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Experiences of Duzce University Department of Anesthesiology and Reanimation in COVID-19 Pandemic

ABSTRACT

Working in extraordinary conditions as healthcare professionals is a situation where your standard rules and working order disappear. In this process, the transfer of experiences facilitates adaptation to these extraordinary conditions. In the ongoing pandemic process, we, as Duzce University Department of Anesthesiology and Reanimation, have benefited from the experiences of clinicians who have experienced COVID-19 outbreak before us. In this article, we aimed to share a presentation about our working plan, the resources we took advantage of and the difficulties we experienced, with other clinicians.

In our initial evaluations, when there is no official case in the region yet, based on the data of countries with similar region abroad, we encountered how many cases we have the capacity to support and how much we can increase this capacity in the worst conditions. During this discussions, we have planned material, equipment and our possible work order.We tried to provide protective equipment procurement, equipment use training in terms of employee health, we talked through case scenarios to create a safe working environment and for safe anesthesia practices. Our scenarios contained the questions like how many people and at what level of seniority should be and how the task should be done.

We followed the Turkish Anesthesiology and Reanimation Association (TARD), the Turkish Intensive Care Association(TYBD), European Society of Anesthesiology (ESA) , European Society of Intensive Medicine (ESICM) guidelines for safe anesthesia and intensive care practices. In this process, the guides we used the most for Novel Coronavirus Disease follow-up and treatment were the Guide of Scientific Advisory Board of Turkish Ministry of Health , besides the Zhejiang University School of Medicine (FAHZU) COVID-19 Prevention and Treatment Handbook and Surviving Sepsis Campaign: Guidelines on the Management of Critically Ill Adults with COVID-19.

While planning a pandemic ICU physically, it was decided to create a new area, it was seen that this area reduced the risk of transmission, but brought about the adaptation and placement problems to the working area.

It should be taken into consideration that multidisciplinary approach may lead to problems in follow-up and orientation, although it has a positive contribution to the treatment process.

Keywords: COVID19, Anesthesia Department, Life Change Events.

Düzce Üniversitesi Anesteziyoloji ve Reanimasyon Kliniğinin COVİD-19 Pandemi Deneyimleri

ÖZET

Sağlık çalışanları olarak olağanüstü koşullarda çalışmak, standart kurallarınızın ve çalışma düzeninizin ortadan kalktığı bir durumdur. Bu süreçte, deneyimlerin aktarılması bu olağanüstü koşullara adaptasyonu kolaylaştırır. Devam etmekte olan pandemi sürecinde biz de bugüne kadar, Düzce Üniversitesi Anesteziyoloji ve Reanimasyon AD olarak, bizden önce COVID-19 salgını ile karşılaşmış klinisyenlerin deneyimlerinden yararlandık. Bu yazımızda da kendi kliniğimizde uyguladığımız çalışma düzenini, yaşadığımız zorlukları, yararlandığımız kaynakları diğer klinisyenlerle paylaşmayı düşündük. İlk değerlendirmelerimizde, henüz bölgede resmi vaka olmadığında yurtdışında bizimle benzer bölge özellikle sahip ülkelerin verilerini baz alarak, en kötü koşullarda kaç vaka ile karşılaşabiliriz, kaç vakaya destek olma kapasitemiz var, bu kapasiteyi ne kadar arttırabiliriz bunları değerlendirerek malzeme, ekipman, çalışma düzeni planlaması yaptık. Çalışan sağlığı açısından koruyucu ekipman temini, ekipman kullanımı eğitimi sağlamaya çalıştık, güvenli çalışma ortamı oluşturabilmek için (kaç kişiden oluşmalı, hangi kıdem seviyesinde olmalı, görev taksimi nasıl olmalı gibi) ve güvenli anestezi uygulamaları için vaka senaryoları üzerinden konuştuk. Güvenli anestezi ve yoğun bakım uygulamaları için TARD, ESA, TYBD, ESICM rehberlerini takip ettik. Bu süreçte yeni tip coronavirüs takip ve tedavisine yönelik en çok yararlandığımız rehberler Sağlık Bakanlığı Bilimsel Danışma Kurulu rehberi idi, bunun yanında FAHZU COVID-19 Önleme ve Tedavi El Kitabı, Surviving Sepsis Campaign: guidelines on the management of critically ill adults with COVID-19 yararlandığımız kaynaklardı. Pandemi YBÜ fiziki olarak planlanırken yeni bir alan oluşturulması yönünde karar verildi, bu alanı bulaş riskini azalttığı ancak çalışma alanına adaptasyon ve yerleşimle ilgili sıkıntıları beraberinde getirdiği görüldü. Dönüşümlü çalışma programında multidisipliner yaklaşımın, tedavi sürecine olumlu katkısı olmakla birlikte takip ve oryantasyonda sorunlara yol açabileceği dikkate alınmalıdır.

