Clinical Imaging 71 (2021) 178–179

Contents lists available at ScienceDirect

Clinical Imaging

journal homepage: www.elsevier.com/locate/clinimag

Brief communication: A radiology resident's experience with COVID-19 in New York City

Amit Ramjit *, Ami Gokli

Donald and Barbara Zucker School of Medicine at Hofstra, Northwell at Staten Island University Hospital, 475 Seaview Avenue, Staten Island, NY 10304, United States of America

ARTICLE INFO

Keywords:
Redeployed
COVID-19
Radiology resident

ABSTRACT

The COVID-19 pandemic impacted New York City severely. As a radiology resident, I was unsure how my role would change as the pandemic unfolded. Like many hospital systems in New York City, my department was asked to assist in the clinical care of patients during the dramatic surge of admissions related to COVID-19. I placed invasive central lines for critically ill patients in the intensive care unit to help reduce the workload on already overwhelmed critical care teams. I also performed direct patient care within dedicated COVID-19 inpatient floors.

1. COVID-19 impacts New York

My first recollection of COVID-19 in the United States was in early February. As a resident applying to an interventional radiology fellowship in the 2020 application cycle, I was preparing for my presentation at the Society of Interventional Radiology (SIR) annual meeting when news started to break about the first COVID-19 cases on the west coast. The first few weeks in February passed and cases began to rise in New York. As it became clear that the virus was rapidly spreading, SIR made the decision to cancel the annual conference. In a few short weeks, the nation itself shutdown and suddenly the COVID-19 pandemic impacted everyone in the United States. Within a matter of days, the radiology department pivoted from sending several residents to a national conference to preparing for redeployment during the surge of COVID-19 cases that were straining the healthcare system in New York City.

My hospital system was immediately impacted by surge admissions related COVID-19. In early March, admissions to the intensive care unit (ICU) rose rapidly. The hospital reflexively reduced elective surgeries, endoscopy and angiography cases to increase nursing and technologist availability to the rest of the hospital. When cases continued to rise, the operating room, endoscopy and angiography recovery rooms became surge ICU rooms to handle the sudden volume of critically ill patients. At this point, the hospital system began the process of increasing on site medical staff.

2. Radiology residents assisting critical care teams

Initially, there was a tremendous amount of uncertainty about how radiologists would be able to assist during the pandemic beyond image interpretation. As the influx of hospital admissions for critically ill COVID-19 patients rapidly rose, interventional radiology and general surgery attendings collaborated to create a consult service to assist in the pandemic. The vascular access support team (VAST) would place emergent invasive lines such as a radial arterial lines, Cordis central lines or non-tunneled dialysis catheters. To streamline and expedite the process, the critical care team could page VAST when any invasive line was needed. This service significantly offloaded the already overwhelmed temporarily created critical care teams and facilitated rapid stabilization of patients.

During my time with VAST, I placed most of the lines during the overnight period when the overnight primary team was handling new admissions or unstable patients. I felt a sense of apprehension as I placed my first line in a COVID-19 positive patient. We were asked to reuse available PPE for procedures such as eye shields and N95 masks. I realized in the back of my mind as I noticed the straps becoming looser on my reused N95 mask and vaguely wondered how protected any of us really were. Seeing firsthand the incredible number of patients each intern was covering gave a realistic glimpse into the myriad of media clips showing doctors and nurses strained in their battle against COVID-19 on evening news. I initially thought my role with VAST was a trivial and inconsequential part of patient care as I watched other residents

* Corresponding author.
E-mail addresses: aramjit@gmail.com (A. Ramjit), agokli@northwell.edu (A. Gokli).

https://doi.org/10.1016/j.clinimag.2020.11.033
Received 13 September 2020; Received in revised form 2 November 2020; Accepted 11 November 2020
Available online 18 November 2020

deal with unstable and highly infectious patients during grueling 12 to 14 h shifts. However, I was greeted with tremendous appreciation from residents, fellows and attendings who now had one less task to worry about. In addition, my proficiency with ultrasound became highly sought after, and even senior medical residents came to observe my technique and attempt to improve their skills. Being able to teach other residents and improve their ability to complete essential procedures instantly made me an integrated member of the team.

