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Letter to the Editor

Increased risk of COVID-19 in haemodialysis healthcare workers in a tertiary centre in the North West of England



Sir,

We have read with interest the manuscript by Montesinos *et al.* [1] assessing SARS-CoV-2 positivity and seroprevalence in 532 healthcare workers (HCWs) working in a tertiary reference hospital for Infectious Diseases in Belgium. Their study showed that HCWs in direct contact with COVID-19-infected patients did not have increased risk of COVID-19 compared with other HCWs. Similarly, in a recent study in 583 HCWs from a large hospital in Spain, direct contact with COVID-19 cases was not associated with increased risk of COVID-19 [2]. Both studies offer reassurance that personal protective equipment (PPE) measures in accordance with European Centre for Disease Prevention and Control ECDC [3] provide the appropriate level of protection from COVID-19.

Conversely, in an audit of occupational exposure in our haemodialysis (HD) services at a tertiary centre in the North West of England, we noticed increased risk of COVID-19 in HCWs in direct contact with COVID-19-infected patients. This observation highlights the need to evaluate the existing Public Health England PPE guidance [4] in HD units that recommends fluid repellent surgical masks and plastic aprons in conjunction with bare below the elbows policy in HCWs treating COVID-19-suspected or -confirmed patients not involved in aerosol-generating procedures [5] instead of ECDC [2] and CDC [6] recommended FFP2/3 masks and long-sleeved gowns in similar clinical settings.

Our regional renal service covers a population of 1.55 million people and provides in-centre HD for 432 patients in one main and four satellite HD units. At the beginning of the COVID-19 pandemic in the North West of England initially one shift (19th March 2020) and subsequently the whole main hospital HD unit (6th April 2020) was designated for treatment of suspected or confirmed COVID-19 patients receiving HD. HD patients were screened prior to attendance for HD treatment to the satellite units and those with symptoms or with previous contact with COVID-19 cases were transferred immediately to the main unit for COVID-19 nasopharyngeal swab testing, medical assessment and HD treatment. Symptom-free HD patients received HD treatment at COVID-19-negative satellite units.

A nursing team of 26 HCWs was assigned to cover the main COVID-19 unit and 48 HCWs were assigned to cover the two of the four satellite units. For the remaining two satellite HD units, nursing workforce is provided and managed by our industry partner and we do not have access to occupational exposure data. The nursing staff was not allowed to move between COVID-19-positive and -negative units from 19th March until 29th June 2020 when our HD programme was reconfigured at the recovery phase of the pandemic. During this period, 58 COVID-19 patients were dialysed at the main unit (including patients on maintenance HD and with acute kidney injury) and 237 patients were dialysed in the two satellite units staffed by nursing HCWs from our department. Public Health England PPE guidance [5] was followed for staff caring for suspected and confirmed COVID-19 patients including surgical masks, plastic aprons, protective eyewear and gloves and there were no issues with PPE supplies. Since 5 April 2020, following UK Renal Association recommendations [7], this level of PPE was extended to all staff caring for HD patients (irrespective of COVID-19 status of patients) and all HD patients were advised to wear surgical masks. Nasopharyngeal testing for symptomatic (new continuous cough, high temperature) HCWs was introduced on 30 March 2020. Prior to this date testing was prioritized for patients presenting to the healthcare system with symptoms compatible with COVID-19 infection and symptomatic HCWs were advised to stay at home for 7 days.

Amongst the 26 HCWs assigned to work at COVID-19 HD unit, 15 (57.6%) became symptomatic, 6 (23%) were diagnosed with COVID-19 on nasopharyngeal swabs (2 of whom required hospitalization), 3 had negative nasopharyngeal swabs and 6 were not tested with nasopharyngeal swabs because HCW testing was not yet recommended at that period. The dates of symptom onset of the COVID-19 HCWs were 30th March (2 HCWs), 6th April (1 HCW), 8th April (1 HCW), 14th April (1 HCW) and 4th June (1 HCW). Amongst the 48 HCWs covering the two satellite units, 17 (35.4%) became symptomatic, none had positive nasopharyngeal swabs, 4 had negative nasopharyngeal swabs and the remaining symptomatic HCWs were not tested because HCW testing was not yet recommended during that period.

Our observations suggest that HCWs caring for suspected or confirmed COVID-19 HD patients are at high risk of COVID-19 with the existing level of PPE. A precautionary approach with enhanced levels of PPE in line with European recommendations [3,8] should be considered in HCWs caring for HD patients with suspected or confirmed COVID-19 before the emergence of a second wave of the pandemic.

Conflict of interest statement

The authors have no conflicts of interest to declare.

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