



Is the Reduced Incidence of Crimean-Congo Hemorrhagic Fever Related to the Preventive Measures of COVID-19?

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Dear editor,

Every year during summer, the conditions become favorable for the incidence of Crimean-Congo hemorrhagic fever (CCHF) in many areas of Iran, including Sistan and Baluchestan Province (1). The CCHF virus is naturally transmitted by hard-bodied tick from the genus *Hyalomma*, although other tick species have been also implicated in the natural transmission cycle. Importantly, this virus can be transmitted through eggs (transovarian transmission) or in different stages of transstadial transmission. Therefore, if the presence of infected ticks is reported in an area, it is important to observe disease transmission between the livestock and humans (2). Viremia in domestic ruminants, such as the cattle, sheep, and goats, remains for one week after infection when the animal has no obvious symptoms. During this period, disease can be transmitted to humans through the blood and viscera of infected animals and even raw animal products. Contact with the patient's blood or tissues can also transmit the disease, especially among the hospital personnel (3).

In Iran, one of the endemic foci of CCHF is Sistan and Baluchestan Province (1). In recent years, about 40% of patients with CCHF in Iran have been reported in this province (4). This year, despite the COVID-19 outbreak, the number of suspected and confirmed cases of CCHF has significantly decreased compared to the last year in this province. In the first five months of 2019, a total of 91 suspected cases and 33 confirmed cases were reported in this province. However, since the beginning of 2020, only one case of CCHF has been reported in this area. Because the general and early symptoms of CCHF, including fever, headache, weakness, lethargy, fatigue, muscle pain, sore throat, nausea and vomiting, and diarrhea (5), are very similar to the early symptoms of COVID-19 (6), if a patient with

CCHF is referred to a hospital, there may be a misdiagnosis of COVID-19, which can be very risky for the patient. It seems that part of the significant reduction in the incidence of CCHF is due to the reduced exposure of people to livestock and ticks, besides reduced exchange and livestock trafficking during the pandemic. Also, part of this reduction can be related to people's reduced willingness to attend healthcare centers to avoid the possibility of COVID-19.

During the COVID-19 pandemic, voluntary and mandatory health protocols, such as the use of face masks and social distancing, have been observed. Obviously, there have been changes in the public's health behaviors and adherence to hygienic standards, such as disinfection of human and animal places, regular hand washing, and use of gloves. It seems that these changes have resulted in a change in people's health habits and reduced the incidence of CCHF during the COVID-19 pandemic in this endemic focus. However, it is recommended that until the end of the COVID-19 pandemic, physicians and healthcare professionals consider the possibility of CCHF in people with suspicious symptoms of CCHF, especially in endemic foci of this disease.

Footnotes

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