Neuro-Ophthalmology in Malawi

Background

At the conclusion of the 2001 meeting of the European Neuro-Ophthalmological Society in Tübingen, Germany, William F. Hoyt stated, “Neuro-ophthalmology is like a harp in an orchestra: good to have but not always needed.” With this in mind, one might question the need for teaching neuro-ophthalmology in Africa. In an African Eye Hospital, cataract and ocular infection including endophthalmitis are very common and training ophthalmologists to deal with these disorders is essential. PubMed search with the terms “neuro-ophthalmology” and “developing countries” or “Africa” fails to yield any publications. But if comprehensive ophthalmic education is our goal, then training in neuro-ophthalmology must be included.

In 2005, the University Eye Hospital of Tübingen created a memorandum of understanding with the Eye Department of the College of Medicine in Blantyre, Malawi. This partnership primarily was founded to educate and train ophthalmologists in Africa.

Resident Training of Ophthalmologists in Malawi

In Malawi, residents are offered 4 years of training to obtain a Master of Medicine in Ophthalmology (M Med Ophthalmology) (1). The program is divided into 2 parts. Part 1: Basic sciences: anatomy, embryology, physiology, medical optics, pathology, microbiology. Part 2: Principles and practice of ophthalmology, including clinical care and anterior segment surgery.

Through funding from the German Academic Exchange Service, Malawian postgraduate students in ophthalmology visit the University Eye Department in Tübingen 6 weeks per year during their 4-year training period. In addition, faculty from Tübingen visit the College of Medicine for at least 2 weeks each year to lecture on special topics.

The German Else Kröner-Fresenius Stiftung provides support for a full-time lecturer (M.S.S.) from Tübingen to be in Malawi for 3 years (2011–2014). The same foundation also provided considerable funding for ophthalmic equipment.

Teaching Neuro-Ophthalmology in Malawi

In 2012, the first neuro-ophthalmological course in a developing African country was held in Blantyre, Malawi (Fig. 1). Topics included:

Day 1: Basic neuro-ophthalmologic examination; the relative afferent pupillary defect; visual field techniques; unexplained visual loss; and transient visual loss.

Day 2: Optic disc findings; optic neuritis; ischemic and other optic neuropathies; tumors of the visual pathways; stroke; and higher cortical visual disorders.

Day 3: How to handle diplopia; cranial nerve palsies; nystagmus and supranuclear ocular motility disorders; headache and ocular pain; and efferent pupillary abnormalities.

The Impact of Neuro-Ophthalmology Training

We administered a questionnaire to evaluate the neuro-ophthalmology course. Five candidates who graduated in M Med Ophthalmology in Malawi and 4 postgraduate students from Malawi, and 3 from Zambia were included. We questioned the quality of the course, its impact on daily clinical work, and the question whether this course would be of value for other students in Africa. Additionally, a SWOT (strengths, weaknesses, opportunities, threats) analysis was made by the participants.

On a scale from 1 (not at all) to 5 (very important), 75% (9/12) of the course participants considered neuro-ophthalmology a very important aspect of ophthalmology. Twenty-five percent (3/12) of the course participants considered neuro-ophthalmology a very important aspect of ophthalmology. Twenty-five percent (3/12) considered it as moderately important. Evaluation of their neuro-ophthalmological education before attendance of the course (1 = very poor; 5 = excellent) was moderate in 50% (6/12), high in 25% (3/12), and the others in the lower ranges of the scale. Eighty-three percent (10/12) affirmed that this course contributed a great deal to their knowledge of neuro-ophthalmology. Fifty percent (6/12) responded that their increased understanding of neuro-ophthalmology will influence their clinical practice “tremendously” and 30% (4/12) responded “very much.” Finally, 83% (10/12)
recommended this course serve as a basis for further neuro-ophthalmology training in Africa.

Discussion

Our survey showed that conducting a neuro-ophthalmology course, especially by an experienced neuro-ophthalmologist from a developed country, can greatly influence the practice of ophthalmology in Africa. All participants of this course consider neuro-ophthalmology as an essential subspecialty. This is important because ophthalmology care at a subspecialty level is not well developed in Africa. Besides the Republic of South Africa, few eye centers have pediatric ophthalmology and vitreo-retinal units. None have neuro-ophthalmology clinics.

In Malawi, neuro-ophthalmology is practiced by general ophthalmologists, who like our study participants, may have minimal neuro-ophthalmology expertise. Yet neuro-ophthalmological problems are not uncommon in Africa. Expertise in neuro-ophthalmologic examination techniques is particularly important since neuroimaging resources (x-ray, computed tomography, magnetic resonance imaging) and expertise (only 2 radiologists in Malawi, with a population of 14,000,000) are limited.

Conclusions

Neuro-ophthalmology will have an important role in Africa with the increasing prevalence of entities such as HIV (2) and diabetes mellitus (3). The growing neurosurgical specialty will need neuro-ophthalmology support as well. We look forward to participating in the education of African ophthalmologists, allowing the “harp” to become part of their diagnostic and therapeutic “orchestra.”

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REFERENCES