Introduction

Many studies reported an association between epilepsy and onchocerciasis. Moreover, anecdotal evidence suggests that ivermectin may reduce seizure frequency in persons with onchocerciasis-associated epilepsy (PWOAE). Therefore, we performed a randomised clinical trial among ivermectin naïve persons with epilepsy in onchocerciasis endemic villages in the Ituri province, Democratic Republic of Congo.

Methods

PWOAE were randomised in an arm receiving immediate (arm A) or delayed (4 months later) ivermectin treatment (arm B). All participants were receiving anti-epileptic drugs. Inclusion criteria were: age >5 years, signed informed consent, normal neurological development until onset of epilepsy between 5-18 years of age, seizure frequency of ≥2 seizures/month, presence of microfilaria in skin snip and/or antibodies against Ov16. Primary study outcome: seizure freedom at month 4; secondary outcome: >50% reduction in seizure frequency at month 4 compared to reported seizure frequency at randomization. The proposed samples size was 110 PWOAE.

Results

93 PWOAE, 57 males and 36 females, (mean age 22) , were enrolled between October and November 2017. On March 2018, 90 (97%) participant completed their 4th month evaluation. One serious adverse event was observed during the trial (Steven Johnson reaction caused by phenobarbital). Considering all participants there was no significant difference in outcome between the 2 arms. However, considering participants with presence of microfilariae at enrollment, at month 4, 26/39 (66.6%) in arm A and 20/44 (45.5%) in arm B were seizure free (P=0.05) and a 50 % reduction of the number of seizures was observed in 9/39 (23.1%) in arm A and 7/43 (16.3%) in arm B. (P=0.4).

Conclusion

Ivermectin may have an added value in reducing the frequency of seizures in PWOAE treated with anti-epileptic drugs. However, a larger study is needed to confirm this.