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Epilepsy in Uganda (Urban)

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Summary. An analysis is presented of two groups of epileptic patients seen at Mulago Hospital, Kampala. All patients were of African race and all were adults or children aged 10 years or more. One group consisted of forty-six inpatients admitted in a recent 2-year period, the other consisted of thirty-nine outpatients currently attending a Neurological Clinic. The analysis covers sex, tribe, age at onset, age at presentation, duration, clinical type of fits and probable aetiology. The patterns resemble those of other hospital series in Africa. The method of using phenobarbitone in the Clinic and its strikingly beneficial effects are emphasized.

Résumé. Il s'agit d'une analyse de deux groupes de malades épileptiques examinés à l'hôpital de Mulago, Kampala. Tous les malades étaient de race africaine et tous étaient des adultes ou des enfants de 10 ans ou plus. L'un des deux groupes se composait de quarante-six patients hospitalisés pendant une période récente de 2 ans; l'autre se composait de trente-neuf patients non-hospitalisés, subissant actuellement des traitements dans un service de neurologie. L'analyse donne des renseignements sur le sexe, la tribu, l'âge au début des crises, l'âge au moment de la consultation, la durée, les types de crises cliniques et la sétiologie probable. Les configurations ressemblent à celles d'autres séries cliniques rencontrés en Afrique. L'emploi du phénobarbitone au service hospitalier, avec des résultats remarquablement bénéfiques, est mis en relief.

INTRODUCTION

Nowhere have the pitiful sufferings of the epileptic in Africa been more vividly described than by Aall-Jilek (1965), working in the midst of the remote Wapogoro tribe in Tanzania. Billington (1968), after reviewing some of the important papers on epilepsy in tropical Africa, has contributed the first report from Uganda exclusively devoted to epilepsy, he describes his experience of twenty-eight patients seen during 1½ years at Mengo (Church of Uganda) Hospital, Kampala.

The present report is based on experience at Mulago Hospital, Kampala. Mulago Hospital is a general teaching institution which has over 1000 beds with a rapid turn-over of mainly acute cases. It has modern medical facilities but there is no electroencephalographic machine. Most epileptics are seen in the Casualty and General Outpatient Clinics but few are admitted to the wards. The irregular arrangements for treatment and

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follow-up induced the author to start a Neurological Clinic in March 1968. Similar work is being carried out at a Mental Health Clinic (associated with Mulago Hospital) but their results have not been analysed.

The report is a retrospective analysis of forty-six inpatients and a current analysis of thirty-nine outpatients. Social aspects have not been included as these are described by Orley (1968). The hospital figures cannot be used to obtain any idea as to prevalence; such figures for a defined rural area in Uganda are uniquely provided by Orley.

MATERIAL

For the purpose of the analysis a patient was not included if he was recorded as having had only one fit or only a few fits close together. This is the usual criterion and differs from that of Levy, Forbes & Parirenyatwa (1964) who included subjects even if they had had only one fit.

Only patients of African race were included in the analysis which consisted of two groups, one being inpatients admitted to Mulago Hospital, the other outpatients attending the Neurological Clinic. One part of the Neurological Clinic is attended by adults and children aged 10 years or more, and only this part was analysed. In order, therefore, to make valid comparisons, the inpatient group also consisted only of adults and children aged 10 years or more. If children aged less than 10 years had been included in the inpatient group, it would have been found that their number (twelve) would have been approximately one-quarter of the number of adults and older children (forty-six) in the inpatient group.

The inpatient admission group consisted of all adults and children aged 10 years or more admitted with the diagnosis of epilepsy to the 'adult' medical wards of Mulago Hospital during the two years 1966 and 1967. Such patients numbered forty-six out of 5275 total adult 'medical' admissions (0·87%). This is similar to the figure of 0·75% obtained by the author in a separate (unpublished) analysis in which epilepsy accounted for approximately 8% of all 'adult' neurological admissions to Mulago Hospital.

