

Epilepsy among Elderly Sudanese patients

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Abstract:

Objective: The aim of this study was to evaluate the clinical presentation and characteristics of elderly Sudanese patients with epilepsy.

Methodology: This is a prospective study (from Feb. 2005 to Jun 2008). The study population included 240 elderly epileptic patients (age 60 years or above).

Results: Cerebrovascular accident was found to be the most common cause of secondary epilepsy (31%). Generalize epilepsy was seen in 120 (50%) of patients. Abnormal neurological findings were more common (49%) among patients with partial epilepsy. Fifty percent of our patients showed abnormal EEG. Abnormal CT brain findings were common among patients with partial epilepsy.

Conclusion: The pattern of clinical presentation of epilepsy among elderly Sudanese epileptic patients is similar to what was mentioned in the literature except that the percentage of epilepsy following infections was more among our studied group (6%).

Keywords: Cerebrovascular, EEG, seizure.

A seizure is a sudden disruption of the brain's normal electrical activity accompanied by altered consciousness and/or other neurological and behavioral manifestations. Epilepsy is a condition characterized by recurrent seizures¹. Epilepsy is either; idiopathic when there is no underlying cause or secondary if there is an underlying cause. The most important classification depends on the spread of electrical activity e.g. generalized epilepsy or partial epilepsy².

Underlying factors can be identified in a greater proportion of elderly patients than younger patients, including cerebrovascular disease, dementia and tumour. Cerebrovascular disease is the most common underlying factor. Dementias of non-vascular origin give rise to seizures that are often easy to control. Alzheimer's disease and epilepsy often coexist. The most common tumours found to produce seizures in later life are gliomas, meningiomas, and metastases. Seizures often have focal features but elderly patients do not always show neurological signs¹. traumatic epilepsy.

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Trauma is common in old age and older people are more likely to develop post-Subdural haematoma is a potentially treatable cause of epilepsy in elderly people. The most common type of seizure in elderly patients with epilepsy is a complex partial seizure but unlike other age groups it originates from extratemporal regions or the frontal lobe, in areas which tend to be involved in CVA. The elderly patients often have more severe and prolonged postictal symptoms than younger individuals. The diagnosis and treatment of seizures and epilepsy in the elderly will become a greater concern because the number of elderly is rapidly increasing, the complexities of diagnosis are more challenging, the incidence of positive EEG in the elderly is less than that in the young epileptic patients, and drug therapy is affected by interactions and altered pharmacokinetics³.

Objective:

The aim of this study was to evaluate the clinical presentation and characteristics of elderly Sudanese patients with epilepsy.

Methodology:

This is a descriptive cross sectional hospital based study. It was conducted at Shiek Mohamed Kheir referral clinic and El Shaab Teaching Hospital (Khatroum, Sudan). El Shaab Teaching Hospital is a 240 bedded hospital that has two neurological unites with 43 beds and an intensive care unit. The study population included epileptic patients referred to the hospital from Feb. 2000 to Jun 2008. All of them were newly diagnosed and they were not on treatment. Initially 255 patients were included in the study but 15 ones were dropped due to difficulty of follow up. The patients were followed until the end of the study period. All the patients were Sudanese; those below 60 years of age were excluded. All gave their verbal consent to participate in the study. The study was approved by the ethics committee. A full detailed history was taken from each patient and a proper systemic and neurological examination was performed. The physical signs were grouped into general, systemic and neurological. The following investigations were done for each patient: Random blood sugar, total blood count, liver function tests, blood urea, serum sodium, serum calcium, serum magnesium, chest x-ray, and E C G. All the patients had a CT of the brain and EEG. The interpretation of the EEG was done by a neurophysiologist. Blood samples to determine antiepileptic drugs plasma concentrations were obtained six weeks after starting the treatment, a second sample was taken after six months and a third one after one year and a fourth one after two years. During the regular monthly follow up of the patients; a stress was put on the regularity or not of taking the medications, whether the patient had an attack of epilepsy or evidence of drug toxicity. Data were analyzed and results were discussed.

