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Facultad de Ciencias Agropecuarias

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Letter

Will SARS-CoV-2 cause diseases in poultry?

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Received April 15, 2020. Accepted May 18, 2020.

Dear Editor:

Pandemics are frequently caused by a group of viruses who causes infections in birds and mammals called coronavirus (Sahin *et al.*, 2020). Its high capacity to infect humans, such as the case of Severe Acute Respiratory Syndrome (SARS) or Middle East Respiratory Syndrome (MERS), has taken great relevance in the outbreak of a new coronavirus disease (COVID-19) in a market in the city of Wuhan, China, spreading throughout the Asian continent and later to more than 180 countries in the world, causing a pandemic. The coronaviruses also cause diseases in mammals such as dogs, mice, horses, whales, cats, and with animals with economic importance and global consumption such as birds (including poultry such as broilers and turkeys) (Biswas *et al.*, 2020). Birds are possible reservoirs of SARS-CoV-2 and can transmit it to humans or vice versa? COVID-19 is caused in humans by Betacoronavirus SARS-CoV-2, in poultry coronaviruses cause Avian Infectious Bronchitis by Gammacoronavirus which produces a highly contagious disease in chickens (Gorbalenya *et al.*, 2020). Coronaviruses, in general, are spread throughout the planet and are highly infectious, in addition to being extremely difficult to control because they have high genetic diversity over large areas, short multiplication periods and a high rate of mutation (Sahin *et al.*, 2020). SARS-CoV-2 uses a host cell receptor angiotensin-converting enzyme II (ACE2) and IBV (Infectious Bronchitis Virus) enters the body primarily by clathrin-mediated endocytosis and requires a classical endosomal/lysosomal system (Wang *et al.*, 2019). IBV produces respiratory tract infection, and affects the reproductive tract, and some strains can cause nephritis, SARS-CoV-2 cause severe acute respiratory syndrome (Ennaji *et al.*, 2019; Sahin *et al.*, 2020). IBV genotypes and serotypes are related to the vaccines strains (S1) and SARS-CoV-2 does not haver variant yet (Bande *et al.*, 2017). The IBV incubation period is very short compared to SARS-CoV-2, which is 18 to 36 hours and depends on the dose of virus infection, and clinical signs appear within 24 and 48 hours of exposure to the virus (Cavanagh and Naqi, 2008). Information about zoonotic reservoirs and its transmission among them can help to understand the COVID-19 outbreaks and zoonotic transmission of IBV, we should have a clear knowledge of its reservoir host, distribution pattern and spreading routes of IBV. SARS-CoV-2 has not a probability of infecting chickens or any other poultry, the main reason for non-infection in birds it is both viruses have different receptors on the hosts and belong to phylogenetically different groups.

Keywords: IBV; COVID-19; SARS-CoV-2; poultry; zoonotic.

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Cite this article:
Iglesias-Osores, S.; Saavedra-Camacho, J.L. 2020. Will SARS-CoV-2 cause diseases in poultry?. Scientia Agropecuaria 11(2): 281.

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DOI: 10.17268/sci.agropecu.2020.02.17