

CHRD 2024: Abstract Submission Form

Presenter Name

Sherif Eltonsy (6)

Presenter Status

Non-Trainee

Role in the project

Design
Perform Experiments
Analyze Data
Write Abstract

Research Category

Community Health / Policy

Title

Risk of Congenital Malformations and Neonatal Intensive Care Unit Admissions with Gabapentin Use in Pregnancy: A Cohort Study and Scoping Review with Meta-analysis

Background

The increasing and prevalent use of gabapentin among pregnant people highlights the necessity to assess its neonatal safety.

Objective

This study aimed to investigate the foetal safety of gabapentin during pregnancy using a cohort study and scoping review with a meta-analysis of published evidence.

Methods

We conducted a population-based cohort study using the Manitoba health databases between 1995 and 2019. We examined the association between gabapentin use during pregnancy and the prevalence of major congenital malformations, cardiac and orofacial malformations, and neonatal intensive care unit (NICU) admissions using multivariate regression models. We searched the literature in MEDLINE and EMBASE databases from inception to October 2022 to identify relevant observational studies and conducted a meta-analysis using random-effects models, including our cohort study results.

Results

Of the 289,227 included pregnancies, 870 pregnant people were exposed to gabapentin. Gabapentin exposure during the first trimester was not associated with an increased risk of any malformations (adjusted relative risk [aRR] 1.16 (95% confidence interval [CI] 0.92, 1.46)), cardiac malformations (aRR 1.29 (95% CI 0.72, 2.29)), orofacial malformations (aRR 1.37 (95% CI 0.50, 3.75)), and major congenital malformations (aRR 1.00 (95% CI 0.73, 1.36)). whereas exposure during any trimester was associated with an increased NICU admission risk (aRR, 1.99 (95% CI 1.70, 2.32)). The meta-analysis of unadjusted results revealed an increased risk of major congenital malformations (RR 1.44 (95% CI 1.28, 1.61, I² = 0%)), cardiac malformations (RR 1.66 (95% CI 1.11, 2.47, I² = 68%)), and NICU admissions (RR 3.15 (95% CI 2.90, 3.41, I² = 10%)), and increased trend of orofacial malformations (RR, 1.98 (95% CI 0.79, 5.00, I² = 0%)).

Conclusion

Gabapentin use was associated with an increased risk of NICU admissions in the cohort study and pooled meta-analysis. Clinicians should prescribe gabapentin with caution during pregnancy and further studies are warranted.

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No

Authors

Name	Email	Role	Profession
Brianne Desrochers			
Alekhya Lavu			
Eunice Valencia			
Christine Vaccaro			
Payam Peymani			
Sherif Eltonsy			