Challenge and Role of Anesthesiologists in the COVID-19 Pandemic – Bangladesh Perspective

Introduction:

Since the outbreak of novel coronavirus disease (COVID-19), December '2019, it is challenging for health care provider for early diagnosis, treatment and prevention of spreading with maintaining self protection. Most accepted ideas for controlling the infection are early diagnosis, judicial isolation &quarantine, self-protection with personal protective equipment (PPE), which play an imperative role. Within short time almost the entire world including Bangladesh became infected and dealing with the COVID-19 pandemic condition. Main pathophysiology of this virus is involvement of the respiratory system through ACE receptor and contaminating other with the infection from airway .It has been observed that up to 15% of COVID-19 patients develop severe respiratory complications with ~5% of them requiring mechanical ventilation. Considering this situation the world is grappling with COVID-19 that has taken a toll on humanity and is continuing to affect multiples of health-care workers all over the world in significant numbers. Anesthesiologists are susceptible to increased risk that is speculated thirteen times more than the other health-care professionals by virtue of their involvement in perioperative and intensive care management of Covid-19 infected patients; because most of those patients require invasive airway management. It cannot undermine the contribution of famous "coronavirus intubation team racing against death" in Wuhan that determined the importance of anesthesiologists during this pandemic.

So, Bangladesh Society of Anesthesiologists(BSA) made an effort to compile and present a protocol that provides an insight into the management of patients for the front-line anesthesiologists of the medical war, which is being fought to curb and contain this COVID-19 pandemic. We have tried to maintain safety of operating room and ICU as well as the remote locations where anesthesiologists may be called upon for providing their services. Needless to say, it is of utmost importance to ensure the safety of the patients, as well as of the anesthesiologists who are involved in the patient care at this crucial juncture. The present editorial provides valuable information to anesthesiologists regarding handling the current pandemic in a protocolized and evidence-based manner.

Isolation and quarantine:

Anesthesiologist must know the transmission process of COVID-19 for the safety . Corona virus family can infect both humans and animals, it has been postulated that COVID-19 was initially transmitted to humans by an intermediary animal before human to human and community transmission happened. The incubation period varies from 1 to 14 days with a median of 5 days though as high as 24 days has also been reported. COVID-19 can be transmitted through respiratory and digestive tract, as well as other mucosal surfaces. It has recently been postulated that coronavirus may be transmitted by asymptomatic carriers that may constitute around four-fifth or almost half of the infected cases. Owing to the wide range of incubation periods, transmission is possible during the entire period, though the mechanism is not understood as yet. Asymptomatic carriers may be responsible for the propagation of the outbreak and pose a daunting challenge to physicians for containment as well as resurgence of the disease. So, every anesthesiologist must be maintain protocol of Isolation and quarantine when he or she performed his duties for COVID-19 patient management in ICU or operation theater or accidentally contact with COVID-19 patient .

Special care for senior and whose are suffering from co-morbidity:

The clinical spectrum of disease pertaining to respiratory system varies from mild upper respiratory tract infection/pharyngalgia to severe hypoxic respiratory failure due to development of acute respiratory distress syndrome (ARDS).

Certain patients may exhibit symptoms related to digestive system and may present as diarrhoea only. The available literature also suggests the propensity and higher probability of the elderly patients with concomitant co-morbidities to be more prone to disease and develop ARDS, thereby leading to higher mortality in this age group.

Appropriate uses of standard PPE :

Standard infection control precautions with additional transmission-based precautions are required by anesthesiologists to protect themselves and prevent transmission in the health care setting. It is very much essential for anesthesiologists to improve personnel safety in the ICU, OT and hospital environment through appropriate use of PPE. Every anesthesiologist must have the proper knowledge and information on the selection and use of PPE in their working setting .They should continuously practice how can safely don and remove PPE with supervision.

Work load of anesthesiologist:

There is a tremendous amount of activities going on throughout the country, both in the public as well as the private sector, aimed at establishing more and more Intensive Care Units in this Corona pandemic situation. At present, scarcity of trained and qualified anesthesiologist or critical care specialist is a great problem. So, demand for the trained manpower is going to so high. In government level, there is a shortage of trained anesthesiologists and they are already in over working stage. In this COVID-19 pandemic, work load and professional risk increased. So, more working manpower is essential to proper management of this situation as working anesthesiologists have got a high risk of getting corona infection with increased chance of morbidity and mortality.

Proper rest, diet and hydration:

During this corona pandemic situation all anesthesiologist are working with high mental and physical stress. So proper rest and physical exercise with balanced diet is a part of their duties. All hospital administrators must care about the working hour and their facility related to rest,diet, exercise and hydration of all working health care providers including anesthesiologists.

Special care when doing aerosol generating procedure:

Contact and droplet precautions should be implemented by all health workers caring for patients with COVID-19 at all times. But air-borne precautions should be applied for aerosol-generating procedures and supportive treatments which is usually done by the anesthesiologist . All anesthesiologists must take care and maintain protocol when performing the procedure like open respiratory and airway suctioning, endotracheal intubation, tracheostomy care, sputum induction, bronchoscopy, cardiopulmonary resuscitation, pulmonary function testing, manual ventilation before intubation and treatment modalities like non-invasive ventilation (NIV, Bi-PAP, C-PAP), high-frequency oscillating ventilation, high flow nasal oxygen (HFNO) therapy, nebulization etc.

Research :

COVID-19 is a new disease caused by corona RNA virus family. We have started our activities with a limited knowledge about all aspect of management process .With the course of time, a lot of changes will come in the management protocol. Multiple new instruments and drugs will be introduced and show better outcome. So, patients' management must be based on current available evidences in ICU and anesthetic management of COVID-19 patients should also be evidence based.

Work shifting and remuneration :

In our clinical settings, the role of anesthesiologists is temporarily shifting with the current COVID-19 pandemic. Those changing roles are affecting everything from how anesthesiologists are keeping themselves safe during patient care to how they are coding and get remuneration for their services. This is also supported by the American Society of Anesthesiologists (ASA) along with a panel of experts from the Anesthesia Patient Safety Foundation (APSF) and several ASA committee members offered updates on practice standards for treating patients with COVID-19.

Conclusion:

Anesthesiologist as a front fighter provides a best service to the patient and nation with maintaining self protection adherent to IPC. During COVID-19 patient management, try to follow the national ICU

or anesthesia guideline provided by CDC, Directorate General of Health Services (DGHS) and Bangladesh Society of Anesthesiologists (BSA). For better management of this pandemic situation, need more and more trained anesthesiologists which might be solved only by the Government.

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Professor Debabrata Banik
Department of Anaesthesia, Analgesia and Intensive Care Medicine, BSMMU, Dhaka

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