Anahtar Kelimeler: COVID19, Anestezi Departmanı, Yaşam Değiştiren Olaylar.

In this article, we aim to present our early experiences regarding to the extraordinary pandemic process as the Department of Anesthesiology and Reanimation at the University Hospital in a small city with a population of 387000 and share our experiences with our colleagues. As stated in the foreword of the COVID-19 Prevention and Treatment Handbook prepared by FAHZU at the very beginning of the pandemic, "at this moment, sharing resources, experiences and lessons, regardless of who you are, is our only chance to win. The real remedy for this pandemic is not isolation, but cooperation." (1). While following the cases of rapidly increasing new type of viral pneumonia allover the world, we tried to predict our own organization and work plans as the Department of Anesthesiology and Reanimation of Duzce University, considering our professional specialty as an indispensable part of Intensive Care Units. While some of our forecasts were realized, some had to be changed or transformed in the face of emerging conditions.

As it is known, in December 2019, pneumonia cases of unknown origin occurred in China. In January 10, 2020, the World Health Organization (WHO) issued a tool for countries to check their ability to detect and respond to a novel coronavirus, developed with reference to other coronaviruses, such as SARS and MERS (2). The first novel Coronavirus case outside of China was confirmed on January 13, 2020. Because of rapidly increasing cases in Far Eastern countries the word "outbreak" was used by WHO on January 23, 2020, and on February 11, 2020, the novel Coronavirus Disease was named COVID-19 (2,3). In this period, rapid and mortal progression of cases, high contagiousness rates, unprecedented tightness of isolation precautions taken and unfortunately the high rate of infected healthcare workers, raised our concerns.

The first case that emerged in our country was announced by Fahrettin Koca the Turkish Minister of Health, on March 10, 2020 (4). It was reported on March 10, that Italy was quarantined totally. WHO officially declared that COVID-19 can be characterized as a pandemic on March 11 , 2020, and on March 13, 2020 it was declared Europe to be the epicenter of the epidemic. (2,5). As of this date, all clinics had started preparations for the pandemic process. At our in-clinic meetings, we shared our information about the outbreak, our forecasts and even our fears. Severe respiratory insufficiency, insufficient respiratory support treatments, mechanical ventilators and intensive care units, and healthcare workers' security problems were the subjects of the discussion and the main framework of the planning. Firstly, we started small group trainings related to the use of protective equipment and isolation conditions in our department with the support of Department of Infection and Clinical Microbiology, we tried to organize resting and dining areas within the scope of social distance rules. Since we have direct contact to airway, support for alternatives to safe airway approaches was obtained from the COVID-19 Treatment and Prevention Handbook and videos shared on social media. In addition, the Scientific Advisory Board established under the Turkish Ministry of Health on January 10, 2020 published the 2019-nCoV Disease Healthcare Workers Guide for the first time on January 14, and this guide, which was renewed very frequently, was truly a guide during the pandemic (6). We followed the literature and webinars that are constantly updated and shared their summaries through messaging networks. The struggle plans, preparation booklets, recommendations for various anesthesia practices, operating room protection plans, cardiopulmonary resuscitation and airway management recommendations, intensive care preparation and struggle plans, critical patient management guides prepared by the Turkish Anesthesiology and Reanimation Association (TARD) and the Turkish Intensive Care Association (TYBD) regarding COVID-19 helped considerably in this process (7-15).

