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Topiramate May Be Effective for Treating Seizures in Newborns

What is this research about?

Newborn seizures occur in about 1 to 3.5 per 1,000 live births. Seizures are the most common sign of a serious underlying newborn brain injury. Treatment for newborn seizures has gained a lot of attention due to increasing evidence that seizures may harm the developing brain. Current therapies for newborn seizures are not entirely effective. They may be potentially harmful to the developing brain. Topiramate is one drug used on animal models to treat hypoxic-ischemic injuries, the most common cause of seizures for newborns and developmental disability. But is topiramate an effective anti-seizure and neuroprotective treatment for newborns?

What you need to know:

Topiramate is rarely used as an add-on agent in newborns and its use in children has not yet been reported. Topiramate showed an apparent decrease in clinical seizures and a complete stop in seizures for some. There were no noticeable side effects in children receiving topiramate treatment.

features of interest. These included perinatal history of the child, clinical course of life and seizure etiology. The potential side effects of topiramate were found by reviewing the medical records from previous research.

What did the researchers do?

The researchers looked at medical records to identify 6 children who were treated with topiramate for newborn seizures. The children profiled had serious symptomatic seizures that resisted standard treatments. In all cases, topiramate was first given in the form of a crushed tablet from a nasogastric tube. The amount of topiramate given was 10mg per kg in 5 cases and 3mg per kg in 1 case. Hospital charts were carefully reviewed for clinical

What did the researchers find?

There was an apparent decrease or absence of further seizures in 4 out of the 5 children who had received a higher dose of topiramate. The one child who had received only a low dose of topiramate continued to have seizures. The study is limited by the fact that continuous electroencephalogram monitoring was not used. None of the children experienced side effects that resulted in the end of the drug, either during the hospital admission or after they were sent home. The results suggested that topiramate

may be a safe and effective anti-seizure therapy for infants less than one month.

How can you use this research?

Doctors who treat newborn infants may find this research useful, as it gives some insight on using topiramate. They may also consider directing families towards future trials that may support newborns treated for seizures.

Families may also find this study useful, as it might offer options outside of usual treatments for newborns with seizures. Phenobarbital and phenytoin have previously been used for treatment, but with limited success and potential harm to the developing brain. Topiramate may be a safer and more effective treatment for seizures in newborns.

About the Researchers

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