

Neurosurgery in Eastern Nepal: The Past, Present and Future and A Near Decade of Personal Experience

Yam B Roka, MCh, IFAANS

Department of Neurosurgery
Neuro Cardio and Multispecialty Hospital
Biratnagar, Nepal
Email:dryamroka@yahoo.com

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Neurosurgery had a late start amongst medical specialties in Nepal, firstly pioneered by Prof. U. P. Devkota in 1989.¹ Since then the number of neurosurgeons have grown exponentially in the last decade to more than 60 at present. Most neurosurgeons are centered in Kathmandu mainly due the reasons of good medical centers, easy reach from home, high number of patient inflow and satisfactory financial returns. Outside Kathmandu neurosurgery was slow to pick-up, starting mainly in Bharatpur and then in Eastern Nepal.

Eastern Nepal is home to almost a third of Nepal's population and also a major industrial, educational, political, tourist and entertainment hub. Almost all of the neurosurgical cases were referred to either Kathmandu or adjoining centres in India (Siliguri, Patna etc). Many of these cases did not survive to reach the hospital and of those who did reach many succumbed to the disease. Of the few survivors there was a huge burden on the family in terms of financial, social and psychological aspects. Change of place with language, culture, and professional attitudes did have a major impact in preference for treatment in India.

In the past medical treatment was limited to small clinics and government run health centre until the formation of B P Koirala Institute of Health Sciences, Dharan (BPKIHS) in 1993. The latter became the largest tertiary referral centre offering all specialties in clinical and nonclinical departments along with medical education. It was here that neurosurgery started to develop as a unknown and uncared for "bud" with general surgeons and visiting neurosurgeons from Kathmandu or India doing emergency craniotomies/ minor procedures. BPKIHS had to wait till 2008 when I returned to fully start Neurosurgery on a 24 hour basis . It was here that the first surgery for tumours, vascular, trauma , spine and pediatric procedure was done. Of course there were lots of challenges from fellow department members, hospital administration, higher authorities and thus in spite of trying, neurosurgery stopped after 9 months, as the team

did not see any further growth. The next centre to start was in Neuro Hospital, a private hospital in Biratnagar, the largest city in eastern Nepal. Since 2009 there has been a 24 hour service in neurosurgery and presently it is equipped with the major neurosurgical facilities including Neuro navigation and CUSA. More than 3150 cases have been operated at this centre and thousands of lives have been saved. Hundreds of nurses and paramedical staff have been trained with regards to neurosurgery.

Presently BPKIHS still has problems in retaining neurosurgeons (the previous left a few months back) mainly due to the administration and poor insight of the concerned heads. Biratnagar itself has four centers that provide neurosurgery with myself (Neuro Cardio & Multispecialty Hospital), Dr Sudan Dhakal (Golden Hospital), Dr Alok Deo (Birat Hospital) and recently in Nobel Medical College. Neurosurgery has also started in Birtamode, Jhapa, under Dr CP Limbu since the last few years. All these teams are providing 24 hour services and thus have helped to retain the patients within Nepal itself. The previous efflux has largely been stopped and almost all cases are being managed in any of these centres. Along with neurosurgical services, National level CME have been held, there has been participation in International trials like, STITCH II, STITCH Trauma and CRASH 3, along with paper presentation in international and national conferences and publications in renowned national and international journals. Weekly local meetings and classes are conducted on a regular basis. 8 students who worked under me have taken neurosurgery as their career in national and international places.

With a population of 27 million people the ideal physician ratio (22-30/100,000) and neurosurgeon ratio (1/100,000) is yet to be achieved in Nepal.²⁻⁴ Eastern region has a population of around 8 million and hence would need 70 neurosurgeons to fulfill the criteria.⁵ This appears to be a farfetched dream but visions do come true one day. Even in the USA 20 % of the population has no access to neurosurgery so I think we in Nepal still

have a lot of hope.⁴ A study showed that in 2005 out of 50 African nations studied, 12 had no neurologist.⁵ In 2015 there were 3812 members in the Indian Academy of Neurology and Neurological Society of India and of these 31% members lived in the four major metropolitan cities (1103 for 38.72 million population) and 29.54% in the state capitals (1083 for 48.80 million population).⁴ Another study of a World Federation of Neurology survey showed most neurosurgeons worked in large cities and serving 6,240 to 4,750,000 population members.⁶ In a study from Pakistan on 15 of 72 medical colleges had neurology faculty and 1 neurologist serve more than one million.⁶

With respect to the population this region still needs more neurosurgeons and needs more centers to provide service. Smaller medical hub around the East-West highway for primary trauma care, training of regional medical personnel and ambulance drivers, updating the medical curriculum taught in school, can greatly help saving lives. There needs to be further education of the public with regards to preventable causes in neurosurgery, early referral or visit to the hospital, government initiated insurance schemes or concessions, early transportation by road or air, development of more loco-regional training programs, exchange of faculties from national or international areas, beginning of tele-medicine can all help achieve better results in this sector. Few centres in Biratnagar have already been selected by the government of Nepal for discounted treatment in neurosurgical trauma and many have already benefitted from this scheme. Compulsory provision of neurosurgery departments in the medical college and government regional hospitals with help to treat the low income population, but the government must make sure that the minimum necessary needed for successful neurosurgery in terms of manpower, equipments, back up facilities, radiological and laboratory departments are well established.

The initial concerns of the public like, who is this neurosurgeon, is he capable, is the centre well equipped, are the results good, how is the outcome, in comparison how costly is the treatment etc all have been laid to rest. The public from Janakpur in the west till Kakarbhitta in the east and all the area in between are managed in these centres with good results. With more super specialty medical centers, increasing awareness amongst people, airport/ better roads and recreational facilities coming up in eastern Nepal I am confident that the future for neurosurgery is very prospective and I encourage juniors to develop their future in this region.

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