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The Role of Thoracic Surgeon in the Fight Against COVID-19 Pandemic Frontline

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Abstract

As the COVID-19 pandemic ravages the whole world, frontline doctors are tirelessly fighting to contain and manage the disastrous effects of the virus. However, thoracic surgeons will also become frontline doctors, because everyone around them is likely to be infected after the closed-loop management of the hospital. Stress, difficulty, fears, physical and psychological burnout and lowered morale are some side effects. We feature the perspectives of thoracic surgeons at the epicenter of the COVID-19 fight in Fudan University Shanghai Cancer Center, which highlight the emotions, measures, motivation and belief of thoracic surgeons while they work on frontlines.

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As of January 28, 2021, COVID-19 has infected more than 101 million individuals worldwide and caused more than 2,184,120 deaths.[1] Emergency lockdowns have been initiated in countries across the globe, and the effect on health, wellbeing, business, and other aspects of daily life are perceived throughout societies and by individuals. Although accurate COVID-19 nucleic acid testing and the production of vaccines have been able to reduce the fear of people around the world, the effectiveness, safety of the vaccine and mutation of the virus will still bring a second round of harm to the whole world, including China. COVID-19 prevention will continue to rely on nonpharmaceutical interventions, including pandemic mitigation in community settings. Hospital, as a typical gathering place, is naturally the focus of prevention, but it is still possible to find carriers or infected people, leading to outbreaks of human-to-human transmission.

On January 20, 2021, a COVID-19 nucleic-acid-testing positive case was found in the routine screening in Fudan University Shanghai Cancer Center, which was immediately retested and again positive, reported to Centers for Disease Control (CDC) for the suspected diagnosis of COVID-19 infection. After that, all the clinical work of the staff was suspended and all the population was closed in the hospital for isolation and screening (Figure 1). Our hospital is a specialized oncology hospital, and there are no departments such as respiratory department or infection department. Therefore, thoracic surgeons, as pulmonary surgeons, were likely to be frontline doctors in the hospital to make deployment and undertake the task of treatment. However, after the complete closure of the hospital, the thoracic surgeon faces many complex dilemmas.

Fear

Many senior doctors cannot forget the SARS that broke out in 2003.[2] Fears of infection, respiratory distress, and deaths are still on the minds of these senior surgeons. That fear has grown at times over the past year, with the COVID-19 pandemic. What if we contracted the virus? What if we spread it to our loved ones at home? Still, worries can only be kept in mind. After receiving the hospital's notice, all doctors returning home from the night shift, asking for leave or going out to meetings were recalled to the hospital for testing and quarantine observation.

When we learned that there was a diagnosed case in the hospital, although we were quarantined for the first time, what we were most worried about was not whether we contracted the disease, but whether our family members or friends had been infected because of us. Every itchy throat or a heavy cough or sniffle would send alarm bells ringing in our heads in hospital isolation. There were plans to deploy thoracic surgical residents to the new established isolation ward to augment manpower there. Fear crept in once again due to the unfamiliarity and demands of our potential new job as well as self-doubt in our abilities. However, we knew that we had to stay strong and fight, not only for the cause, but also for the close friend and colleague whom we fought alongside with. Most importantly, our head of department (HOD) was always with us in the ward and became a strong support for us.

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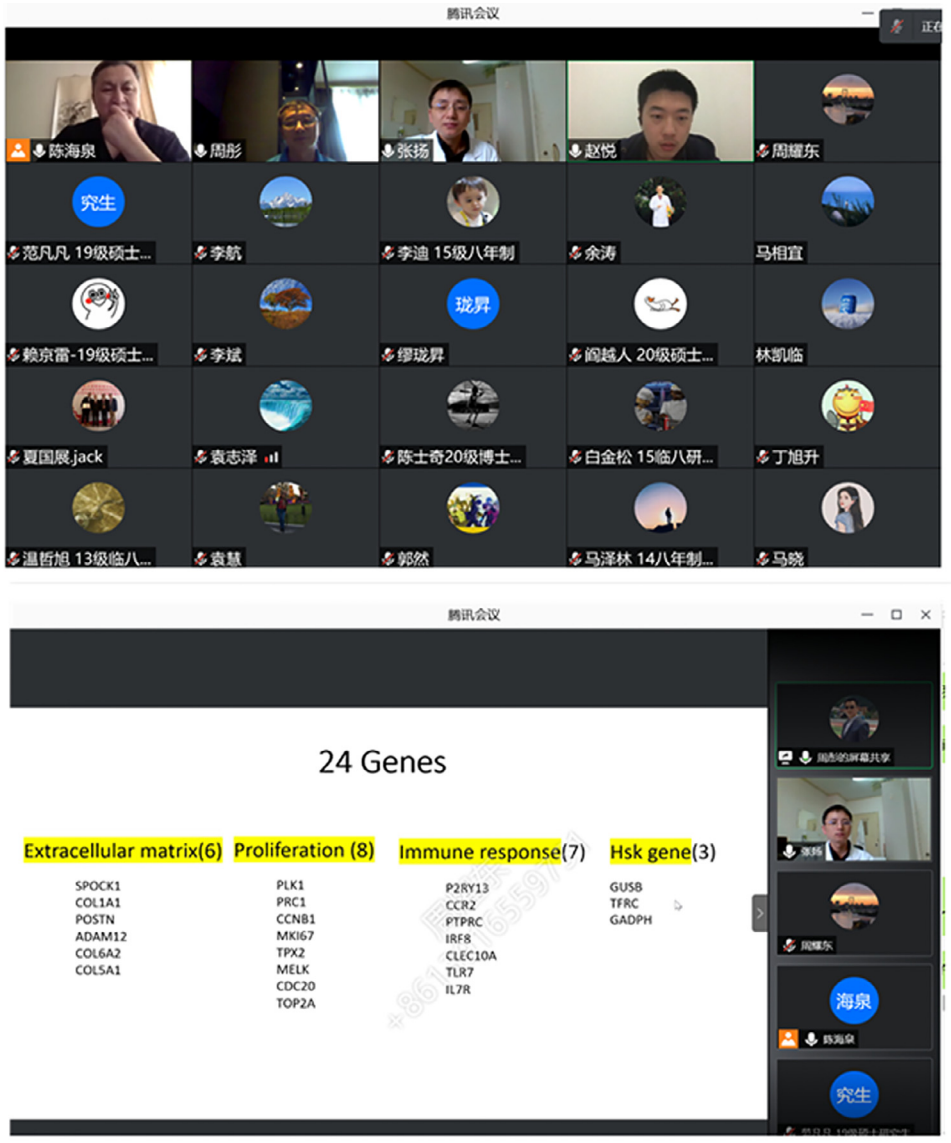
Figure 1 All the staff in the hospital, including doctors, nurses, patients and their families, are tested late at night for COVID-19 nucleic acid testing.