The outpatient attendance group consisted of all adults and children aged 10 years or more who attended with the diagnosis of epilepsy at the Neurological Clinic at Mulago Hospital in the 5-month period between its inception at the beginning of March 1968 and the end of July 1968. There were thirty-nine such patients out of a total of ninety-six patients attending. Over the same period 1177 new patients attended General 'Adult' Medical Outpatient Clinics. The latter attendances were not scrutinized; they almost certainly included several epileptics.

Both groups were analysed for sex, tribe, age at onset, age at presentation, duration, clinical type of fits, probable aetiology, and presence of clinically assessed mental retardation. In the outpatient group additional information was recorded concerning drug therapy and response to therapy.

RESULTS

Sex and tribe (Table 1)

In the inpatient group there were thirty-eight males and only eight females, whereas in the outpatient group there were twenty-three males and sixteen females. In the outpatient group thirty-one of the thirty-nine were from the large local tribe (Baganda), a proportion similar

to that expected for admissions and attendances at Mulago Hospital. Whilst there was a male preponderance in the outpatient group, it was much more marked in the inpatient group where twenty-three of the forty-six patients admitted were non-Baganda immigrant males. Such sex-loaded figures have been commented on by other observers. By contrast, Orley (1968) found more female than male epileptics in a settled rural community.

TABLE 1. Sex and tribe

	Inpatients	Outpatients
Males	38	23
Females	8	16
Total	46	39
Baganda	23	31
Others	23	8

Age at onset (Table 2)

Both groups showed a peak onset in the 5–9 and 10–19 age spans, which accounted for just over half the total. Smaller numbers commenced their illness in the 0–4 and 20–29 age

TABLE 2. Age at onset

Age	Inpatients		Outpatients	
0–4 years	2		6	
5–9 years	7	24	11	21
10–19 years	17		10	
20–29 years	5		7	
30–39 years	3		4	
40–49 years	5		—	
50–59 years	—		—	
60–69 years	1		1	
70 or more	—		—	
Not known	6		—	
	46		39	

spans. None of the outpatients started to have fits after the 30–39 age span except one elderly man. Five inpatients commenced fits between the ages of 40 and 49, two of them following head injury, and one elderly man was said to have had his first fit when 60 years old. Age at onset was not recorded in six inpatients.

Age at presentation (Table 3)

Well over half fell into the 10–19 and 20–29 age spans, and all except one outpatient were less than 40 and all except one inpatient were less than 50 years old.

TABLE 3. Age at presentation

Age	Inpatients	Outpatients
10–19 years	17	17
20–29 years	13	13
30–39 years	6	8
40–49 years	7	—
50–59 years	—	—
60–69 years	2	—
70 or more	—	1
Not known	1	—
	46	39

Duration (Table 4)

A considerable majority of both groups had had epilepsy for less than 10 years, the figures being even more striking than those in the analysis of Orley who speculates as to possible explanations.

TABLE 4. Duration

	Inpatients		Outpatients	
0–4 years	27	32	17	24
5–9 years	5		7	
10 or more	5		10	
Not known	9		5	
	46		39	

Clinical type of fits (Table 5)

Almost every patient presented with grand mal fits. Of the only two inpatients who did not do so, one young woman had petit mal absences only and one young man had focal fits due to a large angiomatous malformation in one parietal lobe demonstrated by carotid arteriography. This was the only patient in either group whose epilepsy was associated with a known 'tumour', an angioma, however, being in reality a malformation rather than a true neoplasm. This is a reflection of experience at Mulago Hospital that intracranial tumours, infrequently seen (Billinghurst, 1966), present at a sufficiently advanced stage to have a picture more florid than epilepsy alone.

Two outpatients were considered to have petit mal absences only. One outpatient had focal (Jacksonian) fits alone with no detectable lesion even after thorough investigation. One outpatient was thought to have temporal lobe epilepsy associated with abnormal movements of one arm only, possibly of focal epileptic type.