We reviewed and evaluated our fixture devices about their potential to be used for intensive care conditions in operating room and intensive care unit. We demanded essential consumable material by calculating for possible workload. In the first stage, we evaluated the health institutions' pandemic preparation steps as stipulated by the guidelines of Health Science Board of Turkish Ministry of Health, World Health Organization (WHO), Centers for Disease Control and Prevention (CDC) and COVID-19 Treatment and Prevention Handbook and we reviewed the operating room and intensive care conditions in line with the recommendations. First of all, a room closest to the entrance and remote to other rooms was determined for emergency operations of possible COVID cases in the operating room. We ensured that the equipment in this room were minimized, covered with nylon covers, and drugs and other consumable materials were kept in the room on patient-based strategy. Professionals in direct contact with the airway of virus carriers and critical patients, are definitely the most exposed to the virus, and anesthetists are considered as a part of this group. Therefore, various modifications have been developed for many of the airway interference equipment we use. Especially during intubation and extubation, airway transmission of virus was tried to be minimized (Picture 1,2,3).On March 17, 2020, the Turkish Ministry of Health issued a circular to postpone non-urgent elective surgical procedures to reduce the workload in healthcare facilities and the burden on healthcare professionals, to minimize the transmission between patients and healthcare professionals who are of strategic importance in this process and for efficient.

Picture 1. Independent operating room placed in the ER, prepared only for emergent operations of COVID positive and/or possible cases.

Picture 2. Cabinet designed from plexiglass for safer endotracheal intubation through videolaryngoscopy.

Picture 3: Respiratory mask covered with nylon.

and rational use of health resources in extraordinary conditions caused by the pandemic. In line with this circular, only emergent cases were planned to undergo surgery in the operating room. In this process, the different surgical branches having different perspectives about the pandemic process and the urgency criteria of the cases and the timing of the PCR tests created us difficulties.

As of March 20, 2020, collective plans were made under the leadership of the hospital management and our department was involved in these plans at every stage. Firstly, necessary arrangements were made to minimize the contact of pandemic patients with other patients and healthcare professionals. The Emergency Department (ER) and Pandemic Division including Pandemic Department and Pandemic Intensive Care Unit were placed in the same part of the hospital building. An independent operating room placed in the ER was prepared only for emergent operations of COVID possible cases. It was decided to operate only PCR (-) and non-COVID-possible cases in the main operating room.

While our preparations continued this way, a circumstance that surprised and upset every member of our department occured. The first COVID 19 cases (March 24, 2020) of our city were our junior research assistant working in our department and her husband who worked in another department of our hospital. First of all, her husband had a fever and our junior research assistant provided care to her husband at home. Next day during the night turn she was sent home without losing any time after she had a fever symptom. After the cough started the next day, she was evaluated in the Pandemic Outpatient Clinic organized in the ER. Both of them were hospitalized in Pandemic Department due to positive COVID-PCR test and typical infiltration in Thorax CT. With our team consisting of 5 Faculty Members and 16 Research Assistants, our morale and motivation were suddenly disrupted while we focused on the task we will take during the pandemic process. More importantly, most of our research assistants and one of the faculty members were accepted as “contacted healthcare workers” as a result of the filiation. In this process, one of our faculty members and 3 research assistants were isolated at home and medicated with prophylactic hydroxychloroquine in accordance with the algorithm at that time. At the end of the quarantine, these colleagues returned to their positions in accordance with the guidelines regarding the Evaluation of Contact Healthcare Professionals. However, this situation was contrary to our scenarios of patient-related infection, which we anticipated for the pandemic, the fact that the source of the first case was indefinitely one of us and that it was so early upset our plans and motivation. Almost the entire Anesthesiology team had contact and we were concerned about the

clinical situation of our friends. On the one hand, we had difficulties in planning the employees, and on the other hand, we were trying to take isolation precautions for our families and ourselves. Almost all of our team members living with their family separated themselves from their families, while those living alone had different anxiety problems. In result, we all became distant from our daily routines and experienced stress and anxiety at different levels. Our patient-colleagues responded positive to treatment strategies. No progression to respiratory failure, no symptom development and no PCR test positiveness occured in colleagues contacted with our infected research assistant. This fact in the clinic follow up helped us to overcome the first shock wave of this situation.

With the occurrence of cases in our city, it became essential to move on to a new working order. After the Turkish Ministry of Health has published a circular on flexible working principles, the Dean's Office of our Faculty has published a Pandemic Period Workshift Plan, again by referring to our opinions. With the participation of 3 Faculty Members from our Department and 1 Faculty Member from the Internal Medicine Intensive Care Division, the new Pandemic Intensive Care Unit (P-ICU) was put into service. Our Department also served with 5 senior research assistants in this P-ICU.

