Anaesthetic challenges in COVID times

Dr K Jayavanth Kini MD, FFARCSI
Consultant Anaesthetist
Oxford University Hospitals NHS Trust
President of British Association of Indian Anaesthetists (BAOIA)

Anaesthetists have unique skills and experience to deal with complex patients requiring elective or emergency operations in hospitals. In addition they represent specialist doctors who excel in reviving, stabilizing and transferring patients safely either by air or road ambulances following a road traffic accident, poly trauma or cardiac arrest. The current pandemic of Severe Acute Respiratory Syndrome- Corona Virus-2 (SARS-CoV-2) has been a test of temperament, resilience and skill of the Anaesthetist, in terms of learning new skills rapidly evolving to save patient's lives in the face of unpredictable morbidity and mortality.

Much has been published and publicised about Corona Virus disease 2019 (COVID 19) in journals, newspapers, radio, and television channels, internet and of course most rapidly via social network, but the common theme that has evolved is that we do not know enough about this virus or what should be done to control it. I work in the capacity of a Senior Anaesthetic Consultant in a large teaching hospital, Oxford University Hospitals NHS Foundation Trust in Oxford, and am one among the 10,000 Health Care Professionals (HCP) that serve the Trust. Here, on any given day, elective and emergency operations are carried out in 50 operating theatres simultaneously, amounting to a sum total of about 35,000 operations annually. The anaesthetic department alone comprises of approximately 180 Anaesthetists, by far the largest department in any hospital. Being a tertiary teaching hospital of international repute, there are 6 different intensive care facilities on site at present.

In early March 2020, as the pandemic overtook the nation, three of the intensive care facilities were prepared specifically to treat COVID 19 patients. Special wards were set up to receive these very unwell patients. Training for all staff to learn the importance and the correct procedure of using PPE (Personal Protection Equipment) was commenced. The full PPE (Level 2) involved the use of full sleeve water resistant theatre gown, double gloves, eye protector (visors) and caps. Thankfully we did not experience a shortage of PPE, unlike some other NHS Trusts and health care staff working in the community. Despite that, sadly at the time of writing, 300 HCP's working in the hospital have tested positive for COVID and 2 of our porters succumbed to the infection. The national scene is more bleak with over 150,000 individuals testing positive and over 20,500 reported hospital deaths. Additional deaths in the community due to Covid have not been included in these statistics.

The focus of all NHS Trusts over the past few weeks has been the development and implementation of strategy in the management of Covid patients. As Anaesthetics forms the prime specialty involved in the care and management of acutely and severely unwell patients we, as a group, were tasked with learning swiftly how to protect ourselves against the virus. We then took on leadership roles in protect the operating theatre staff including surgeons, recovery nurses, porters and ward staff. Simulation exercises, renewed protocols, updated guidelines and practising the laborious process of donning and doffing PPE according to recommended standards, were all part of the preparations[1]. Much time was spent in discussing the ethical aspects of who gets the ventilator if the number of patients needing ventilation supercedes the number of ventilators.

While the nation focused on Covid 19 patients, the Anaesthetics department ensured that other sick patients such as those presenting for emergency operations, trauma and cancer surgeries received the same high level of care that they deserved. For some of these patients, being Covid positive, was an additional risk factor; the Anaesthetists caring for these patients therefore had to exercise caution and use appropriate PPE. All elective operations have been suspended as NHS staff have been siphoned into the more urgent activities.

Staff absence has been on the rise as staff were instructed to be in self-isolation should they themselves or a family member develop persistent cough or a high temperature. The previous lack of availability of accurate tests for active infection or past infection has created a lot of uncertainty; testing for active infection is now available.

The highest viral load of SARS-CoV-2 is in the sputum and upper airway secretions. Therefore, Aerosol Generating Procedures (AGP) such as tracheal intubations, tracheostomy, mask ventilation, laryngeal mask ventilation, bronchoscopic procedures, tracheal extubations, oropharyngeal suctioning (when closed in-line suctioning was unavailable) was avoided wherever possible and operations were done under regional anaesthetic techniques such as spinal or nerve blocks[2]. The concept of separate anaesthetic room where patient is anaesthetised was amended to intubate the patient directly on the operating table with anaesthetist and his assistant in full PPE and a runner in the anaesthetic room outside the intubation area for further help. Minimal personnel were allowed at the time of intubation and extubation to reduce risk of aerosol spread and very time consuming. With the evolution of exit strategy, the anaesthetic services would also evolve to provide the best and safe care to patients, under the NHS umbrella.

References:

1. Consensus guidelines for managing the airway in patients with COVID- 19. Cook et al, March 2020, Anaesthesia 2020
2. Perioperative Management of Patients Infected with the Novel Coronavirus. Xiangdong Chen et al, Anesthesiology 2020.