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COVID-19 Pandemic and Influenza Season in Hospitalized Patients: Concerns and Suggestions

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Dear Editor

Coronavirus disease 2019 (COVID-19) pandemic is still a challenge for the healthcare systems as well as the general population. Nowadays, it has been shown that many factors could affect this pandemic[1,2] among which is the flu season. For half of each year, we have flu season (autumn and winter) in each hemisphere that now (Middle of March 2021) is going to begin in the southern hemisphere. Considering the increased risk of influenza in this season, the coinfection of SARS-CoV-2 and influenza might exacerbate the severity of problems[3] resulting in a concomitant COVID-19 and influenza epidemic.[4] According to the Global Burden of Diseases' report, it has been estimated that 145,000 people have died due to influenza lower respiratory tract infection just in 2017.[5] Thus, it seems that the coinfection of COVID-19 and influenza needs to be addressed more seriously. So far, very limited data regarding this coinfection is available which raises serious concerns. Since the patients with COVID-19 and/or influenza could have similar signs and symptoms, molecular methods are certainly needed to diagnose the possible coinfection among the hospitalized COVID-19 patients. Interestingly, in a developing country (Iran), it has been shown that 22.3% (25/105) of patients with COVID-19 who didn't survive the disease had a confirmative reverse transcription-polymerase chain reaction (RT-PCR) for both SARS-CoV-2 and influenza (H1N1) viruses.[6]

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However, it's inconclusive (and also soon) to conclude whether if influenza and SARA-CoV-2 coinfection affect the morbidity/mortality ratio. This has, however, been mentioned in the published papers on vulnerable populations to influenza who are also at higher risk for COVID-19.[6,7] As a recent study, also from Iran, on 909 patients with severe pneumonia has shown the prevalence of positive SARS-CoV-2 infection by RT-PCR to be only 36.08% (328/909). Moreover, this study calculated the prevalence of 58.5%, 50.0%, and 83.1% for COVID-19 infection in the age groups of 60-69, 70-79, and >80-year-old that represents a higher risk of COVID-19 in elderlies.[8] Another study from Iran has demonstrated a total fatality rate of 9.0% for COVID-19 in the general population (February to April 2020). This ratio in the elderly group has been reported 28.1% [9] which might be due to their underlying conditions, including even influenza coinfection vulnerability. Considering the mentioned issues, several concerns remain to require a fast response:

1) The patients who are going to be admitted with the diagnosis of COVID-19 should undergo influenza evaluation before/during admission, especially in the developing countries that influenza vaccination has not been performed properly.

2) After identifying patients with influenza and COVID-19 coinfection, they need to be isolated from patients with only COVID-19 infection to decrease the ratio of coinfection and prevent the transmission of flu.

3) If the patients (especially in developing countries) are not assessed for influenza and SARS-CoV-2 coinfection (due to possible lack of resources), we should change the conventional medications for

COVID-19 to also include approved influenza treatments in the high-risk individuals.

It seems there is a gap herein probably formed due to the over-concentration on only COVID-19 and not the other environmental factors. The situation is not to be overlooked and the clinicians should be careful with their diagnoses, since, any misdiagnosis between COVID-19 and influenza might cause problems.[10] Now, this year's influenza season is overlapping with SARS-CoV-2 infection as a pandemic with a growing number of infected cases and deaths. Also, with new variants of COVID-19 (e.g. UK type)[11] and the lack of both COVID-19 and influenza vaccination in the developing countries, there are issues to be concerned about. Accordingly, the idea of at least influenza vaccination for the prevention of coinfection with COVID-19 seems rational in this condition. However, the vaccination doesn't guarantee full immunization against influenza. Altogether, it seems that more studies are required to be performed on this coinfection and possible necessary actions needed.

CONFLICT OF INTEREST

The author declares no actual or potential conflict of interest related to this study.

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