

Clinical Pediatrics 2019: Effect of long term valproate and oxcarbazepine therapy on asymmetric dimethyl arginine and homocysteine levels in newly diagnosed epileptic children - Vandana Tiwari - Ram Manohar Lohia Institute of Medical Sciences

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Epilepsy is a central nervous system disorder with abnormal brain activity, causing seizures or unusual behavior, sensations, and loss of awareness. Epilepsy is a brain disorder where an individual has repeating seizures. The seizures are activated by changes in the electrical and concoction action in the cerebrum. Seizures can be brought about by whatever harms the mind, including head wounds, contaminations, harming or even mental health issues before birth. Frequently a reason for the seizures and epilepsy can't be found.

There are a wide range of kinds of seizures. Some are extremely short, enduring just a couple of moments, while others can last a couple of moments. The sort of seizure an individual has relies upon where the seizure happens in the mind and the amount of the cerebrum is included. A specialist will commonly determine a youngster to have epilepsy (likewise called a seizure issue) if: The child has one or more seizures. The specialist thinks the children is probably going to have a seizure once more. The seizure was not legitimately brought about by another ailment, similar to diabetes or a serious contamination. Epilepsy influences each kid diversely relying upon: Age, Sorts of seizure, Reaction to treatment. Having other medical problems, and so forth.

A few people with seizures can without much of a stretch control them with prescription and inevitably grow out of all together. Others may experience issues for the duration of their lives. The objective of treatment is to control, stop, or diminish how frequently seizures happen. Treatment is regularly finished with medication. Numerous kinds of prescriptions used to treat seizures and epilepsy. Your youngster's human services supplier should distinguish the sort of seizure your kid is having. Meds are chosen dependent on the kind of seizure, age of the youngster, reactions, cost, and convenience. Drugs utilized at home are generally taken by mouth as containers, tablets, sprinkles, or syrup. A few prescriptions can be surrendered to the rectum or in the nose. On the off chance that your youngster is in the emergency clinic with seizures, medication might be given by infusion or intravenously by vein (IV).

It is essential to give your youngster medication on schedule and as recommended. The portion may should be balanced for the best seizure control. All medications can have symptoms. Talk with your youngster's medicinal services supplier about

conceivable symptoms. On the off chance that your kid has reactions, converse with the social insurance supplier. Try not to quit offering medication to your kid. This can cause more or more awful seizures. While your kid is taking medication, the person in question may require tests to perceive how well the medication is functioning. You may have: Blood tests. Your kid may require blood tests frequently to check the degree of medication in their body. In light of this level, the social insurance supplier may change the portion of medication. Your youngster may likewise have blood tests to check the impacts of the medication on their different organs. Pee tests. Your youngster's pee might be tried to perceive how their body is responding to the medication.

Electroencephalogram (EEG). An EEG is a system that records the mind's electrical movement. This is finished by connecting cathodes to the scalp. This test is done to perceive how medication is helping the electrical issues in your kid's cerebrum. Your kid may not require medication forever. A few kids are taken off medication on the off chance that they have had no seizures for 1 to 2 years. This will be controlled by your kid's medicinal services supplier.

Different medicines

In the event that medication doesn't function admirably enough for your kid to control seizures or your youngster has issues with reactions, the social insurance supplier may educate different sorts concerning treatment. Your youngster might be treated with any of the beneath:

Ketogenic diet

A ketogenic diet is a sort of diet is extremely high in fat, and exceptionally low in starches. Enough protein is incorporated to help advance development. The eating routine makes the body make ketones. These are synthetics produced using the breakdown of muscle to fat ratio. The cerebrum and heart work typically with ketones as a vitality source. This uncommon eating regimen must be carefully followed. Such a large number of sugars can stop ketosis. Analysts aren't sure why the eating routine works. Be that as it may, a few youngsters become without seizure when put on the eating regimen. The eating regimen doesn't work for each youngster.

Vagus nerve incitement (VNS):

This treatment sends little beats of vitality to the cerebrum from one of the vagus nerves. This is a couple of enormous nerves in the neck. On the off chance that your youngster is age 12 or more established and has halfway seizures that are not controlled well with medication, VNS might be a choice. VNS is finished by precisely setting a little battery into the chest divider. Little wires are then appended to the battery and set under the skin and around one of the vagus nerves. The battery is then customized to send vitality driving forces at regular intervals to the mind. At the point when your youngster feels a seizure going ahead, the individual in question may initiate the driving forces by holding a little magnet over the battery. By and large, this will assist with halting the seizure. VNS can have symptoms, for example, dry voice, torment in the throat, or change in voice.

Medical procedure:

Medical procedure might be done to evacuate the piece of the mind where the seizures are happening. Or on the other hand the medical procedure assists with halting the spread of the terrible electrical flows through the mind. Medical procedure might be an alternative if your kid's seizures are difficult to control and consistently start in one piece of the mind that doesn't influence discourse, memory, or vision. Medical procedure for epilepsy seizures is extremely mind boggling. It is finished by a specific careful group. Your kid might be alert during the medical procedure. The mind itself doesn't feel torment. In the event that your youngster is alert and ready to follow orders, the specialists are better ready to check zones of their mind during the system. Medical procedure isn't a possibility for everybody with seizures.

Upgrades in epilepsy treatment as of late have made the condition progressively sensible. Numerous new enemy of seizure drugs are accessible and more are being tried. Elective medicines are additionally accessible for kids who keep on having seizures while taking drugs. The present study aimed to evaluate the effect of valproate and oxcarbazepine therapy in newly diagnosed epileptic children. Changes in serum asymmetric dimethyl arginine (ADMA), homocysteine (HCY), folate and B12 levels were assessed as possible markers of cardiovascular risk and correlation between HCY and ADMA levels was ascertained. Two hundred drug naïve newly diagnosed patients with epilepsy, age seven-17 years with no known cause of hyperhomocysteinemia (HHCY), were enrolled for the study. Pre and post-treatment (after six months) analysis of HCY, folate and B12 were done. Valproate and oxcarbazepine treatment was started on 100 patients each respectively. No significant variation was observed in age, gender and seizure type. Children on valproate and oxcarbazepine therapy had HHCY 45% and 23% respectively after six months. There was a significant increase ($p < 0.05$) in

ADMA and HCY levels in both the groups after six months of therapy. A decrease in folate levels was registered in both the groups. In subjects on valproate, ADMA levels exhibited a positive correlation with B12 while HCY levels correlated negatively with folate. In patients on OXC therapy, negative correlation was found between ADMA and B12 at recruitment and HCY and folate levels after therapy. Anti-epileptic therapy can affect ADMA, HCY, folate and B12, but increase in ADMA may be independent of HHCY. Further studies are needed to understand the etiology of ADMA increase.