

The Effect of the COVID-19 Pandemic on Junior Physicians

Introduction

Since the start of the COVID-19 pandemic, over 15 million Americans have tested positive for the virus and over 285,000 patients have died. At the beginning of this pandemic, we started our very first medical ICU rotation as interns and witnessed firsthand the challenges that many junior doctors across the world continue to face today. While news of a preventative vaccine now offers hope for the end of this global pandemic, we found that our time spent in the ICU, navigating through so many unknowns, shaped our future as practicing physicians. I helped care for several critically ill patients during my rotation, but one case embodied my thoughts about how COVID-19 would impact the rest of my career.

In April 2020, a 42-year-old non-English speaking male was admitted along with his 54-year-old mother and 62-year-old father for COVID-19 pneumonia and hypoxia. The son presented with severe respiratory distress requiring urgent intubation and subsequently developed severe acute respiratory distress syndrome (ARDS). He was treated as per our institution's ARDS policy, including early proning and neuromuscular blockade use. Despite this, he failed to respond appropriately, and his lung compliance mechanics continued to decline. Anecdotal evidence at the time indicated a benefit from treatment with hydroxychloroquine and tocilizumab for severe COVID-19 infections. Since he had an elevated IL-6 along with persistently elevated inflammatory markers, such as ferritin, C-reactive protein, and d-dimer, he was given experimental therapies, including convalescent plasma and therapeutic anticoagulation as per rapidly evolving recommendations. With so many unknowns continuing to plague treatments and fears of spreading the virus, a percutaneous tracheostomy, which would typically have been advised for prolonged intubations, was not an option in this case. Therefore, he spent over three weeks orally intubated and developed a ventilator acquired pneumonia, as well as acute renal failure requiring continuous renal replacement therapy. Finally, after several weeks with an undulating medical course, his lungs showed signs of recovery, indicated by decreased oxygen needs, improved pulmonary compliance, and resolution of all secondary infections. Therefore, our attending decided to wean his sedation and liberate him from the ventilator.

After a 24-hour sedation vacation as performed, we examined the patient who had still failed to regain consciousness. With no signs of clinical improvement, a CT head was performed, revealing a large intraparenchymal hemorrhage with a midline shift and uncal herniation. We emergently called our neurosurgery colleagues with the catastrophic findings, and they recommended no surgical intervention. After extensive discussions with the patient's family (several of whom remained hospitalized with the infection), we transitioned him to comfort-oriented care. The patient died after 32 days in our ICU.

Our case and the management of COVID-19

Despite rapidly evolving data and studies on novel therapies, we were faced with so many questions and uncertainties on how to treat these patients. In this case, we weighed the risks and benefits of therapeutic versus prophylactic anticoagulation treatment, without formally established guidelines. Given his relatively young age and lack of comorbidities combined with the severity of his infection, we hoped that anticoagulation therapy would expedite his overall recovery, not cause his untimely death. During rounds, our ICU team discussed similar situations. We noticed senior team members debating

and agonizing over decisions, such as who should or should not receive salvage therapies based on who they believed had a greater chance of survival versus a greater need for treatment.

As junior physicians, it became clear we were not trained or prepared for such clinical scenarios. Equally unnerving was that our senior residents, fellows, and faculty experienced a similar feeling. This highlighted a need for a multidisciplinary approach during this pandemic, particularly in situations where data was lacking, or resources were scarce. Having consulting physicians, like infectious disease and the palliative care, involved in treatment decisions lessened the burden and guilt on one individual physician from unforeseen, but likely, complications.

Our case and coordinating end-of-life care

Social, cultural, and language barriers played a significant role in communicating this patient's poor prognosis effectively as we transitioned him towards end-of-life care. This further highlighted challenges in coordinating comfort-oriented care at a time when family support and presence, despite being of the utmost importance, was limited because of the virus.

The hospital's newly implemented visitor policy prevented any in-person discussions with his wife, daughter, and extended family. Sadly, we were forced to perform several family meetings, typically held in person, over the phone with the loss of vital non-verbal communications to comfort the patient's family. Additionally, the family only spoke Nepalese, making language a significant barrier in the physician-patient relationship. Finally, preventing the family from seeing the patient and say their goodbyes further hindered our ability to gain the family's trust and understanding the complexity of the situation. Eventually, with our palliative care team's assistance, the family agreed to terminally extubate the patient, who died without the comfort of his family at his bedside.

Furthermore, the patient's parents, who were initially admitted with him, remained hospitalized in our ICU with a similarly undulating but less severe COVID-19 infection. To help facilitate their recovery and prevent any setbacks, our palliative care team recommended withholding the news of their son's death until they could better cope with such catastrophic news. This additional ethical dilemma was particularly distressing to many members of our team.

Our case and maintaining physician wellness

The pandemic has undoubtedly unveiled fragilities within our healthcare and medical training system. Personal protective equipment shortages and access to novel therapies continue to expose the limitations of current health policies. Ten months into the pandemic, hospitals remain overwhelmed with insufficient staffing and beds which, demonstrating the strain and burden on first responders and frontline healthcare workers.

For our team, this case, and unfortunately several others, highlighted gaps in our medical school training concerning emergency planning and healthcare triage. By the end of our ICU rotation, we were physically fatigued, mentally drained, and morally overwhelmed by the destruction the COVID-19 virus has caused. The rapidly evolving data and clinical uncertainty exacerbated these feelings, especially as treatment regimens administered early in the pandemic have now fallen out of favor. We could not help but wonder what other harms did we unintentionally expose to our patients? Whom did we fail to save because of limited access to resources and therapies?

Making decisions based on clinical ambiguity with limited resources in a new and rapidly evolving context needs to be acknowledged and supported by our senior staff and healthcare systems. Policies should be instituted to support junior doctors during this unprecedented time, especially as the positivity rate continues to rise. While many residents may feel ill-equipped to journey through this uncharted territory, addressing these situations in the residency curriculum would undoubtedly shape the trajectory of our future training and practice, ideally preparing us to better cope in similar future situations. In the meantime, we are hopeful as we watch the global scientific community collaborate and tackle this pandemic in unique ways. As we await the approval of a vaccine in the coming weeks, we are grateful and honored to have played a role in such an unprecedented time of patient and community care.

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