Is Aerosol-Based Transmission of Middle East Respiratory Syndrome Coronavirus Possible?

To the Editor—We read the article by Memish et al with great interest [1]. The authors concluded that there is no evidence of Middle East respiratory syndrome coronavirus (MERS-CoV) nasal carriage among Hajj pilgrims. In previous studies, it was reported that MERS-

CoV infection may be transmitted via respiratory droplets or direct and indirect contact [2, 3]. However, there has been international concern in the medical community about pandemic risk due to aerosol transmission. The use of polymerase chain reaction (PCR) analysis by Memish et al to screen for nasal carriage of MERS-CoV in a large group of Hajj pilgrims has been an important advance in the public health response to MERS-CoV. However, we have a few methodological concerns about their study.

As the authors mentioned as a limitation, the use of swab specimens from the upper respiratory tract instead of the lower respiratory tract may affect the results, since the MERS-CoV load in upper respiratory tract specimens is lower than in lower respiratory tract specimens [1]. Furthermore, in a recent study, the median incubation period and serial interval (defined as the time between the successive onset of symptoms in a chain of transmission) of MERS-CoV were found to be 5.2 days and 7.6 days, respectively [3]. Additionally, van Doremalen et al investigated the stability of MERS-CoV under different environmental conditions and reported that it can remain viable for 24–72 hours [4].

In light of these findings, considering that the Hajj period can last up to 1 month and that a Hajj pilgrim may be infected with MERS-CoV during that period, it is possible that a small proportion of the Hajj pilgrims might have been infected and later recovered and, for this reason, had a negative PCR result during the post-Hajj screening. Therefore, it would have been more appropriate to screen the pilgrims during the pilgrimage period in addition to pre-Hajj and post-Hajj screening.

Note

Potential conflicts of interest. All authors: No reported conflicts.

All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

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