Link found between epilepsy drugs and birth defects

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A joint study conducted by researchers from the universities of Liverpool and Manchester has found a link between birth defects and certain types of epilepsy medication.

For most women who have epilepsy, continuing their medication during pregnancy is important for their health. Over the last 25 years, research has shown that children exposed to these medications in the womb can be at a higher risk of having a malformation or birth defect.

The study, published in the *Cochrane Database of Systematic Reviews*, aimed to understand whether pregnant women exposed to antiepileptic drugs (AEDs) during pregnancy were at higher risk of having a child

with a malformation.

Minimising fetal risk

The majority of women with epilepsy will be required to continue antiepileptic drug treatment during a pregnancy.

Previous studies have demonstrated a significant increase in risk of having a child with a significant birth defect in the mother was taking certain antiepileptic drugs and therefore treatment decisions should be made carefully and collaboratively and aim to find a balance between maximising maternal health whilst minimising fetal risk.

As part of this systematic review 50 published studies were analysed and it was found that exposure in the womb to the AED sodium valproate was associated with a 10% chance of the child having a significant birth defect and that this rose as the dose of the drug increased.

Skeletal and limb defects

The types of birth defect that were increased were skeletal and limb defects, cardiac defects, craniofacial defects and neural tube defects.

Children exposed to carbamazepine, topiramate or phenytoin were at an increased risk of having a significant birth defect but the exact types of defects were not clear and children exposed to phenobarbital were found to be at an increased risk of cardiac defects.

The review also found that children exposed to lamotrigine or levetiracetam were not found to be at an increased risk of significant birth defects in comparison to control children and had lower risks when directly compared to the children exposed to carbamazepine, phenytoin

or topiramate.

Informing complex discussions

Professor of Neurology Tony Marson from the University of Liverpool's Institute of Translational Medicine, said: "This is a really important review that informs complex discussions during consultations about epilepsy treatment choices for women of childbearing potential, who represent around a third of people with epilepsy worldwide.

"Based on current evidence, levetiracetam and lamotrigine appear to be the AEDs associated with the lowest level of risk, but more data are needed, particularly concerning individual types of malformation."

More information: Treatment for epilepsy in pregnancy: neurodevelopmental outcomes in the child *Cochrane Database of Systematic Reviews*, DOI: 10.1002/14651858.CD010236.pub2 , onlinelibrary.wiley.com/doi/10 … 010236.pub2/abstract

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