The effects of AEDs

Sodium valproate

Sodium valproate is classed as an anti-epileptic drug which has been marketed under the names Epilim Depakote, Depakote ER, Depakene, Depakene Crono (extended release in Spain), Orfinil Depacon, Depakine, Valparin, Stavzor Convulex, Valporal and Valprosid

Sodium Valproate is licensed as a drug to be used in epilepsy and treats temporal lobe epilepsy, complex partial seizures, Myoclonic Seizures, Refractory Seizures, Secondarily Generalized seizures, Simple Partial Disorders, Complex Partial Epilepsy, Absence Seizures,Tonic Clonic Seizures, Myoclonic jerking' Juvenile Myoclonic Epilepsy and Lennox-Gastaut Syndrome. *Off licence is ti used as a mood stabiliser for treating people with the psychiatric illness, bipolar affective disorder. Off license it is also used to treat migraine, Fibromyalgia, Multiple Sclerosis, Nerve pain (neuralgia), ALS (Amyotrophic Lateral Sclerosis), Spinal Myoclonus, blood thinning, Cyclothymia and Alzheimer's disease amongst other uses.*

Risks to the fetus

Fetal Valproate syndrome is complex so it is easy to overlook many of the issues involved. There are times when an intuitive leap is necessary in order to perceive some of the challenges presented. Neurodevelopment delay is as high as 37% with teratogenic affects given as being 10 – 12% in children whose mothers have taken sodium valproate during pregnancy. Sodium Valproate is known to create neural tube defects, heart defects, cleft pallet, spina bifida, (including both lumbosacral meningomyelocele and talipes equinovarus - with intact spine) craniofacial abnormalities. Inguinal and umbilical hernia, supernumerary nipples Digital abnormalities include thin and overlapping toes and fingers. Dysmorphic facial features which include epicanthal folds forming a crease under the orbits, eyes wider apart, and broad and low nasal bridge with short nose and anteverted nostrils, a long philtrum, thin vermilion border, mid-face hypoplasia, and small mouth (microstomia). Although there appear to be postnatal growth deficiency and microcephaly (head circumference is smaller than normal). It has been noted that when a child with fetal valproate syndrome grows older they can become tall for their age. Poor muscle tone can enhance existing problems and exasperate others.

These children can also have hypertonia, so it is wise to remember that muscles are found everywhere in the human body, so poor muscle tone can enhance existing conditions and symptoms. Joint Laxity can bring about an underlying tendency towards arthritic problems.

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Ophthalmologic findings include dry eyes, myopia, and new-born nuchal edema, glue ear – and these are just some of the symptoms often presented.

ENT/Audiology includes high incidences of glue ear, chronic ear infections, congenital malformations in the middle and inner ear causing various secondary health issues. The hearing is also likely to be poor. In the UK those children with dysmorphic features should be referred by the new-born hearing screening test for further observation.

Learning difficulties are seen in 37% of the children with fetal valproate syndrome this also presents upon the autistic spectrum and they often have behavioural difficulties. There are also cognitive deficits and language delay.

Postpartum period

In the new-born one can find encephalopathy (a general term that means brain disease, damage, or malfunction), and a decreased head circumference – which does continue to develop to a normal size. Low Apgar scores and perinatal distress are often followed by postnatal growth problems. 19.8% of the deliveries were abnormal after valproic, withdrawal symptoms at birth. There is an increased risk of caesarean section in mothers that took sodium valproate.

It is recommended that mothers do not breast feed.

Sodium Valproate can also cause neonatal complications which include heart rate decelerations and withdrawal symptoms of irritability, jitteriness, feeding difficulties, jaundice and abnormal tone. Other complications among neonates include liver toxicity and hypoglycaemia are, notably, higher rates of incidences of miscarriage, neonatal and stillborn babies with mothers who took sodium valproate.

Advice should ideally include the recurrence rate of Fetal valproate syndrome in subsequent pregnancy's: 'the 'clinical study of 57 children with fetal anticonvulsant syndromes' 2002'. It was noted that if a mother has given birth to a child with fetal valproate syndrome that it is 55% more likely that future children will also have fetal valproate syndrome.'

The nature of epilepsy is such that many patients take the attitude of not wanting 'to rock the boat' if it is often felt that sodium valproate is effective, unaware that 4 in 10 children of mothers that took the drug are born with a disability. This reluctance to try different medicine is understandable when considers the frightening experience of an epileptic fit. Such practices should perhaps be bought under scrutiny as it is now being reviewed by the European medicines Agency.

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Sources include:

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KJ Meador, G Baker, MJ Cohen, E Gaily. Epilepsy & Behavior, 2007

This information is for the purpose to help you make informed choices. Please contact your health practitioner should you have any concerns. Do not stop taking your medication without your doctor's advice.

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