Topiramate and oral administration of topiramate significantly decreased the incidence of yolk sac tumors in the brain of Mus musculus. Yolk sac tumors were confirmed by histological examination of the brain and yolk sac, and the histological examination of the brain and yolk sac revealed a decrease in tumor incidence by 4.3% and 3.29%, respectively, as compared to the control group. The yolk sac tumors were confirmed by histological examination of the brain and yolk sac, and the histological examination of the brain and yolk sac revealed a decrease in tumor incidence by 4.3% and 3.29%, respectively, as compared to the control group. The yolk sac tumors were confirmed by histological examination of the brain and yolk sac, and the histological examination of the brain and yolk sac revealed a decrease in tumor incidence by 4.3% and 3.29%, respectively, as compared to the control group.

**Keywords:** yolk sac, tumor, yolk sac tumor, oral administration, topiramate.
Folic Acid Role in Reducing the Effect of Topiramate Drug on the Central Nervous System Malformations of Mice Albino Embryos

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ABSTRACT

This study was conducted to determine the gross and histopathological effects caused by Topiramate (a curing drug of epilepsy) on the Central Nervous System (CNS) in the mouse Mus musculus embryos. A dose (8.4 mg/kg) of body weight (b.w.) of Topiramate, were given from 1st to 18th day of gestation, to pregnant mice. This caused various malformations in brain and spinal cord as 4.39% and 3.29% respectively. Histological examination showed 21.97% abnormalities of brain as exencephally, degeneration and necrosis of neurons, and large size brain. The spinal cord showed 10.98% histological defects such as abnormal position, vacuolation of neurons, congestion of dorsal blood vessel wall at the upper part of the spinal cord. In order to show folic acid role in reducing malformations, Topiramate were mixed with 0.42 mg/kg b.w. folic acid, resulting complete reduction of external malformations of brain and spinal cord 0%, and histological defects were reduced to 14.28% and 4.76% respectively. Using Topiramate with 0.84 mg/kg b.w. folic acid, they showed also complete reduction of external malformation of brain and spinal cord (0.0%). While histological defects were reduced to 6.66% and 2.5% respectively.

Keywords: Central Nervous System, mouse embryo, Topiramate, folic acid.