RESULT: Out of 240 elderly epileptic patients 120 (50%) had no clear cause, 31% had past history of CVA, 6% had brain infection, 5% had brain tumors and 8% had rare causes like, subdural hematoma, degenerative disorders and systemic metabolic conditions like uremia, hyperglycemia, hypoglycemia, hyponatremia,

and alcohol withdrawal. It was found that 20% had family history of epilepsy. Generalize epilepsy was seen in 120 (50%) patients, complex partial in 80 and simple partial epilepsy in 40 ones. The prodromal symptoms were increased among patients with partial epilepsy (45%). The majority (60%) of our patients had prolonged and severe postictal confusion symptoms. Abnormal neurological findings were more (49%) among patients with partial epilepsy. Only (50%) of our patients showed abnormal EEG. Extratemporal and frontal focal discharges were more common. Half of patients with partial epilepsy had abnormal CT brain, while only 10% of those with generalized epilepsy had abnormal CT brain. The patients who took one drug constituted 66.6% (160) while 80 patients took more than one. Symptoms and signs in favor of side effects of the drugs were detected in (30%) of our patients. Almost 142 (52%) of our patients became seizure free during the period of the study (3years).

Discussion:

Epilepsy can affect any one at any age. Seizure disorders increase in incidence and prevalence after the age of 60 years. Epilepsy is usually diagnosed after the occurrence of two or more unprovoked seizures⁴. Because seizures may mimic other conditions, such as transient ischemic attacks or confusion in demented patients; epilepsy often goes undiagnosed in the elderly⁵. Consistent with other studies there was no underlying cause in half of our patients⁵. Also like what was mentioned in the literature CVA accounted for 31% of the total number of epileptic patients⁵. Unlike what was reported worldwide the second cause of epilepsy among our elderly patients was found to be brain infections rather than tumors or degenerative diseases⁶. This is most properly due to increased incidence of meningitis and encephalitis which may scar the cortical mantle resulting in the subsequent development of seizures; also it may be due to increased incidence of tuberculoma and toxoplasmosis especially among immune

compromised patients.. The third cause was found to be brain tumors, including meningioma, malignant gliomas, and brain metastases. An increased prevalence of seizures had been documented with dementia. The study showed that 20% of the patients had family history of convulsion, this result is similar to what was mentioned in the literature. 6 Some researchers discovered that some forms of epilepsy can be linked to the inheritance of specific genes which might help in part to explain why some times members of the same family are affected by the condition, however, for most people there is no family history of the disease⁶. Almost 50% of our patients had generalized epilepsy which for unknown reasons is higher than the 30% reported elsewhere⁷. Most of those who had focal epilepsy had complex partial epilepsy. This is in agreement with what was mentioned by others⁸⁻⁹. The study showed that most of elderly patients with generalized epilepsy had a normal CT of the brain. Most of those who had abnormal CT of the brain had secondary generalized rather than primary generalized epilepsy. At the same time the incidence of abnormal CT of the brain was increased to 50% among patients with partial epilepsy. This result was similar to studies done worldwide¹⁰. Age related changes including diffuse atrophy, periventricular hyperintensities due to hypertension, and atherosclerosis, are common and should not routinely be interpreted as the cause of seizures. The chance to get abnormal discharge on EEG among elderly epileptic patients is less than that of young patients (less than 60 years of age), but in spite of that electroencephalography can help to establish the diagnosis of epilepsy and classify the seizure type. Like what was reported by the others extratemporal and frontal lobe discharges and slow waves were seen significantly more often in the older patients¹¹. The incidence of drug toxicity increased among those who used to take more than one drug. This is probably due to the fact

that physiological and disease-related changes with aging result in complex pharmacokinetics predisposing elderly people to more adverse effects of AEDs than their younger counterparts. As a rule monotherapy is superior to polytherapy and it is better to "start low and go slow" with one agent. The ideal antiepileptic drug is one with once-daily or twice-daily dosing, a low cost, minimal side effects, few or no drug interactions, low protein binding, little or no allergic or idiosyncratic reaction.

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