

Risk Factors for Epilepsy in a Rural Area in Tanzania. A Community-Based Case-Control Study

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Abstract

Background and methods: The high prevalence of epilepsy detected in rural Tanzania by Dr. Jilek-Aall since 1960, was verified by the World Health Organization (WHO) survey on neurological and seizure disorders. Neurologists and psychiatrists further interviewed both patients and controls using standard methods. The presence of possible risk factors was complemented by corroborative evidence through interviewing close relatives and scrutinizing medical records. Seizures were classified based on clinical symptoms and the use of EEG.

Results: A family history of epilepsy in first-degree relatives was found in 46.6% of patients, but in only 19.6% of controls. The odds ratio for family history with epilepsy was 3.52 (95% confidence interval, CI 2.4-5.74, $p < 0.001$). A past history of febrile convulsion was found in 44% of patients in comparison to 23% of the control group which was significant (odds ratio 2.4, 95% CI 1.5-3.8; $p < 0.001$). A history of intrapartum complications was found in 12.1% of patients and 1.8% of controls (odds ratio 7.3, 95% CI 2.5-25.2; $p < 0.002$). Head injury was not a significant risk factor for epilepsy in this rural community.

Conclusion: The results indicated a strongly independent association between four factors and the risk of developing epilepsy. It would seem more likely that previous brain insults/diseases play a significant major role in the cause of epilepsy in the Mahenge area. However, a genetic predisposition to low threshold for convulsions cannot be excluded.