

Neurosurgical Notes from Abroad.

## Neurological Disease and Its Management in Malaysia *Belah Otak\**

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**SUMMARY:** *The pattern of neurological illness in Malaysia and some of the factors which influence its surgical treatment are described.*

**RÉSUMÉ:** *Les maladies neurologiques telles que rencontrées en Malaisie et leur traitement chirurgical sont discutés.*

Malaysia is a tropical country of many races. Its boundaries, the haphazard result of the whims of sultans, compromises among colonial powers and the expediency of politicians, enclose a country which is neither geographically or racially homogeneous. East Malaysia (the northern portion of the island of Borneo) is separated from west Malaysia by three hundred miles of the South China Sea. Slightly less than one-half of the total population of twelve million are Malays and they exercise political control. The next largest group, the Chinese, contains most of the country's businessmen and the Indian minority includes many doctors. In east Malaysia, indigenous groups (Kadazans, Dyaks and Muruts) are prominent. English, Malay, Cantonese, Hokkien, Hakka, Tamil and Punjabi are all commonly heard on the streets of Kuala Lumpur.

Malaysia has been described as one of the better placed developing countries. The economy has traditionally been open and the currency sound. Major exports are tin, rubber, palm oil and timber. The gross national product per capita is approximately \$500 (U.S.) as compared to \$100 in India and \$5,000 in the U.S.A. There are regions, the east coast of Malaya for example, where money is scarce, but, food and shelter are readily obtained and malnutrition is not encountered.

The doctor:population ratio in 1973 was 1:4,562. Although more equitable, probably, than in other countries in Southeast Asia, the distribution of medical care still leaves some rural areas scantily covered. All specialities are represented in the

government health service and most (but not neurosurgery) are also practised on a private basis. Cardiac surgery is sputtering to a start and renal transplantations are not performed. Even in the cities the bomoh (medicine man) may be preferred to a conventional doctor.

Neurosurgery was introduced to Malaysia by Dr. Roy Selby, who arrived from the United States in 1964. Now, there are three centers, four neurosurgeons and five neurologists. Associated with the two thousand bed general hospital in Kuala Lumpur is an institute for neurology, neurosurgery and psychiatry housed in a building which was opened officially in 1975. The operating theaters, radiology department and intensive care unit have been thoughtfully planned and well equipped. One hundred beds are designated for neurosurgical patients. Both neurosurgeons and a core of nurses and technicians were trained in North America. The impression from within is that of an organized occidental center lacking only research facilities.

The milieu externe is Southeast Asia. Because of the heavy patient load, the frequent language barriers and the stoicism of some patients to whom the first symptom occurred only when they could no longer walk or work, a full neurological history is more often undertaken as a special investigation than as a routine step in diagnosis. People are hesitant to consult a doctor even if he is readily available and doctors are slow to refer to a neurosurgeon. As a result, patients are often admitted in poor condition after a lengthy illness. Until recently, one-third of those op-

\*Operation on the brain (Malay)

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erated on for a meningioma were blind with papilledema (Selby, 1973). An operation on the head is usually regarded as a last resort and adamant refusal to permit operation is not uncommon. Limited operating time and constant awareness that the discipline of neurosurgery is on trial induce a tendency to select for operation those most likely to derive obvious benefit from a single procedure. One neurosurgeon has reasonably decided, for the present time, not to shunt any child with congenital hydrocephalus.

Some diseases affecting the nervous system occur more frequently in Southeast Asia than in Europe or North America. Examples are cryptococcal meningitis, nasofrontal encephalocoele, nasopharyngeal carcinoma and Japanese B encephalitis. Conversely, multiple sclerosis is uncommon in tropical countries. Other diseases seem less common but epidemiological evidence is not strong enough to confirm or deny this impression. Intracranial aneurysms rarely come to the attention of a neurosurgeon in Malaysia. However, the term "stroke" denotes, to most practitioners, a definitive diagnosis. Investigation in such patients is infrequently pursued and autopsies are rarely performed (particularly in Muslim patients). Similarly, it is easy to attribute the apparent paucity of secondary deposits to the brain and spinal extradural space to the habits of referring doctors. Cultural and economic conditions dictate that a disease with a slow evolution is more likely to be seen by a neurosurgical consultant than is one rapidly leading to death. Such an argument may explain, at least in part, the comparatively low ratio of glioblastomas to low grade astrocytomas and of acute subdural hematomata to extradural and chronic subdural hematomata. Some time will elapse before data are available to assess whether there are real regional differences in incidence.

Recognition of the prevalence of cryptococcal meningitis has coincided with the reduction in tuberculous meningitis following a programme of BCG inoculation in the 1960's. In Malaysia, the infection afflicts people without overt evidence of immunological deficiency. Papilledema is usually present and hydrocephalus in three-quarters of the patients. Shunting and the antifungal agent, 5-fluorocytosine, have been the cornerstones of treatment.

Suwanela and Suwanela (1972) drew attention to anterior encephalocoeles as seen in Thailand. The Malays like the Thais emigrated from Southern China more than 2000 years ago. In a Thai or Malay child an encephalocoele is more likely to be sincipital than occipital. There may be associated unilateral or bilateral ventricular dilatation but usually the ventricles are of normal size. The malformation carries a better prognosis than does the posterior variety. The relative merits of direct anterior approach and subfrontal craniotomy remain contentious.

The susceptibility of the Chinese in Southeast Asia to nasopharyngeal carcinoma is commonly recognized but poorly understood. Patients with this condition are usually treated with radiotherapy but may present to a neurosurgeon with multiple cranial nerve palsies, facial pain or spinal metastases. Where there are multiple cranial nerve palsies, a "strip biopsy" of the nasopharynx is a worthwhile investigation even if no gross mass is seen.

In Kuala Lumpur, the roads are inadequate to handle the increasingly heavy traffic of cars and motor cycles. Over 800 head injuries are admitted each year to the neurosurgical service at the General Hospital. Spinal trauma is usually managed (conservatively) by the orthopaedic surgeons. The outlook for a paraplegic person in Malaysia is, at present, bleak. A spinal rehabilitation center modelled after that at Stoke Mandeville is being started.

Brain abscesses (usually secondary to chronic otitis media) are common and to be considered whenever there is an avascular intracranial mass. Leprosy is, of course, the most common infection of the nervous system in the world. In Malaysia, there are about three hundred new cases annually. Only occasionally is the opinion of a neurologist or neurosurgeon sought.

Many persons, including authorities in the World Bank, have pointed out that undeveloped countries tend to introduce medical care too sophisticated for their immediate needs. In some areas of the world where all available resources are needed to provide food, clothing, shelter and rudimentary health care, neurosurgery would be an expensive and inappropriate luxury. In Malaysia, however, the economic status and standard of medical care were such as to accept, if not demand, the inauguration of neurosurgery ten years ago. To the occasional person with a meningioma or extradural hematoma, there is no substitute for a neurosurgeon. With the present facilities and personnel, the service must to some extent be representative rather than comprehensive. One of its main tasks is to demonstrate what can or cannot be done and to educate the medical community in neurological matters. Clinical research is now, understandably, of low priority but the opportunities are considerable.

A discipline, rooted in the traditions of Europe and North America has been grafted onto cultures with Chinese, Indian and Arabic heritage.

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