

Fetal safety of calcium channel blockers

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Abstract

Question Many of my pregnant or lactating patients are taking calcium channel blockers (CCBs) for hypertension. How safe is maternal use of CCBs for fetuses and nursing infants?

Answer Generally, CCBs have not been shown to increase teratogenic risk. Information regarding the safety of CCBs during lactation is limited, although they are not likely to pose a risk to the nursing infant.

Innocuité des inhibiteurs calciques pour le fœtus

Résumé

Question Bon nombre de mes patientes enceintes ou qui allaitent prennent des inhibiteurs calciques (IC) pour l'hypertension. Dans quelle mesure l'utilisation maternelle des IC est-elle sécuritaire pour le fœtus et les nourrissons allaités?

Réponse En règle générale, il n'a pas été démontré que les IC présentaient un risque tératogène. Les renseignements concernant l'innocuité des IC durant l'allaitement sont limités, mais il est improbable qu'ils posent un risque pour le nourrisson allaité.

Calcium channel blockers (CCBs) are commonly used during pregnancy and lactation to treat hypertension, arrhythmia, and preeclampsia. They have also been used as tocolytic agents to prevent premature labour and its complications.

Population-based data from 5 health maintenance organizations in the United States were used to study the risks of perinatal complications and congenital defects among infants exposed in utero to CCBs or β -blockers. Calcium channel blocker use in the third trimester was associated with increased risk of neonatal seizures, jaundice, and hematologic disorders (relative risk [RR] 3.6, 95% CI 1.3 to 10.4). The risk of neonatal convulsions was in part attributed to the placental transfer of CCBs, leading to a decrease in infants' cellular calcium levels.¹ There was no increase in risk of congenital anomalies in either group of infants. The risk of one or more malformations was not elevated in the group of infants exposed to CCBs (RR 0.96, 95% CI 0.47 to 1.97).¹


The Motherisk program reported no increased teratogenic risk of perinatal complications among 78 women exposed to CCBs in the first trimester. Maternal hypertension was the most important factor responsible for babies with low birth weights in this group.²

The Swedish Medical Birth Register studied a cohort of 1418 pregnancies in which the mothers took antihypertensive drugs in early pregnancy; in 217 pregnancies, the mothers took CCBs. Three babies were born with congenital heart defects (RR 1.15). The

study concluded that there was little drug specificity in the association between maternal use of antihypertensive drugs and increased risk of infant cardiovascular defects.³

A Hungarian case-control study identified 22 865 infants with congenital abnormalities and 31 151 healthy population control babies between 1980 and 1996; 586 mothers had been exposed to CCBs during pregnancy compared with 907 mothers in the control group. The overall prevalence ratios for 17 congenital abnormalities varied between 1.1 and 1.4, and there was no significant increase in risk of congenital abnormalities.⁴

All CCBs pass into the breast milk in small amounts.⁵⁻⁷ Both LactMed (Drugs and Lactation Database) and the American Academy of Pediatrics conclude that this class of medications is compatible with breastfeeding.⁸ It is advisable to follow up with any exposed infant for signs of hypotension.

Calcium channel blockers can be safely used during pregnancy and breastfeeding. 

Competing interests

None declared

References

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Do you have questions about the effects of drugs, chemicals, radiation, or infections in women who are pregnant or breastfeeding? We invite you to submit them to the Motherisk Program by fax at 416 813-7562; they will be addressed in future Motherisk Updates.

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