From the Editors' Desk

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Critical Care at the Crossroads

Extracorporeal membrane oxygenation (ECMO) is evolving as a young science, which came into practice 5 decades ago. We are learning ways to make it more user-friendly and more biocompatible by reducing the interaction between the patient and the circuit.

Neonatal RCTs, adult ECMO RCTs (NIH, CESAR, EOLIA) trials, pandemics of H1N1 and COVID taught us many lessons. Learning from positive outcomes would be useful, but negative outcomes teach us much more important lessons about what should not be done. As we started to realize life between pandemics is exciting, realizing the importance of living in a free world, yet being conscious about the dangers posed by the germs having the potential to cause pandemics should help us prepare for the future. In May 2023, speaking at the annual health assembly in Geneva, the WHO chief, Dr Tedros warned that the world should be prepared for a future virus that could be even deadlier than COVID-19.[1]

Our journey towards making ECMO biologically compatible continues. In the international arena, studies are on to understand the importance of anticoagulation, direct thrombin inhibitors and heparin-free ECMO. Studies to make ECMO circuit surface mimic endothelium continue.

Since 2010, ECMO has seen tremendous growth in India. It is a pleasure to see the right professions from different disciplines from different states coming forwards to learn and practice ECMO in its true spirit. In our recent ECMO training course, we were pleasantly surprised to see clinicians in their sixties coming forward to learn ECMO as they identified its importance in their hospitals. We always encourage team participation. It is an opportunity to teach the learners and learn from them too.

Having practised ECMO for 25 years, I can identify the need for strengthening our services, building the bridges in our knowledge gap, embracing the right principles, and lying down deep foundations. In a country of 1.4 billion population, it is a herculean task, yet possible. We need to progress with our efforts in the indigenous production of ECMO consoles, oxygenators, and cannulas. We need to have the right combination of professionals coming together and investing. We should not lose this historical opportunity to help our society as well as stand as pioneers in spreading our knowledge to the entire ECMO community, more so to those in resource-limited countries.

Infection control has to be given due respect. If your ICUs are infested with nosocomial pathogens and multidrug-resistant bugs, I think it is not the suitable environment to treat your patients in that place. It is possible to change the microbial flora by adopting principles of antibiotic stewardship, by re-educating ourselves, by adopting no-blame policy and thorough introspection. As you adopt "zero tolerance" to the transmission of infection in operation theaters, you should extend the same practices to ICUs. Collective indulgence of the entire ICU team under the guidance of dedicated and understanding leadership can make this dream achievable. It will have a huge impact on our survival figures.

The number of pediatric and neonatal ECMOs done in our region are much less compared to adult ECMOs. The reasons for this phenomenon are multifactorial, ranging from awareness, technical expertise, availability of the services, and financial affordability, etc.

The establishment of regional centers of ECMO in different states in a big country like India would be a welcoming suggestion. Identifying ECMO centers of excellence and establishing critical care transport facilities from designated hospitals will help in sharing the protocols and the implementation of mobile ECMO facilities in a uniform manner. The establishment of the state chapters of ECMO is a positive move to identify individuals interested in practising ECMO and the communications going in different states.

We are grateful to the corporates for their role in encouraging ECMO facilities in the country. The practise of ECMO in state/central independent institutions such as AIIMS in different states; Nizam's Institute of Medical Sciences (NIMS); autonomous central institutions such as AIIMS Delhi; PGIMER; JIPMER; charitable organizations such as HERO DMC Heart Institute, Ludhiana; Major ESI hospitals and many other institutions should help in bringing the cost of ECMO closer to the affordable health care in the community. We hope, like cardiac surgery and oncology and transplantation services, ECMO will be available to the population in the years to come.

The importance of sharing knowledge cannot be over-emphasized. Learning from the cases and reporting your database with the Extracorporeal Life Support Organization (ELSO), ECMO Society of India (ESOI), and publication of your experience in journals will help in understanding and analyzing our own cases and developing our own database. It is the need of the hour.

1. https://www.livemint.com/news/world/deadlier-than-covid-who-chief-warns-threat-of-another-pandemic-emerging-11684895630062.html. Accessed on 30th June 2023.

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