Due to the nature of our profession, we Anesthesiology and Reanimation Specialists serve both in Intensive Care Units and in operating theaters. In the pandemic, although all elective cases have been canceled, the operating rooms were provided for emergent surgeries in patients who are excluded from COVID and for emergent surgery needs of COVID positive patients, as well as the ICU for non-COVID patients who stayed before the pandemic and admitted during the pandemic. Therefore, other 2 Faculty Members of our Department worked alternately at the COVID-operating room, non-COVID operating rooms, and the non-COVID-ICU. So our Department provided service with 1 Faculty Member and 2-3 research assistants in all three areas daily.

Between March 20, 2020 and June 01, 2020, 370 operations were performed in the non-COVID operating room. 90 of these operations were trauma surgery and 280 of them were other emergent surgeries like Caeseraen sectio, appendectomy etc. Among all surgeries, while trauma patients made up 24.3%, other emergencies were 75.7%. If we examine the distribution of cases in surgical branches, Department of Gynecology and Birth constitutes 54.6% of all cases with 202 cases, while Department of Orthopedics and Traumatology constitutes 27% of all cases with 100 cases, and other departments hold a rate of 18.4% with 68 patients.

At the same time, 4 COVID positive patients who underwent emergent surgery were operated at the COVID operating room independently placed in the ER.

In the same date range, medical care and treatment was given to 57 patients in the Non-COVID ICU.

On the other hand, Pandemic ICU was created with 3 Faculty Members and 4 Research Assistants from the Department of Anesthesiology and Reanimation, and 1 Faculty Member and 4 Research Assistants from the Department of Internal Medicine. (Some research assistants on the list transferred their duties to other friends over a two-month period). With assistance of nurses and nursing staff experienced in intensive care, which changed as 14-day teams in the P-ICU workshift list created throughout the hospital, 40 patients were served in the 60-day pandemic intensive care process. While 10 of these patients were discharged with cure, 3 patients are currently hospitalized, 1 patient was referred and unfortunately 23 patients died during the pandemic. The average age of all hospitalized patients was 74.8, and the average age of those who died was 74.2.

Intense work was spent initially on planning and organization due to the newly created intensive care area for P-ICU . Planning in the form of separate rooms provided an advantage to reduce the risk of transmission and to realize isolation precautions. Being on the same floor with the Pandemic Department and in the same building part with the ER can be considered as an important factor in reducing the risk of contamination during patient transferring. At the same time, multidisciplinary patient follow-up, establishing online messaging groups, establishing a COVID evaluation group in a messaging application and discussing almost every case in these messaging groups were especially helpful during the initial phase. The ventilation systems not returning to negative pressure, not being able to use the air conditioning systems, our instinctive need for natural ventilation and the lack of fixed healthcare workers can be evaluated as the negativities we experience.

Frequently updating guide of the Scientific Advisory Board of Turkish Ministry of Health, the posts, guides and webinars organized by Turkish Anesthesiology and Reanimation Association (TARD), the Turkish Intensive Care Association(TYBD), European Society of Anesthesiology (ESA) , European Society of Intensive Medicine (ESICM) and EU COVID 19 Clinicians Network, made a great contribution to our follow-up and treatments during the pandemic.

Haruki Murakami the great Japanese novelist said in his famous book Kafka on the Shore; “And once the storm is over you won’t remember how you made it through, how you managed to survive. You won’t even be sure, in fact, whether the storm is really over. But one thing is certain. When you come out of the storm you

won't be the same person who walked in. That's what this storm's all about (16)."

The COVID-19 pandemic is also our storm that changed/transformed our lives and destiny, we don't know whether we are out of the storm or we are still in the storm, but there is a fact we know that we are no longer that old same anesthetist passing through this experience..

