

Letters to the Editor

Resident's perspectives of neurology training in the Kingdom

Sir,

Medical education in Saudi Arabia is relatively new. The first medical college was established in 1969. The Arab Board for medical specialization has training programs for different specialties in many cities in the Kingdom. Universities such as King Faisal, King Saud and King Abdulaziz have established programs for fellowships, masters degrees and diplomas in many specialties. Some sub-specialty programs are initiated in certain centers such as King Faisal Specialist Hospital and Research Center. Recently, the Saudi Council for Health Specialties established the Saudi Board in different specialties as a national board with training programs at recognized hospitals in different cities of the Kingdom. Neurology has evolved as a separate specialty. Postgraduate training in Neurology is initiated in some centers in the Kingdom (e.g. King Faisal University Fellowship in Neurology, King Saud University Fellowship in Neurology and recently Saudi Board of Neurology).

I have been through a 4 year fellowship program in neurology at King Faisal University. The program included all aspects of neurology and related specialties including neuroanatomy, neurophysiology, neuropathology, neuroradiology, clinical neurology, clinical neurophysiology, pediatric

neurology, internal medicine, neurosurgery and psychiatry (please see Table 1 for details of the program components).

The training center is a tertiary referral hospital that covers the city of Al-Khobar and large number of referrals from the whole Eastern Province of Saudi Arabia. As the Neurology Department is a separate department, residents covering the neurology service have to cover the emergency neurology referrals direct from the emergency room (ER) including the pediatric neurology emergencies which at the beginning makes the resident's duty a nightmare. However at the end I felt that combining adult and pediatric neurology during training was of immense benefit to me because of the large number of referrals and good exposure to a wide spectrum of neurological disorders all through the training period. This opinion was also held by the majority of neurology residents and may be greatly beneficial if we consider the need for neurology in the Kingdom at large.

Rotating residents in neurology came from other specialties (e.g. internal medicine, neurosurgery, psychiatry, pediatrics, etc), interns, and medical students share a common opinion that neurology is a complicated subject and they have a sense of fear of handling neurology patients, particularly emergency cases. This opinion and fear is probably created by the limited exposure to neurology practice and teaching, a notion that is probably universal. However, recently we noticed some alleviation of the

Table 1 - Program Content of Neurology (MDNL).

Level	Course Number	Course Title	Duration (weeks)	Teaching Hours
I	MDMD 801	Internal Medicine	26	13
II	MDCM 801	Neurosciences	9	4
	MDPA 802	Neuropathology	6	6
	MDRD 801	Neuroradiology	6	5
	MDNL 821	Neurology II	26	13
	MDPY 802	Psychiatry for Neurologists	13	8
III	MDNL 831	Electroencephalography (EEG) Evoked Potentials (EP) Electromyography (EMG) (Neurology III)	17	12
	MDPD 802	Pediatric Neurology	17	10
	MDNS 801	A Rotation in Neurosurgery		10
IV	MDNL 841	Advanced Neurology - Neurology IV	47	26
Total			201	117
	MDNL = Medical Neurology		MDPY = Medical Psychiatry	
	MDNS = Medical Neurosurgery		MDPD = Medical Pediatrics	
	MDPA = Medical Pathology		MDMD = Medical Internal Medicine	
	MDRD = Medical Radiology		MDCM = Medical Neurosciences	

aforementioned fears among both undergraduates and postgraduates from the other disciplines due to the departmental plans to provide more condensed neurology training for non-neurologists.

The need for trained neurologists in the Kingdom is high. To ensure adequate neurological health care in the Kingdom, more than 200 neurologists are needed at present. This is based on a recommended ratio of one neurologist for each 60,000 population. This target would not be achieved unless all the national postgraduate programs in neurology increase their intake of trainees per year.

The graduation of the first two locally trained neurologists in the King Faisal University Fellowship program in 1999 is really a milestone for the first academic Department of Neurology in the Kingdom. Although the number is small, it is a positive step nationally in graduate medical education that confirms feasibility, practicality and convenience of these programs and their cost-effectiveness in providing the community with the needs of specialist in the various medical subspecialties.

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Folate deficiency and neurologic complications in elderly Omani patients.

Sir,

Vitamin B₁₂ and folate deficiencies are highly prevalent in the geriatric population.^{1,2} Studies revealed that low serum vitamin B₁₂ was observed in 5-21% of geriatric patients and folate in 5-19% of geriatric patients. Neurological impairment due to vitamin B₁₂ deficiency is well-known, however, folate deficiency, previously considered free of neurological consequences, can also be associated with psychic and mental deterioration, neuropathy and even spinal cord syndromes similar to those observed in vitamin B₁₂ deficiency.^{3,4} Since the symptoms related to vitamin B₁₂ and folate deficiency can sometimes be very subtle and go unnoticed by patient and physician alike, we prospectively evaluated the neurological status, as well as serum vitamin B₁₂ and folate levels in elderly Omani patients with no clinical evidence or history of folate or vitamin B₁₂ deficiency.

Elderly patients (aged 55 years or above not suffering from any major organ failure) referred to the Ophthalmology Clinic and presenting with benign ophthalmological problems were enrolled after providing informed consent. Subsequently, they underwent a thorough neurological examination and a blood sample was taken for the analysis of serum vitamin B₁₂ and folate levels, red cell folate levels, and hematological parameters (hemoglobin (Hb), Hematocrit (Hct), mean cell hemoglobin (MCH), mean cell hemoglobin concentration (MCHC), mean cell volume (MCV) and red blood cell count (RBC). Vitamin B₁₂ in serum was measured by a microparticle enzyme intrinsic factor assay (Imx B₁₂, Abbott Laboratories). Serum and red cell folate concentrations were measured with an ion capture assay (Imx Folate, Abbott Laboratories). A Coulter STKs Blood Analyzer using spectrophotometry and the electrical impedance principle analyzed the hematological parameters.

One hundred and ten elderly Omani patients (47 males and 63 females) participated in this study. The mean age was 58.4 ± 6.6 years. The hematological results were the following: Hb 13.64 ± 1.52 g/dl, Hct 0.41 ± 0.04, MCH 26.41 ± 3.35 pg, MCHC 33.05 ± 3.56 g/dl, MCV 79.04 ± 9.46 fl, RBC 5.22 ± 0.70 × 10⁶/l serum vitamin B₁₂ 516 ± 244 pg/ml, serum folate 7.3 ± 2.9 ng/ml, red cell folate 218 ± 109 ng/