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LETTER TO THE EDITOR

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SARS-CoV-2 and the hidden carriers: Sewage, feline, and blood transfusion

To the Editor,

We have read with great interest a recent article showing severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) viral RNA in feces of children during their recovery period from the disease.[1] The study showed that even though no viral nucleic acid was detected in the throat swab specimens, the virus was identified in their feces samples. More recently, Li et al[2] and Liu et al[3] detected the virus nucleic acid in the feces and sputum of discharged patients of the disease following quarantine protocol in their homes. There was no association reported in the virus-shedding in the excreta and the gastrointestinal symptoms or severity of the illness.[4,5] In addition, the viral RNA was not detected in their urine specimens.[4] By considering the newly identified virus-shedding route, it was suggested that negative fecal viral nucleic acid result be added to the discharge criteria.

SARS-CoV-2 genomic RNA detected in several water treatment plants in The Netherlands has raised real concerns for the management authorities around the globe.[6] Vigilance on the possibility of fecal-oral transmission or spread through some indirect sources of infection is necessary. Specifically, the third world countries are at higher risks as freshwaters are usually contaminated with the drainage.[7,8] Additionally, wastewater surveillance is necessary to account for the people who are asymptomatic, with mild symptoms or never been tested.

Another, important hidden viral transmission route could be the feline species (for instance, domestic cat). Although remain asymptomatic, feline species, and not the canine (ie, dog), could carry and transmit SARS-CoV-2. Shi et al[9] in a nonpeered reviewed study demonstrated that the viral RNA was detected in few cats kept close with an experimentally inoculated cat, advocating the possibility of the animal to animal transmission. However, the route of transmission was unknown, probably could have occurred through contaminated breathed-out droplets, feces, or urine.[10] Future research will unravel the virus status and transmission from the cat to humans. More recently, seven tigers and lions at Bronx zoo, USA, caught the disease symptoms, whereas, one Malayan tiger was found positive for the virus, believed to have been acquired from zookeeper.[11] At this time-space, however, the infected people and the general population need to restrict contact with their mammalian pets, cats in specific, in the efforts to control the virus effectively.

The next very crucial aspect which needs to be addressed is the blood transfusion. Chang et al[12] timely reviewed the risk of SARS-CoV-2 transmission through blood transfusion. Virus shedding from the respiratory system in the blood plasma or serum is common with coronaviruses. Although sustained evidence of the virus transmission through blood is yet to be established, it worth the following considerations: (a) staff members in blood banks, centers or laboratories should improve biosafety protection, (b) donors' body temperature must be recorded/determined, (c) standard measures for the virus inactivation in blood products be followed, and (d) enquiring physical condition of blood donors and their relatives few days after donation.

The difficult but important management strategies, hopefully, may reduce infection rates and restrict the emergent human crisis.

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

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