Grand mal fits were associated with petit mal absences in one case, with focal fits in four cases, and with temporal lobe attacks in two cases altogether. But in 85% of patients in both groups the only type of fit reported was grand mal alone.

Electroencephalography was not available to assist in the diagnosis of petit mal which is almost certainly heavily under-diagnosed in all hospital series in Africa. Levy *et al.* discovered six out of 130 epileptics in their rural Reserve in Rhodesia, but Orley only diagnosed one out of eighty-three in rural Uganda. The real prevalence of petit mal in Africans remains bafflingly obscure. It is also likely that temporal lobe epilepsy, if not associated with grand mal seizures, is not infrequently missed.

TABLE 5. Clinical type of fits

	Inpatients	Outpatients
Grand mal alone	39	33
Grand mal and petit mal	1	—
Petit mal alone	1	2
Focal (Jacksonian) and grand mal	2	2
Temporal lobe and grand mal	2	—
Focal (Jacksonian) alone	1	1
Temporal lobe alone	—	1
Total grand mal	44	35

Probable aetiology (Table 6)

In approximately 90% of both groups the aetiology was presumed to be idiopathic. Otherwise, head injury was an occasionally recognized factor (four inpatients, three outpatients). In individual cases, congenital disorder (microcephaly), angioma and past *Haemophilus influenzae* meningitis were recorded. Since the patients were adults or older children, enquiries about possible birth injury and brain infection in early life invariably met with negative or indefinite responses.

TABLE 6. Probable aetiology

	Inpatients	Outpatients
Congenital disorder	1	—
Birth injury	—	—
Postnatal head injury	4	3
Infection	—	1
Tumour	1	—
Presumed idiopathic	40	35

Exhaustive investigations were not routinely carried out. The skull was X-rayed, the CSF examined and serological tests for syphilis done in most inpatients. Air studies were carried out in one and carotid arteriography in a few with uniformly negative results save in the patient with the angioma.

Information about *mental retardation* was meagre or lacking in the inpatients; two were noted to have marked retardation. Six outpatients had slight to marked retardation.

A positive *family history* was hardly ever obtained. Personal and social attitudes towards epilepsy may militate against the willingness of the patient or his relative to admit openly to such a fact (Orley).

Drug therapy

The outpatient group alone was analysed, as response to therapy could only be assessed in them. Adequate therapy and careful follow-up is being attempted. Phenobarbitone was used in every case in daily doses between 60 and 300 mg. It is very effective, very safe and very cheap, all highly desirable qualities in a developing country. Six patients also received phenytoin and two primidone. By the end of the defined period, sixteen patients had achieved complete control of fits, ten were markedly improved, six slightly improved, none was unimproved, and seven had not by then returned for follow-up. Of the last only one was actually a defaulter.

DISCUSSION

Exclusion of children under the age of 10 years (for reasons stated) has made the figures more accurate but regrettably less representative. The patterns are generally similar to those of other hospital series in Africa, with a majority of males, an early age at onset, a relatively short total duration of the disorder, an overwhelming preponderance of grand mal as the type of seizure, and a paucity of recognizable aetiological factors.

Since the benefit of convincing therapeutic response far outweighed the disadvantage of drowsiness, phenobarbitone was often prescribed in moderately large doses, to be taken not more often than twice a day, a procedure also recommended by Orley (1968), Aall-Jilek (1965) and Giel (1968). Furthermore, Orley's rural experiences encouraged the idea of allowing some of the patients to take away up to 8 months' supply of the drug in order to obviate the expense of frequent visits.

A strikingly beneficial response to phenobarbitone has been shown in the outpatients, a group which included moderately sophisticated and educated people with an ambivalent attitude towards the old ideas about epilepsy, a willingness to stick to long-term therapy and an ability to impart information to others.

So it is to be hoped that some of the patients themselves can add their quota to the efforts of the health services to disseminate the ideas of a rational approach to the origin and control of this hitherto dreaded disease.