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EDITORIAL VIEW **PERIOPERATIVE MEDICINE**

General anesthesiologist vs. super–specialist: a phoenix rising from its own ashes?

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Summary

Like all other specialties, anesthesiology has evolved from a simple affair of relieving the pain during surgery by ether, chloroform or nitrous oxide, to a wide spectrum of important activities related to making the patient pain free as well as protecting his life for the risks of his primary disease and those arising from the surgery. With the progress made in the surgery into super–specialties, anesthesiology had to evolve itself into allied super-specialties. The diversity is likely to be further enhanced with the further development of newer treatment technologies needing fine skills by the operators. It has led to the general anesthesiologist to be pushed to the more peripheral hospitals, with lower degree of equipment and allied help. Not surprisingly the level of job satisfaction in general anesthesiologists is steadily decreasing. Perhaps the only solution for them to this problem is to evolve themselves as 'Peri–operative Physicians'.

Key words: Anesthesiology; Anesthesiologist; Super–specialty; Peri–operative Physicians

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"From the whole to the slice": Anonymous

With the successful demonstration of ether as an effective anesthetic, began the journey of modern anesthesia. For many centuries, potions of varying nature have been used for successful pain free surgeries but the breakthrough could only be achieved with the availability of gases like nitrous oxide and ether. Initially, for more than half a century, anesthesia was primarily developed by surgeons interested in the overall care of the patients. The first official publication in the field of anesthesiology was Anesthesia and Analgesia (erstwhile Current researches in Anesthesia and Analgesia) published in 1922, followed by British Journal of Anesthesia in 1923.[1] Roughly, after a decade, formal qualification in anesthesia was introduced in 1935 as a Diploma in Anesthesia.[2] With the divergence of general surgery into various super–specialties, arose the need for super–specialties in the field of anesthesiology as well, though somewhat delayed.

Anesthesiology is a vast field, encompassing various learning and teaching avenues, classically being defined as "The practice of medicine dedicated to the relief of pain and total care of surgical patients before, during, and after surgery". Due to the challenging nature of the field, an anesthesiologist has often been referred to as "Physician to the surgeon and surgeon to the physician".[3] Anesthesiology is quite a demanding field, putting stress on the mental and physical health of the individual, including his family. A general anesthesiologist is well trained in airway management, intraoperative patient care, acute and chronic pain management and advanced life support. With their unique skill sets, they have been managing everything from emergency and preoperative management to intensive care units. Nowadays, even home care based health programs are being governed and dictated by the anesthesiologists, as they are well equipped to provide palliative care. Continuous research and introspection in the field of anesthesia have led to a

marked reduction in anesthesia related mortality and morbidity, despite the increase in vulnerable populations (from neonate to centenarian).

In recent years, there has been a gradual increase in the postgraduate seats in anesthesiology.[4] With the increased number of general anesthesiologists, many of them fail to get a sense of accomplishment after completion of their course. This is especially true for the budding anesthesiologists.[5] This is similar to the contemporary fields where the number of aspirants and successful candidates has steadily increased in the super–specialty courses. Many anesthesiologists who fail to pursue any super–specialty course are opting for short–term fellowships to fill this void of non–satisfaction. In the western world, as anesthesiology has diverged into well–developed super–specialty branches, general anesthesiologists are now slowly but steadily being replaced by Certified Registered Nurse Anesthesiologists (CRNA) and Nurse Practitioners (NP).[6]

Anesthesiology has now given way to a multitude of super–specialties ranging from pain & palliative care, intensive care, emergency medicine, organ transplantation, cardiac, neuro, pediatric, obstetric anesthesiology, onco–anesthesiology and the peri–operative medicine. The development of dedicated and specific anesthesiologists has led to significant growth in these specialties in the past two to three decades.

Presently in developing countries, cardiothoracic and neuro–anesthesiology are the most recognized super–specialty streams of anesthesia, with the highest number of opportunities after post–graduation, offering short and long term fellowship programs, post–doctoral certification courses (PDCC) and Doctorate of Medicine (DM).

