THE EFFECT OF ETHANOL AND KHAT (*CATHA EDULIS* FORSK) ON CEREBELLAR CORTEX OF EARLY POSTNATAL RATS

Abebe Muche * *Gondar University, College of Medicine and Health Sciences, Department of Anatomy, email:abemuche@yahoo.com*
Eyasu Makonnen, Yamrot Kinfu, Mekbeb Afework[4] - *Addis Ababa University, Faculty of Medicine,*

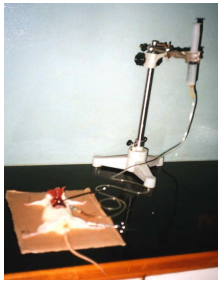
Presented for the European Science Foundation in Linkoping, Sweden, October 05—09, 2009

0BJECTIVE

To investigate the effect of ethanol, khat and combination of the two on cerebellar cortex

METHODS:

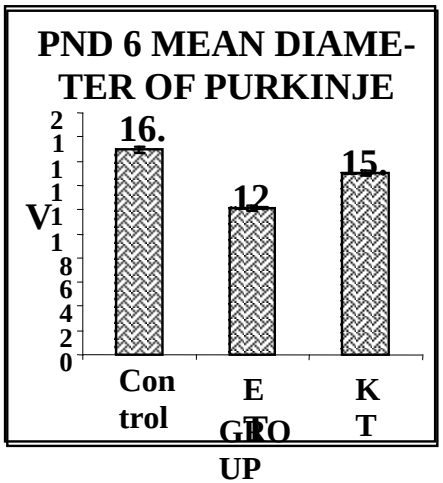
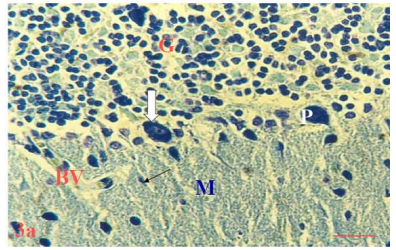
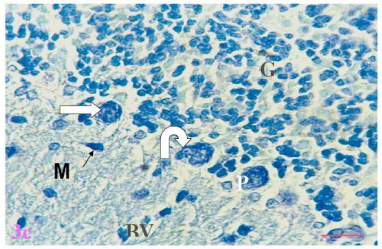
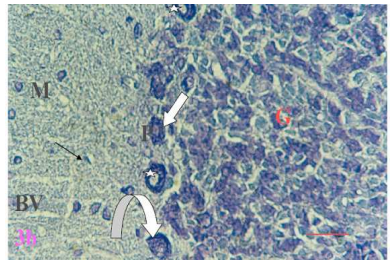
Rats of post natal day 6 were treated with 20% of ethanol (3ml/100 gm of body weight), 20mg/100gm body weight of khat or vehicle for 30 days using blunt needle. At the end of the experiment, animals were scarified, their brains were dissected out and immersion fixed. The brain as a whole and cerebellum, separately were weighed, and cerebellum was processed for routine histology. Samples of serially sectioned tissues of cerebellum were stained with toluidine blue and observed using



PND 6	Brain	Cerebellum
Control	2.1 ± 0.01	0.27 ± 0.01
ET	1.55 ± 0.03*	0.15 ± 0.01*
KT	1.70 ± 0.02*	0.17 ± 0.01*

RESULTS

At the end of the experimental period the body weight increment was found to be significantly less in the ethanol and khat treated (ET and KT) rats than their respective controls by 18.05% and 21.75%, respectively (P< 0.01). Moreover the attempt to study the effect of combination of ethanol and khat treatment was interrupted because the rats died after two days, and such combined consumption of these substances at this age was found to be fatal.

CONCLUSION:

The study depicted that PND 6 is an extremely vulnerable period to the exposure of high concentration of ethanol and khat, which result in morphological change of cerebellar cortex and reduction in diameter of Purkinje neurons of cerebellum.