REFERENCES

1. Prof. Tingbo LIANG, Handbook of Covid 19 Prevention and Treatment, Compiled According to Clinical Experience The First A¬liated Hospital, Zhejiang University School of Medicine, Alibaba Cloud
2. World Health Organisation, WHO issues its first guidance on the novel coronavirus [Internet]. 2020 Jan [cited 2020 June 20]. Avaible from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/events-as-they-happen
3. World Health Organisation, Naming the coronavirus disease (COVID-19) and the virus that causes it [Internet]. 2020 Jan [cited 2020 June 20]. Avaible from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/naming-the-coronavirus-disease-(covid-2019)-and-the-virus-that-causes-it
4. TC Sağlık Bakanlığı, COVID-19 Yeni Koronavirus Hastalığı, Türkiye'deki Günlük COVID-19 Vaka Sayıları [Internet]. 2020 March [cited 2020 June 20]. Available from:https://covid19bilgi.saglik.gov.tr/tr/haberler/turkiye-deki-gunluk-covid-19-vaka-sayilari.html
5. World Health Organisation, WHO Director- General Speeches. [Internet]. 2020 March 11 [cited 2020 June 20]. Available from; https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020
6. TC Sağlık Bakanlığı Halk Sağlığı Genel Müdürlüğü, COVID-19 Yeni Koronavirus Hastalığı, COVID-19 (SARS-CoV-2 Enfeksiyonu) Erişkin Hasta Tedavisi [Internet]. 2020 Jan 14 [cited 2020 June 10]. Available from;https://covid19bilgi.saglik.gov.tr/depo/rehberler/covid-19-rehberi/COVID-19_REHBERI_ERISKIN_HASTA_TEDAVISI.pdf
7. TC Sağlık Bakanlığı Halk Sağlığı Genel Müdürlüğü, COVID-19 Yeni Koronavirus Hastalığı, COVID-19 Acil Anestezi Yönetimi [Internet]. 2020 March (cited 2020 June 10]. Available from; https://covid19bilgi.saglik.gov.tr/tr/covid-19-acil-anestezi-yonetimi
8. Turkish Society of Anaesthesiology and Reanimation, COVID-19 Hastane Disi KPR [Internet]. 2020 March [cited 2020 June 20]. Available from; http://www.tard.org.tr/assets/pdf/HASTANE-DISI-KPR-COVID-19.pdf
9. Turkish Society of Anaesthesiology and Reanimation, Havayolu Yönetimi Bilimsel Kurulu, COVID-19 Şüpheli veya Tanılı Hastada Havayolu Yönetimi Önerileri [Internet]. 2020 March [cited 2020 June 10]. Available from; http://www.tard.org.tr/assets/pdf/TARD-CORONA-ETI-ONERILERI-2.pdf
10. Turkish Society of Intensive Care, COVID-19 ile Enfekte Kritik Hastaların Yönetimi ve COVID 19 Kritik Hastaların Yönetimi [Internet]. 2020 March [cited 2020 June 10]. Available from; http://www.yogunbakim.org.tr/haberler/7659/COVID-19-iLE-ENFEKTE-KRiTiK-HASTALARIN-YoNETiMi-ve-COVID-19-KRiTiK-HASTALARIN-YoNETiMi
11. Turkish Society of Intensive Care, Centers for Disease Control and Prevention (CDC) tarafından COVID-19 için sağlık merkezlerinin hazırlık durumunu kontrol etmek için hazırlanmış maddeler [Internet]. 2020 March [cited 2020 June 10]. Available from; http://www.yogunbakim.org.tr/assets/corona/COVID-19-Hazirlik-Kitapcigi.pdf
12. Turkish Society of Anaesthesiology and Reanimation, COVID-19'lu Hasta Yönetimi, COVID-19 Salgını Sırasında Anestezi Makinesi Kullanımı, Korunması ve Dekontaminasyonu [Internet]. 2020 April [cited 2020 June 20]. Available from; http://tard.org.tr/assets/pdf/COVID19_SALGINI_SIRASINDA_ANESTEZI_MAKINESI_KULLANIMI_KORUNMASI_VE_DEKONTAMINASYONU_HAKKINDA.pdf
13. Society of Regional Anesthesia, Rejyonel Anestezi için COVID-19 Rehberi [Internet]. 2020 April [cited 2020 June 20]. Available from; https://rad.org.tr/tr/rejyonal-anestezi-covid19-rehberii
14. European Society of Intensive Care Medicine, Highlights Watch Scientific topics [Internet]. 2020 April [cited 2020 June 10]. Available from; https://www.esicm.org/elives2016/public/
15. European Society of Intensive Care Medicine, Live Webinar Series [Internet]. 2020 April [cited 2020 June 10]. Available from; https://esicm-tv.org/
16. Murakami, Haruki. Kafka on the Shore. A Borzoi Book Published by Alfred A. Knopf, a division of Random House, Inc., New York. page:8