Technological innovations and procedural advancements in surgical super–specialties have fueled the growth in anesthesia super–specialties. Though, most of the surgeries can be managed by a general anesthesiologists, specific requirements according to patient demographics and refinement in the procedures has led to increased demand and hence, availability of super–specialty courses. A cardiac anesthesiologist is skilled in advanced hemodynamic management and has a comprehensive understanding of the pathophysiology of cardiac ailments and their management including extracorporeal circulation and extracorporeal membrane oxygenation (ECMO).[7] With the availability of new monitoring systems and evolving anesthetic practices such as Total Intravenous Anesthesia (TIVA), growth in neuro–anesthesia has kept its pace with the advancement in neurosurgery, for example awake craniotomies, endovascular coiling and stereotactic surgery.[8] This kind of challenging work on a routine basis provides a sense of accomplishment which is somewhat lacking in budding general anesthesiologists. Advancement in neonatal procedures and fetal surgeries has led to development of pediatric anesthesia while development in management of cancer pain, cancer related surgeries and care has contributed to recognition of onco–anesthesiology as a super–specialty. Similarly, obstetric anesthesiologists cater to the specific needs of pregnant females, from labor analgesia to complicated pregnancies.[9] Though, John Snow successfully provided labour analgesia to Queen Victoria in the nineteenth century and led to the foundation of bedrock of anesthesia as a separate specialty, the development of obstetric anesthesiology has been quite slow–paced.[2]

An ever–increasing population of elderly people has increased the number of elderly patients with chronic pain, which has led to an acute shortage of pain physicians. Conventionally, acute and chronic pain has been managed by a general anesthesiologist, but limited exposure and short duration of post–graduation courses are insufficient to train an individual in all the aspects of the super–specialty like pain management; especially in newly introduced advanced endoscopic procedures.[10]

Challenging situations are not limited to operating rooms only. Anesthesiologists, by their comprehensive understanding of pathophysiology and resuscitation skills, are best suited for the role of an emergency physician and as an intensive care physician.[11,12] Even without formal training, anesthesiologists all around the globe have managed the intensive care and emergency units during COVID–19 pandemic with all their skills and efforts to save the lives of the patients and prove their mettle.[13] Specialized courses in these specific fields are helping to bridge the gaps left in the primary training related to these fields in the teaching of anesthesiology.

Like any other specialization, duration of three years appears to be too short a period for complete training of an individual into all the finer aspects of a specialty. While, this 3–year tenure creates the basic foundation for developing a doctor that can meet the healthcare needs of society for routine and everyday procedures, an advanced level of procedure may require an advanced certification in that particular field. With the rapid development of advanced procedures and increase in competencies, dedicated training in super–specialties is the need of the hour. Super–specialties provide in–depth research opportunities leading to the rapid evolution of these fields. It has led to shared and interdisciplinary decision making, focused only on one goal i.e. improved patient prognosis. Prolonged and complicated procedures are now possible due to the skills and capabilities of diversified anesthesiologists. With ever increasing opportunities of the super–specialists, there has been a decline in the work and practice of general anesthesiologists who have been limited to peripheral

centers. To avoid medicolegal implications, corporate and tertiary hospitals are more focused on the super–specialties because of their advanced skills and specific expertise. This has forced general anesthesiologist to take refuge in clinics and peripheral centers, which are sometimes not even equipped to handle life– saving emergencies arising out of anesthetic complications. This has created a significant rift between general and super–specialist anesthesiologists.

The way ahead for super–specialist is also not an easy one. Protracted working hours, postoperative intensive care management, team dependencies (mainly skilled surgeon dependency) and limited resources except in corporate sector or tertiary institutes, have restricted the opportunities of super–specialist anesthesiologists.[14]

With the increased demand of super–specialists for highly sophisticated techniques and procedures, the growth of super–specialties is inevitable. But, the question that still stands is "Do we need a general anesthesiologist anymore?" This issue can be best addressed based on the requirement of the community, region and nation. To balance the rapid growth in the super–specialties, it is high time that general anesthesiologist accept their wider role as a peri–operative physician who is actively involved in shared decision making from the admission to discharge of the patient.[15] If general anesthesiologists fail to evolve, the work of general anesthesiologists will be handed over to CRNAs in line with the current practice in the western world.

Like a phoenix, a perioperative physician must rise from the ashes of a general anesthesiologist.

Conflict of interest

None declared by the authors

Authors' contribution

All authors contributed in literature search, preparation of this manuscript and final approval

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