Therapeutic Effectiveness of Interferon-α2b Against COVID-19 with community-acquired pneumonia: The Ukrainian Experience

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Abstract

Background Despite several targeted antiviral drugs against SARS-CoV-2 currently being available, the application of type I interferons (IFNs) still deserves attention as an alternative antiviral strategy. This study aimed to assess the therapeutic effectiveness of IFN-α in hospitalized patients with COVID-19 and community-acquired pneumonia of viral etiology. Methods The prospective cohort study included 130 adult patients with coronavirus disease (COVID-19). 80,000 IU of IFN-α2b was administered daily intranasally for 10 days. The primary parameters were the length of hospital stay, CT-diagnosed lung injuries and the SpO2 level after-before dynamics following IFN-α2b treatment. Results Adding IFN-α2b to standard therapy for patients with severe COVID-19 reduces the length of the hospital stay by 3 days (p < 0.001). The level of CT-diagnosed lung injuries was also reduced from 35% to 15% (p = 0.011) at the time of discharge, and CT injuries decreases at the end of hospital stay from 50% up to 15% (p = 0.017). In the group of patients receiving IFN-α2b, the SpO2 index before and after treatment increased from 94 (92-96, Q1 - Q3) to 96 (96-98, Q1 - Q3) (p < 0.001), while the percentage of patients with normal saturation increased (from 33.9% to 74.6%, p < 0.05), and decreased in the categories low (from 52.5% to 16.9%) and very low (from 13.6% to 8.5%). Conclusion Addition of IFN-α2b to standard therapy has a positive effect on the course of severe COVID-19. Nevertheless, more research on the therapeutic use of Type I IFNs should be performed.

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