment with IFNs was recommended in treatment of MERS[7]. An early application of antiviral therapy accelerating viral clearance can delay pro-inflammatory cell development, activation and their infiltration that will favor a higher survival rate.

Following the Cuban Protocol for Management of COVID-19[8], we were able to recruit patients during a window of 7-10 days from symptoms onset which is a good time to start to contribute with the innate and adaptive immune response with the use of the combination of IFN- α 2b and gamma, where the IFN-gamma plays a key role in linking the innate and adaptive immune response[9]. Although most countries do not pay adequate attention to asymptomatic people, this population of infected patients negatively impacts the global outcomes of the disease; therefore the treatment and follow-up of these patients are important to control the pandemic. The use of IFNs may be a determinant factor in the control of the disease in both symptomatic and asymptomatic patients, as reflected in this trial, where HeberFERON is most effective in the elimination of viral replication in both symptomatic and asymptomatic patients. The use of HeberFERON could be a distinctive element in this preventive and therapeutic strategy.

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