

Egypt and the neurosurgical transition in Africa

An avalanche of literature exists on the history of neurosurgery in Africa from its evolution in the ancient Egyptian epoch through pre-colonial era till today's modern neurosurgery. A worldwide neurosurgeon to population ratio is 1:230,000; in Africa, it is 1:1,352,000 (1:338,000 in the north, 1:620,000 in the south, and 1:6,368,000 in sub-Saharan Africa). Even the blind can see glaringly that this marked discrepancy across Africa warrants a dire need for "an African Solution to an African Problem" – "this together we can provide!" In this editorial, we will elucidate on the current challenges of neurosurgery in most African countries using the success story of our department of neurosurgery as a simple illustrative model that can be replicated, adapted, and adopted in any resource-limited setting.

The history of neurosurgery dates as far back as the ancient Egyptian time. Situated at the horn of Africa, Egypt stands at the cross-roads between two great continents that in recent years have witnessed a simultaneous admixture of the epidemiologic and cultural transitions compounded by political turmoil that has undermined health care funds, creating hindrances toward the development of neurosurgery. Its strategic socioeconomic and geopolitical position explains why Egypt has long been enjoying a leading role in the development of neurosurgery in its vicinities. In the last 50 years, we have witnessed major advances and transitions in neurosurgery, which was once an appendage of general surgery but has now evolved into a full-fledged specialty of its own right and even furthermore into complex subspecialties which are on a continuous refinement. Despite the financial and material limitations, our huge manpower in a continent where the practice of neurosurgery is almost a dream in some countries has been our major strength. The high continental demand coupled with local pressing needs pushed us to surpass these impediments by setting up a simple training model.

The promotion of adequate training for both nationals and continental trainees to be optimally acquainted to use the available technology and providing as much as possible state-of-the-art practice was our target. Currently our department runs with a staff of 20 full professors, 10 associate professors, 20 lecturers, and 17 assistant lecturers. Our present trainees include 14 nationals, 1 Cameroonian, 2 Yemenis, and 2 Libyans. The training program is in two stages: A masters in neurosurgery for 5 years with minors in neurology or general surgery and doctorate in neurosurgery for 3-4 years.

The provision of fellowships, short training courses, regular trimester, annual conferences, and well-planned daily activities

is followed by log books given to the trainees, and then regular valuation exams. The integration of the training of nurses and paramedical staff in our faculty program was parallel.

Divisions and subspecialties of skull base, (endo) vascular, functional, pediatric, spine, trauma, and radiosurgery, with their integration into the national health system, improved both our service and training system. The latter warranted the upgrading of our operating theaters from an initial two to seven well-equipped rooms with up-to-date microscopes, endoscopes, ultrasound, etc. The funding has mainly been from NGOs and government subsidies; seeing our sincerity, they shared in the progress.

- We equally augmented the ward capacity to above 120 beds and 20 neurosurgical intensive care facilities with patient care shared with intensive care physicians
- One of our strengths has been the establishment of a good working atmosphere with related specialties like the ENT, Ophthalmologists, Radiologists, Pathologists, etc., which has strengthened our team and potentiated our outcome and output
- To achieve a modern proper patient follow-up and to build up a data bank, we revised and upgraded our filing system from a paper archive to an electronic database
- To facilitate early exposure of our trainees to research and updating them with technologic advances, a high-speed internet has been set up in the department through which they have free access to most journals and virtual libraries
- A cadaveric dissection laboratory to shorten the learning curve for our young trainees and stimulate the development of new surgical techniques is in the pipeline
- The ultimate demand for the progress of our field was carried by the senior neurosurgeons and the Egyptian Society of Neurological Surgeons (ESNS)
- In 1998, we had only 6 centers; now we have 15 centers and the number of qualified neurosurgeons has increased from 165 to 520. We are proud to have two gamma knife centers in Cairo, sharing in treating and training.

It will be gross pretense if we claim that we can do it all alone. The support of established societies like the Asian, European, and American Neurosurgical Societies is indispensable to complement and supplement the training we provide. Trainees in developing countries should at the end of their course be granted scholarships in different centers to allow them gain firsthand exposure to components not present in their home or regional training centers. Young neurosurgeons should be encouraged to attend international meetings and have sessions to present their activities and also their

hopes. This is already being done; however, much drive is still needed.

These achievements are not an easy walk in the park. We have been limited mainly by insufficient resources, but with a post-revolution Egypt and a rapidly sensitized and advancing Africa, our stakes are high and our dream to transform neurosurgery in Egypt and our continent as a whole to advanced levels is an unfading objective. While we

commit our resources for training, the burden and challenges of developing neurosurgery across the continent remains a major responsibility of the individual countries as well as a challenge for the entire neurosurgical community.



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