

Death in the ICU from COVID-19: more research on its effects on families needed

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Editor -On December 31, 2019, the Municipal Health Commission, of Wuhan, China, reported a cluster of 41 cases of pneumonia in Wuhan, Hubei Province. On February 11, 2020, the World Health Organization (WHO) named the novel coronavirus disease as COVID-19. On the March 11, 2020, the WHO director general declared a pandemic after outbreaks were confirmed in South Korea, Iran, Italy, and Spain. China announced the first death of a 61-yr-old man from COVID-19 on January 11, 2020, while the first death outside of China was recorded on February 2, 2020.¹

In many hospitals, aesthetists have supported intensive care through development of airway and ventilator management teams. Tracheal intubation of COVID-19 patients is a high-risk possibly aerosol-generating procedure.² In a recent multi-centre study in 17 countries, after a median follow up of 32 days from the first tracheal intubation episode, 10.7% of participants (1718) reported self-isolation or hospitalisation with new symptoms or laboratory-confirmation of COVID-19 after tracheal intubation.³

During the early phases of the pandemic, many hospitals struggled with the surge of COVID-19 patients and adequate personal protective equipment (PPE) for their staff. To protect patients, visitors, and staff from the spread of COVID-19, restrictions on hospital visitors have been introduced in most countries to reduce the likelihood of asymptomatic carriers spreading COVID-19.⁴

With ICUs under immense pressure, families have been denied access to visit their loved ones even whilst critically unwell. Information updates to their next of kin are being given using alternative methods such as telephone, internet calling, or video link. In some ICUs, families have even been denied access to their loved ones during their final hours and are simply informed of their demise over the phone.⁴

Even after their untimely death, restrictions continue as the virus can remain on surfaces for several days. The WHO, US Centers for Disease Control and Prevention (CDC), UK National Health Service, and other healthcare bodies have published recommendations that staff should remain in PPE during the preparation of any deceased individual before their body is moved from the ICU. The body should be covered and occasionally bagged if there is a risk of leakage of bodily fluids. Staff are additionally advised to wear PPE when handling bodies in the morgue. Viewing of the deceased is restricted to immediate relatives and those sharing the same quarters, excluding those who are older, immunocompromised, or unwell. Kissing of the deceased is strictly prohibited.⁵⁻⁷

Religious ceremonies are restricted to a bare minimum number of individuals. It is recommended that touching the body, if it is necessary, should be performed only by those with experience in using PPE. The CDC has reported COVID-19 spread

during a funeral that lead to a mortality.⁸ Similarly, countries have placed restrictions on the number of individuals who can attend funerals; even at funerals social distancing is advised.

The prohibitions on being with loved ones during their final hours, the inability to kiss the deceased, coupled with restrictions to religious and funeral arrangements places tremendous stress and anxiety amongst families and friends already coping with heightened anxiety and anger as a result of being quarantined during the pandemic.⁹ A patient's death has been identified as a risk factor for the family to develop posttraumatic stress disorder symptoms. Family members may develop psychological distress including generalised anxiety disorder, depression, and panic disorder.¹⁰

A literature search was performed on June 3, 2020 using MEDLINE, EMBASE, LILACS, CENTRAL, CINAHL, PsycInfo, and SIGLE for conference proceedings to identify clinical trials, previous systematic reviews, literature reviews, or other published papers involving families of deceased patients with COVID-19, and other recent global infection outbreaks (influenza, Ebola, severe acute respiratory syndrome [SARS] and Middle East respiratory syndrome [MERS]). This failed to identify any published literature relating to this crucial area using the following search terms: 1- Death OR deceased OR dying OR died OR mortality; 2 - Coronavirus OR covid OR covid19 OR pandemic OR SARS OR SARS-CoV2; 3 - Bereavement OR followup OR family OR families OR kin; 4 - 1 AND 2 AND 3.

We feel that it was important to highlight this as an area of research that has not hitherto been investigated. We hope that intensivists, nurses and palliative care teams can address some of the points raised in future work, especially as much of our interaction and communication is with the families and loved ones of patients we strive to save.

Declarations of interest

The authors declare that they have no conflicts of interest.

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Recommendations for resuming elective spine surgery in the COVID-19 era

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Editor—As regions across the USA begin reopening after the initial surge of coronavirus disease 2019 (COVID-19), current guidelines recommend that in order to resume elective surgery facilities must have a sufficient number of ICU and non-ICU beds, and ventilators to treat all non-elective patients given the possibility of a second wave of COVID-19 patients.¹ Spine fusion surgeries are among the more resource-intensive elective procedures,² but delaying spine surgery can result in prolonged or worsening pain and discomfort. Thus, it is important for policymakers to consider average resource utilisation after common elective spine surgeries when strategising ‘return-to-normal’ operations.

Increasing patient access to care while maintaining availability of ICU beds and ventilators is not the only concern institutions face. As a consequence of social distancing and stay-at-home orders, there has been a major reduction in blood donations.³ Given that certain spine surgeries are associated with high blood loss and need for transfusion, maintaining institutional blood supply is an additional concern.

We therefore sought to determine which spine procedures and surgical approaches are the least resource-intensive and which patient populations are the least likely to require these resources. This information could guide selection of

procedures that might be considered earlier in a ‘return-to-normal’ plan. We evaluated ICU admission, use of mechanical ventilation, and blood transfusion in the context of elective spinal fusions, stratified by location, surgical approach, and number of levels fused.

After Institutional Review Board approval (IRB#2016-436), we conducted a retrospective analysis of patients who underwent elective inpatient spinal fusion surgery captured in the Premier Healthcare database (2006–2016; Premier Healthcare Solutions, Inc., Charlotte, NC). Surgeries were classified by level of the spine (cervical, thoracolumbar, or lumbar), surgical approach (anterior, posterior, or combined), and number of vertebrae fused (2–3 or 4+). For each distinct category we identified frequency of ICU admission, length of ICU and hospital stay, use and length of ventilation (≥ 96 h or < 96 h), and blood transfusion on or after the day of surgery. Separate multivariable logistic regression models were run for the three outcomes of ICU admission, any form of ventilation, and blood transfusion. Models were adjusted for patient age and comorbidity burden as measured by Charlson–Deyo index.⁴ Odds ratios (OR) and 95% confidence intervals (CI) were reported. Analyses were performed with SAS version 9.4 (SAS Institute, Cary, NC, USA).