Figure 2 Doctors are making ward rounds and comforting patients.

Figure 3 All thoracic surgeons, including graduate students in thoracic surgery, hold online conferences to exchange scientific research experiences.



Difficulty

One of the biggest difficulties at the beginning of the full quarantine was the problem of eating and sleeping. There was no shortage of food, because of the need for safety inspection and disinfection, and the increased workload of canteen staff, so the first day of food was not very punctual. Soon everything got better and family members began to deliver all kinds of necessities, including snacks and clean clothes. With priority given to patients and their families having bed rest, medical, and administrative staff in each department had to spend the first day on the floor. However, from the next day, doctors and nurses were arranged to travel to and from the isolation hotel and hospital on alternate days to ensure both isolation and rest and to care for patients in need.

Family

Family support plays an important role in maintaining doctors' mental health and good working status. The kind words of parents, spouses and children are a great comfort to doctors, which can now be easily achieved through online video chat. However, the unease of families, worries about eating and sleeping during the quarantine, anxiety about the future of the pandemic and when the quarantine will be lifted all make communication difficult.

Surgery

Elective surgeries and nonessential clinic visits had to be postponed to conserve hospital resources in the event of a spike in COVID-19 cases as well as to minimise unnecessary contact

between patients and doctors. All our nonemergency operations were suspended, and all necessary operations were reported to the hospital for discussion. In fact, in the 14 days, none of them were performed.

Patients

Postoperative patients were treated according to the routine diagnosis and treatment of thoracic surgery, medication, chest tube extraction, etc. Preoperative patients did not have special treatment. All patients need doctors and nurses to talk to each other one by one, so as to soothe patients' anxiety (Figure 2). Patient fears, discomfort, annoyances, and complaints can exacerbate the tension in the doctor-patient relationship. Preoperative patients may complain about waiting for the impossible operation, while postoperative patients have to suffer the pain brought by the operation, as well as the mental unrest and anxiety, and even some patients have psychological diseases that require the intervention of psychiatrists.

Patients with postoperative complications who are admitted to the ICU need extensive attention and multidisciplinary cooperation to improve their chances of recovery; additionally, they require great dedication from the doctors. During the hospital-wide isolation period, the medical treatment process is strictly controlled and restricted, and the treatment of ICU patients relies more on the initiative of doctors, which increases the work burden of doctors. In the context of the COVID-19 pandemic, a patient in intensive care creates even more distress for the medical team and the patient's family, since the doctors do not have access to completely effective therapeutic means to alleviate the suffering of the patients and their relatives.

Learning

All clinical work was suspended during the quarantine, but it was because of this brief interval of shock that we had peace of mind to review our scientific research. All surgeons and graduate students, under the guidance of professors, agreed to report scientific research progress and literature report at 2:30 p.m. every day on the internet (Figure 3).

Measures and Beliefs

Hospital management was immediately regrouping to set up coordination and response teams to construct a barricade plan against the impending wave of cases. With each clinical discipline being assigned a role, doctors in the thoracic surgery department were going to be deployed to augment the hospital's volunteer services' manpower in the helping and care patients in isolation. It built camaraderie and unity. Most importantly, it made us feel that we were all in this together.[3] Thoracic surgeons had an important role in acting as an articulator and consultant for everything related to the protection of the hospital in the current pandemic. The doctor must ensure adequate isolation measures in the workplace and offer resources to assist patients and those suspected of being infected. This is the moment that a thoracic surgeon must be a health educator at all levels of the hospital.

An important lesson from this pandemic thus far that many doctors in our department agree with is that we first should protect ourselves before we can take care of others. Physical, psychological, and emotional well-being of every health care staff needs to be top priority of hospital management. What motivates us is not the monetary incentives nor the desire to be a hero. We draw strength from the whole city fighting together. Our nurses and other staff who toil through the night shifts together in our hospital; the bus driver who risks his daily life fetching strangers around; the courier who pledges free food and delivers them to the hospital; the cleaners who keep the streets COVID-19 free; the policemen who tirelessly protect the peace of the city and keep order. Our motivation came from the actions of everyone doing their part best in this combined battle!

Disclosure

The authors have no conflicts of interest to declare.

Acknowledgments

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