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Editorial

Moonwalk in Cardiac anesthesia platform in Nepal

Bishwas Pradhan, MD

Manmohan Cardiothoracic Vascular & Transplant Centre, Maharajgunj Medical Campus, Institute of Medicine, Tribhuvan University, Kathmandu 44600, Nepal

Nepal is one of the countries which has very short journey in the field of anesthesia. 1955 AD is the historical year when surgical patients of our Himalayan country had the privilege of having the first qualified anesthesiologist of Nepal, Dr. Bhawani Bhakta Singh Pradhan.¹ Before this date, anesthesia service was provided by anyone in hospital who could pour chloroform or ether in Schimmelbusch mask of the patient under instruction of medical doctor. Dr. B. B. Singh Pradhan started his service in the first hospital of Nepal, Prithvi Bir Hospital, which was established on 1890 and remained as the only hospital of Nepal for next 60 years.

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Anesthesiologists number in Nepal in current scenario is nearly 345 which was only 7 till 1985. Hats off to the friends from Calgary university, Canada and Ministry of Health, Nepal who were intricately involved in post graduate anesthesia diploma trainings of one year and postgraduate MD Anesthesiology program of 3 years during years 1985 and 1996 respectively, which has been new era

in development of anesthesia service in Nepal.² Face of anesthesiology field has been gradually changing since then, for betterment.

On 16th December 2018, total arch replacement of aorta was performed in Manmohan Cardiothoracic Vascular and Transplant Centre where anesthesia team used three invasive lines for arterial pressure monitoring, Transesophageal Echocardiography (TEE), four lumen central venous pressure (CVP) line, and cerebral oxymetry besides other non invasive monitors. Perfusionists used deep hypothermic circulatory arrest (DHCA) with separate perfusion lines for brain and coronaries for organ protection. Everything was maintained according to standard protocol for similar surgery. Similar kind of anesthesia service is also being provided regularly in the government owned Shahid Gangalal National Heart Center for complex cardiac surgical patients.

But that was not the case in field of cardiac anesthesia in Nepal. Reminiscing in the cardiac anesthesia era is very interesting. Let's stroll through some milestones in cardiac anesthesia highway of Nepal.

Formal cardiac anesthesia service can be traced back to 1965 when first cardiac surgery, closed mitral commissurotomy for rheumatic mitral stenosis, was performed for the first time in the first hospital of Nepal, the Bir Hospital. Anesthesiologist was Dr. JP Rajlawot who used EMO (Epstein Macintosh Oxford) vaporizer and the

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Corresponding Author:

Prof Dr Bishwas Pradhan, MD

<https://orcid.org/0000-0002-7922-8088>

Head, Department of Cardiothoracic & Vascular Anesthesiology

Manmohan Cardiothoracic Vascular & Transplant Centre,

Maharajgunj Medical Campus, Institute of Medicine, Tribhuvan University, Kathmandu 44600, Nepal

Editor-in-chief, Journal of Society of Anesthesiologists of Nepal

Email: biswaspradhan@yahoo.com

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surgery was performed without invasive arterial and CVP line.¹ Cardiac surgeon was from Britain. Closed mitral commisurotomy is the world's first cardiac surgery which was performed in Boston in 1923.³

Later on in 1990, Australian team set the landmark in the field of cardiac anesthesia when open heart surgery was performed for the first time in Bir Hospital itself. We recognize the support of the Australian cardiac anesthesiologist, cardiac surgeon, perfusionist and nursing staffs in starting this service in Nepal, after which, cardiac anesthesia service for cardiac surgical patients became a regular event in this field of medicine.

In 1997, cardiac surgery was performed for the first time with complete Nepalese team of anesthesiologist, surgeon, perfusionist and scrub nurse at Tribhuvan University Teaching Hospital (TUTH). This was after four years of commencement of the cardiac surgery by Australian team in TUTH.

Prof. Brahma Dev Jha became the first anesthesiologist in Nepal to get 3 months of short term training in cardiac anesthesia in Australia. Most of the cardiac anesthesiologists learnt by their experience in their respective hospitals and short term trainings. Dr. Murari Upreti had the privilege to go abroad for one year Fellowship training in cardiac anesthesia in Canada, which probably made him the first anesthesiologist with superspecialist cardiac anesthesiology certification.

I was also privileged to have 3 months Fellowship training in Cardiac Anesthesia in Foothill's hospital, Calgary, Canada. It was after this training, I could use TEE for the first time in Cardiac surgical patient in operation theatre of Manmohan Cardiothoracic Vascular and Transplant Center (MCVTC) on 4th October 2012. As cardiac anesthesiologist, it was my privilege to extend TEE service outside Operation Theater too, for diagnostic purpose and Atrial Septal Device closure procedure in cath lab. Use of TEE by cardiac anesthesiologists is regular now-a-days in other institutes as well.⁴ Ultrasound guidance and fast track cardiac anesthesia has become the standard of care.^{5,6}

MCVTC was facilitated by autologous blood transfusion device, Nitric Oxide, Thromboelastograph and cerebral oxymetry for the first time in Nepal for cardiac anesthesia services. Extracorporeal Membrane Oxygenator (ECMO) was used in cardiac surgical patients for the first time in 9th September, 2009 in Shahid Gangalal Heart Center.⁷

Cardiac anesthesia service now is being provided not only in teaching institutes and private hospitals of Kathmandu valley but has also extended outside valley in few institutes.

Though cardiac anesthesia has very short history in Nepal, quality of cardiac anesthesia quickly became par with the international standards and I am sure it will keep its pace with state of the art technologies and standard protocols being followed worldwide.

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