

Risk factors for seizure recurrence after initial withdrawal of anti-seizure medication in childhood epilepsy

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INTRODUCTION

Successful withdrawal of anti-seizure medications can be achieved in up to 70% of children with controlled epilepsy[1]. Seizure relapse rate of 20-46% have been reported among children and adults undergoing de-escalation of ASM across various studies[2-6].

The factors found to be significantly associated with increased risk of seizure relapse among children following ASM withdrawal include mental retardation, history of febrile convulsions, cumulative number of ASM before remission, abnormal first EEG, need for more than one ASM for seizure control and a history of status epilepticus [1-5, 7].

There is paucity of data on seizure recurrence rate and the risk factors for seizure recurrence following ASM withdrawal in Sub-Saharan Africa (SSA). The present study reports the experience of ASM withdrawal at a tertiary institution in SSA where higher rates of loss to follow up have been reported[8]. .

OBJECTIVES

To determine the seizure recurrence rate and the risk factors associated with seizure recurrence following withdrawal of anti-seizure medications (ASM) among children with epilepsy.

METHODS

This was a retrospective observational study of children aged between 2 and 18 years with a diagnosis of epilepsy who underwent withdrawal of ASM following seizure remission. All eligible medical records between January 2011 and December 2019 were included. Demographic, clinical, imaging and electro-encephalography details of all eligible patients were analyzed against seizure remission within 24 months after withdrawal of ASM, using appropriate parametric and non-parametric tests.

RESULTS

A total of 49 records of children who underwent withdrawal of ASM out of a total of 613 patients on follow up during the same period were included.

The median age at ASM withdrawal was 70 months (IQR 52-112 months) and 14 (28.6%) were female. Thirteen patients (26.5%) had seizure recurrence within 24 months following withdrawal of ASM. Among 13 cases of seizure recurrence, 11 (84.6%) occurred within the first year of de-escalation with more half recurring within the first six months.

Focal seizure type was associated with significant risk of relapse (OR 13.7; 95% CI 0.97, 193.54; P value = 0.011).

Age at epilepsy diagnosis, abnormal EEG at initiation of treatment and before de-escalation, abnormal MRI findings, first or second degree relative with epilepsy, history of developmental delay, seizure burden, use of 2 or more ASMs and duration of seizure-freedom before de-escalation were not associated with increased risk of seizure relapse in this cohort.

CONCLUSION

Focal seizure was the only factor associated with increased risk of seizure elapse in our cohort. Seizure recurrence rate was 26.5% after 24 months following de-escalation. Majority of the seizure recurrence occurred with the first 12 months of de-escalation of ASM.

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