

## On becoming a COVIDologist: An intensivist tale

Joseph Varon

*Who would think that I would consider myself an expert on an illness, that I knew almost nothing about 4 months ago?*

In late December 2019, I was made aware of a novel coronavirus, which had been identified as the cause of a cluster of pneumonia and acute hypoxemic respiratory failure in Wuhan, China. As we are now aware, this coronavirus disease 2019 (COVID-19) outbreak became a global pandemic. Over the next several months, I read everything I could about this illness, from basic epidemiology to advance diagnostic and therapeutic methods.

By the end of February of 2020, a series of cases were reported in the United States, and large mass gathering events were cancelled. At that time, I knew I was going to be called upon to take care of these patients in a very short period of time.

As a critical care medicine professional, I had training in basic epidemiology, diagnostic testing techniques and the management of complications in deadly ill patients. However, COVID-19 was completely different.

I recalled going to Singapore in 2003, during the original severe acute respiratory syndrome (SARS) epidemic, to learn how they cared for their patients. Specifically, I was interested in the patient isolation techniques used, as well as the modes of assisted mechanical ventilation that helped those patients with hypoxemic respiratory failure. Now, it was time to use what I had learned almost 2 dec-

ades ago, with the now hundreds of papers that had been published in the first couple of months of 2020 on this subject. Many of these publications were just anecdotal reports with very few randomized clinical trials.

What I knew is that I was not ready and the hospital that I work at was not either. I had to establish a plan of action before these cases started to show up in our city.

First, I needed to know how many people would be positive for COVID in the Houston metropolitan area. That was a very difficult task. With the aid of the Chief Operating Officer at our hospital, we launched a COVID-19 drive-through testing campaign that to date (in a period of 5 weeks) has tested more than 22,000 individuals with an 8.6% positive percentage of individuals. We had 5 different testing sites that worked very efficiently. Clearly, this was a small number of tests as compared to the population the 4th largest city in the United States. The city of Houston health department also had a smaller testing program. I had the advantage that I had full demographic and historical information in all these individuals, allowing me to identify those who could potentially be at risk.

Second, I had to allocate an area that would be exclusive for caring for these patients within the confines of the hospital grounds. We closed 2 wards in our hospital, and converted them into state-of-the-art negative pressure wards. We added every element to assure complete decontamination and

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made sure that everyone that worked in this unit was properly trained in such containment techniques. A comprehensive list of protective equipment was created and obtained. Rigorous check lists for everyone working in the COVID-19 unit were utilized to assure compliance.

Third, and probably the most difficult task, was to find personnel willing to work with these patients. By far, this was and has been the most difficult task of caring for a patient with COVID-19. Not only many healthcare providers refuse to care for the COVID-19 positive patients, but this reminded me of the first few patients that I saw as a medical student in the 1980s with the human immunodeficiency virus (HIV). At that time, no one wanted to care for them as they were afraid of “catching” the disease.

Fourth, I needed to have a COVID-19 specialty clinic to follow those patients that survived their hospitalization or those positive patients that needed a clinician to see them. We added a wing to the hospital that would be used only for patients that tested positive and that needed follow up. In such are, a state-of-the-art imaging department allocated exclusively for these patients and a dedicated team of healthcare providers to follow them.

After completing my initial hospital and employee preparation, we got hit with the first wave of COVID-19 patients. Every single day. Every night. Rapidly, I learned that the COVID-19 patients were truly different and their approach had to be modified. With a group of well-recognized critical care practitioners around the world we began discussions early in this pandemic as to therapeutic modalities and alternatives. We introduced the concept of the MATH+<sup>®</sup> protocol, going against many of our colleagues and showing the value of steroids, ascorbic acid, and anticoagulation were the primary reasons for a good outcome. For the past several weeks our success rate has been 100%.

So, what are the basic differences between an intensivist and a COVIDologist working in an intensive care unit (ICU)? As surprising as it may sound, the management approach to patients is completely different. For example, in a regular ICU my threshold to provide airway management and assisted mechanical ventilations is very low. If I think there may be a problem, I intubate first and ask questions later. In the COVID ICU, I do whatever it takes to avoid intubation and assisted mechanical ventilation. From permissive hypoxemia to high flow nasal canula with awake proning, a real COVIDologist is aware that intubation has a negative prognostic outcome in these patients. It is truly fascinating how I need to “switch hats” in the same hospital, while working in different ICUs.

I never expected to become an expert in COVID-19, especially in this short period of time. Yet, here I am. Working more than 100 hours a week for the past 6 weeks. No days off, no time for family. No time for anything else other than COVID-19. What is even more disconcerting is the fact that I have not been able to sit down and write our results of testing and our therapeutic interventions. As an academician, this is very painful. I have the data, yet no time to write it.

Being a COVIDologist is gratifying, as I am truly using everything I know of my different specialties. No longer I consider COVID-19 an infectious disease-only illness, but a multisystemic disease that every day surprises me with new findings, pathology, and the potential for therapeutic interventions. I am hoping that this title of “COVIDologist” is short termed and that this pandemic goes away soon.

#### **Disclosure**

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