I Never Wanted To Be a Hero

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have been in the business of medicine for more than 15 years and I will never forget the initial surge of the COVID-19 pandemic in Massachusetts.

As a hospitalist, I admitted patients infected with COVID-19, followed them on the floor, and, since I had some experience working in an intensive care unit (ICU), was assigned to cover a "COVID ICU." This wing of the hospital used to be a fancy orthopedic floor that our institution was lucky enough to have. So began the most life-changing experience in my career as a physician.

In this role, we witness death more than any of us would care to discuss. It comes with the territory, and we never expected this to change once COVID hit. However, so many patients succumbed to this disease, especially during the first surge, which made it difficult to handle emotionally. Patients that fell ill initially stayed isolated at home, optimistic they would turn the corner only to enter the hospital a week later after their conditioned worsened. After requiring a couple of liters of supplemental oxygen in the emergency room, they eventually ended up on a high flow nasal cannula in just a matter of hours.

Patients slowly got sicker and felt more helpless as the days passed, leading us to prescribe drugs that eventually proved to have no benefit. We checked countless inflammatory markers, most of which we were not even sure what to do with. Many times, we hosted a family meeting via FaceTime, holding a patient's hand in one hand and an iPad in the other to discuss goals of care. Too often, a dark cloud hung over these discussions, a realization that there was not much else we could do.

I have always felt that helping someone have a decent and peaceful death is important, especially when the prognosis is grim, and that patient is suffering. But the sheer number of times this happened during the initial surge of the pandemic was difficult to handle. It felt like I had more of those discussions in 3 months than I did during my entire career as a hospitalist.

We helped plenty of people get better, with some heading home in a week. They thanked us, painted rocks and the sidewalks in front of the hospital displaying messages of gratitude, and sent lunches. Others, though, left the hospital 2 months later with a tube in their stomach so they could receive some form of nutrition and another in their neck to help them breathe.

These struggles were by no means special to me; other hospitalists around the world faced similar situations at one point or another during the pandemic. Working overtime, coming home late, exhausted, undressing in the garage, trying to be there for my 3 kids who were full of energy after a whole day of Zoom and doing the usual kid stuff. My house used to have strict rules about screen time. No more.

The summer months provided a bit of a COVID break, with only 1 or 2 infected patients entering my care. We went to outdoor restaurants and tried to get our lives back to "normal." As the weather turned cold, however, things went south again. This time no more hydroxychloroquine, a drug used to fight malaria but also treat other autoimmune diseases, as it was proven eventually over many studies that it is not helpful and was potentially harmful. We instead shifted our focus to remdesivir—an antiviral drug that displayed some benefits—tocilizumab, and dexamethasone, anti-inflammatory drugs with the latter providing some positive outcomes on mortality.

Patient survival rates improved slightly, likely due to a combination of factors. We were more experienced at fighting the disease, which led to things in the hospital not being as chaotic and more time available to spend with the patients. Personal protective equipment (PPE) and tests were more readily available, and the population getting hit by the disease changed slightly with fewer elderly people from nursing homes falling ill because of social distancing, other safety measures, or having already fought the

disease. Our attention turned instead to more young people that had returned to work and their social lives.

The arrival of the vaccines brought considerable relief. I remember a few decades ago debating and sometimes fighting with friends and family over who was better: Iron Man or Spider-Man. Now I found myself having the same conversation about the Pfizer and Moderna COVID vaccines.

Summer 2021 holds significantly more promise. Most of the adult population is getting vaccinated, and I am very hopeful that we are approaching the end of this nightmare. In June, our office received word that we could remove our masks if we were fully vaccinated. It felt weird, but represented another sign that things are improving. I took my kids to the mall and removed my mask. It felt odd considering how that little blue thing became part of me during the pandemic. It also felt strange to not prescribe a single dose of remdesivir for an entire month.

It feels good—and normal—to care for the patients that we neglected for a year. It has been a needed boost to see patients return to their health care providers for their colonoscopy screenings, mammograms, and managing chronic problems like coronary artery disease, congestive heart failure, or receiving chemotherapy.

I learned plenty from this pandemic and hope I am not alone. I learned to be humble. We started with a drug that was harmful, moved on to a drug that is probably neutral and eventually were able to come up with a drug that seems to decrease mortality at least in some COVID patients. I learned it is fine to try new therapies based on the best data in the hope they result in positive clinical outcomes. However, it is critical that we all keep an eye on the rapidly evolving literature and adjust our behavior accordingly.

I also learned, or relearned, that if people are desperate enough, they will drink bleach to see if it works. Others are convinced that the purpose of vaccination is to inject a microchip allowing ourselves to be tracked by

some higher power. I learned that we must take the first step to prepare for the next pandemic by having a decent reserve of PPE.

It is clear synthetic messenger RNA (mRNA) technology is here to stay, and I believe it has a huge potential to change many areas of medicine. mRNA vaccines proved to be much faster to develop and probably much easier to change as the pathogen, in this case coronavirus, changes.

The technology could be used against a variety of infectious diseases to make vaccines against malaria, tuberculosis, HIV, or hepatitis. It can also be very useful for faster vaccine development needed in future possible pandemics such as influenza, Ebola, or severe acute respiratory syndrome. It may also be used for cancer treatment.

As John P. Cooke, MD, PhD, the medical director for the Center of RNA Therapeutics Program at the Houston Methodist Research Institute, said, "Most vaccines today are still viral vaccines – they are inactivated virus, so it's potentially infectious and you have to have virus on hand. With mRNA, you're just writing code which is going to tell the cell to make a viral protein – one part of a viral protein to stimulate an immune response. And, here's the wonderful thing, you don't even need the virus in hand, just its DNA code."

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