

Healthcare worker exposure to Middle East respiratory syndrome coronavirus (MERS-CoV): Outbreak description in Riyadh, SA

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Abstract

Middle East respiratory syndrome coronavirus (MERS-CoV) continues to cause frequent hospital outbreaks in Saudi Arabia, with emergency departments as the initial site of the spread of this virus. The risk of transmission of MERS-CoV infection to healthcare workers (HCWs) was assessed in an outbreak in Riyadh. All HCWs with unprotected exposure to confirmed cases were tested after 24h of exposure using real-time PCR (RT-PCR) of nasopharyngeal samples. Test was repeated for those of High risk exposure, further retesting depended on being symptomatic within the 14-day post-exposure monitoring period. Two negative results for MERS-CoV obtained 3days apart and being free of any suggestive Signs and symptoms were used to end the isolation of the HCWs and allow their return to duty. Overall 17 out of 879 HCWS with different levels of exposure tested positive for MERS-CoV who were linked to four index cases. The first two index cases were super-spreaders, with the first case infecting nine exposed HCWs and the second index case infecting six exposed HCWs. The third and fourth index cases infected one HCW each. The activities undertaken by the infected HCWs ranged from mild exposure, e.g., during routine nursing care, being in the same clinical area, or just having a simple peer conversation, to more high-risk exposure, e.g., intubation and connecting infected patients on bilevel positive airway pressure (BiPAP). Of the 15 positive HCWS described in this report (Table 1), 40% (6/15HCWs) tested positive on the first sampling and 53% (8/ 15) tested positive on the second sampling. The time to negative results among the 15 positive HCWs ranged between 4 and 47 days (average14.5days) and the infected HCWs needed on average two samples for clearance. All positive HCWs were either asymptomatic or had mild disease In an effort to prevent unnecessary risky exposure of HCWs and propagating healthcare-associated outbreaks, this reported data and available evidence to date supports the 2015 WHO guidance in its call to be liberal in testing all 'close contacts' of MERS-CoV cases, regardless of the significance of contact or presence or absence of symptoms, as well as the need for repeat testing weekly until negative for release from isolation. Moreover, careful review of guidance regarding the return of asymptomatic MERS-CoV-positive HCWs under investigation to active duty is needed. All public health guidelines, especially those addressing emerging pathogens of international public health importance, need to be regularly updated based on new scientific evidence.



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