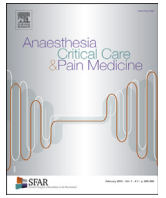




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Letter to the Editor

In-hospital transfer of COVID-19 patients: Perspectives from an Indian tertiary care hospital



COVID-19 positive patients, during their course in the hospital, may need transfers within the hospital for indications like advanced imaging and interventions including surgery. Some of these transfers could be to other blocks in the hospital that may or may not be connected through closed air-conditioned corridors. While there is literature available regarding patient specific concerns during these transfers, there is not much information available regarding concerns for health care personnel (HCP), beyond the basic infection control practices [1]. Our recent experience in transporting a COVID-19 patient post emergency neurosurgery from the intensive care unit (ICU) to another building housing the CT scanner for neuroimaging gave us some important insights, which deserve to be shared.

The decision to transfer our COVID-19 patient for neuroimaging involved several hospital departments—anaesthesia, intensive care, radiology and hospital administration, amongst others. As part of our hospital's strategy to coordinate between various departments involved in the management of COVID-19 patients, a central COVID-19 control room was set up and staffed by clinicians, nursing staff and hospital administrators. The control room members helped organise and liaison the transfer of the patient for neuroimaging. The control room greatly helped the primary ICU team from organising the entire transfer themselves when they were already working in challenging environments within the COVID-19 ICU. Clear protocols were established well in advance as part of our hospital's standard operating procedures (SOPs) and were circulated to all relevant departments at the start of the pandemic in India. Secondly, the primary team managing the patient could not leave the ICU during the transfer due to clinical commitments to other patients in the ICU. Moreover, while working a shift-based roster in already difficult circumstances, we realised that it would be difficult to expect the primary team to take up the added responsibility of organising and performing the complicated and possibly time-consuming patient transfer. Hence, a transfer team was assembled specifically for this purpose, comprising of an anaesthetist, an anaesthesia technician, a nursing staff and two hospital support workers. Thirdly, the members of the transfer team should be familiar with the routes within the hospital and the principles of transfer. Our transfer team was clearly briefed regarding the same before initiating the transfer. While transfer training is indeed part of the anaesthesia curriculum in several countries, it might be insufficient during special circumstances like COVID-19. Transfer simulation drills in PPE could potentially train HCPs in near real-life situations so that

their expectations can match reality. This is something that our hospital is looking into as part of future training modules for HCPs. Lastly, with summers in full swing in India, HCPs in PPE transporting COVID-19 patients to areas that do not have centrally air-conditioned facilities face an increased risk of severe dehydration, heat stress, claustrophobia, suffocation and collapse. The transfer team were encouraged to adequately hydrate themselves with drinks containing electrolyte before initiating the patient transfer. However, the building containing the CT scanner in our hospital is not connected to the COVID-19 ICU block, requiring the patient to be taken in an ambulance by the transfer team for the scan and back. During one of these transfers, a team member collapsed due to dehydration and heat stress. Effective coordination prior to initiating transfer had kept the duration of transfer as short as possible. However, heatwave conditions with outside temperature of 45 °C (113 F) during the transfer made it extremely challenging for the transfer team. As a subsequent hospital policy, we have planned to schedule all elective transfers at times that avoid the hottest part of the day.

Many of the issues faced are quite relevant to low-middle income countries like ours. The limited availability of PPE, limitations in technology and trained manpower, overburdened public healthcare delivery systems and the extreme Indian summer conditions are likely to pose significant challenges in the months to come. To conclude, the effective transfer of COVID-19 patients not only requires good clinical acumen, but also demands advanced planning, adequate preparedness, high-quality training and effective inter-departmental communication. These are some of the areas that administrators and clinicians need to focus on to make patient transfers easy and safe for the HCPs.

Disclosure of interest

The authors declare that they have no competing interest.

Reference

- [1] Liew MF, Siow WT, Yau YW, See KC. Safe patient transport for COVID-19. *Crit Care* 2020;24:94. <http://dx.doi.org/10.1186/s13054-020-2828-4>.

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Available online 24 June 2020