LETTER TO THE EDITOR

The Valproic Acid Dilemma: Safe Alternatives for Pregnant Women and women of childbearing age with Epilepsy

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Madam, Valproic acid is a widely used anticonvulsant medication that exerts its therapeutic effects by increasing GABA activity in the brain, making it a first-line therapy for focal and generalized seizures. However, despite its efficacy, the medication is associated with significant adverse effects in pregnant or childbearing-age women, with teratogenicity being the most severe outcome.

A Study[1] published in Italy raised some serious concerns regarding prenatal exposure to valproic acid, which can affect the prenatal and postnatal intellectual development of the newborn, and the use of alternative drugs was preferred to reduce unwanted exposure to the drug.

Nordforks.org's research and Taiwan's[2] research programme 2022 concluded that the exposure of pregnant women to sodium valproate increases the chance of autism and intellectual disability up to 3 folds or more. In many countries of the world, the prescription of this drug during childbearing age has been banned and alternative medicine are prescribed instead.

In a study conducted in Brazil, it was discussed that these antidepressants cause changes in gene expression, leading to structural and functional changes in various regions of the brain, leading to intellectual disabilities.

A group of researchers conducted a meta-analysis[3] i.e., published in Canada, concluded that Medications like lamotrigine and levetiracetam have been proven to be statistically less teratogenic than valproate and monotherapy is preferred over polytherapy and the meta-analysis[4] published in 2022 has proved lamotrigine to be the most suitable first-line alternatives to valproic acid.

According to JAMA's publication of 2023,[5] taking sodium valproate during or before pregnancy increases the risk of neurodevelopmental disorders in children. On the other hand, prenatal exposure to lamotrigine does not increase the risk of such disorders.

In a developing country such as Pakistan, where a large proportion of the population requires proper counseling regarding medical treatments and follow-ups, physicians need to exercise due diligence when prescribing sodium valproate, particularly to female patients. The physician should ascertain whether the patient is of childbearing age and, if so, inquire about their marital status and pregnancy plans. Moreover, the physician must inform the patient and their attendants about the adverse effects of the drug if taken during pregnancy, the significance of alternative drugs, and the importance of regular follow-ups. The doctors must prioritize ensuring that patient receives thorough counselling on these issues to avoid mishaps in the future.

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