3. Redeployment of radiology residents as the pandemic worsens

Initially, the medicine and surgery services staffed the surge floors and ICUs as the number of COVID-19 cases rose. As ambulatory services closed, residents were reassigned from elective to inpatient rotations. With each newly created COVID-19 unit, the medicine and surgery residents were increasingly strained. By the end of March, despite all medicine and surgery residents dedicated to COVID-19 units, the workload created by the influx of patients was too great to be managed safely. By the end of March, it was clear to the radiology department leadership that medicine and surgery alone would not be able to handle the increasing patient load. It was agreed that radiology residents and attendings would be redeployed to COVID-19 floors.

Although VAST gave me a glimpse into the care of COVID-19 patients, I received firsthand experience when redeployed to the COVID-19 floors. Two radiology residents were redeployed to the medicine service each week for six consecutive day shifts. As I walked onto the third floor, I wasn't sure what to expect. It had been years since I completed my medicine rotation in medical school. As the years passed during my radiology training, I felt further removed from the nuances of medical patient management and I was apprehensive about making mistakes or appearing unprepared. Under the supervision of a senior medical resident, I was assigned five patients. "Go see your patients and let me know if you have any questions," he said as he hurried off to assign patients to the other residents. I looked through my patients' charts and all of them had a primary diagnosis of COVID-19 pneumonia. I donned my reused PPE and started seeing my patients. My apprehension of becoming a temporary medicine resident was quickly lost as the senior residents and attendings always took the time to express their gratitude and guide me through COVID-19 treatment plans.

Despite all of our efforts, day by day I watched as our patients decompensated, required mechanical ventilation, and were upgraded to the ICU. The stress of caring for patients outside of my usual scope of training combined with the incredible instability of these patients made each day taxing. Several of my patients expired, including one patient under the age of 40. She had one young daughter and was the primary caregiver for her child. During her hospitalization, I spoke with the patient's mother several times and could hear her daughter intermittently in the background of the phone calls. Overnight, this patient unexpectedly decompensated, likely the result of disseminated intravascular coagulation (DIC). Because of the effort to reduce the spread, family members were not allowed in the hospital, even family members of critically ill patients. As a result, virtually all patients that died during the pandemic did so alone. Many family members' last interaction with their loved one was a resident delivering the update that they had passed away. As with all of my patients, speaking with the patient's mother and giving the unexpected news that her daughter died brought a flood of emotions that I did my best to conceal as I spoke. Each personally delivered message of a patient's death to a family member made the hundreds of deaths that were occurring daily in New York a grim reality that I can never forget.

4. Return to life as a radiology resident after the surge

Surrounded by unprepared medical staff scrambling to keep up with the flood of dying patients felt apocalyptic. Somehow surge floors and intensive care units began to empty. Travel nurses returned to their home cities, residents resumed their standard rotations, and the hospital restarted elective procedures and ambulatory clinics. The redeployment process for radiology residents ended and residents returned to the reading room. Coming to work, reading ER studies and chatting with my coresidents made things almost feel normal. But our masks are still on, and as I run through my search pattern I find myself thinking about the person behind this xray: a dynamic interplay of friends and family. As a radiologist, it can be easy to insulate ourselves from the reality of our patients, but the last three months have changed my identity as a caregiver and impacted the way I will train the next generation of radiologists for the better.

CRediT statement

Amit Ramjit: Conceptualization, Writing - Original Draft. Ami Gokli: Writing - Review & Editing, Supervision.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial or not-for-profit sectors.

Declaration of competing interest

The author has no financial disclosures or conflicts of interests.