

Safety of using montelukast during pregnancy

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ABSTRACT

QUESTION Montelukast is used more and more by my patients with asthma. Is it safe to use during pregnancy?

ANSWER Cumulative data, including a recent Motherisk study, are very reassuring regarding the use of this drug to treat pregnant patients with asthma.

RÉSUMÉ

QUESTION De plus en plus de mes patients atteints d'asthme utilisent le montelukast. Son utilisation est-elle sans danger durant la grossesse?

RÉPONSE Les données cumulatives, y compris celles d'une récente étude par Motherisk, sont très rassurantes quant à l'utilisation de ce médicament pour traiter l'asthme chez les patientes enceintes.

Asthma adversely affects up to 8% of all pregnancies.^{1,2} Approximately one-third of pregnant women with asthma remain stable, one-third experience an improvement, and one-third experience a worsening of their condition.³ Untreated asthma leads to increased risk of preterm delivery,⁴ preeclampsia, vaginal hemorrhage, and pregnancy-induced hypertension.³⁻⁷ Montelukast sodium has the advantage of once-daily dosing and oral administration.⁸ This selective leukotriene receptor antagonist decreases the activation of the cysteinyl leukotriene 1 receptor.⁹ The American College of Obstetricians and Gynecologists and the American College of Allergy, Asthma and Immunology suggest montelukast as an effective adjuvant therapy in pregnant women for whom resistance to other asthma treatments, or decreased effectiveness of those treatments, has been established before pregnancy.¹⁰

In a published study on the safety of leukotriene receptor antagonists in pregnancy, the authors failed to detect any pattern of major malformations in the 72 infants exposed in utero to montelukast.¹¹ In a Swedish registry study examining 129 montelukast-exposed cases, 3 of 7 malformed infants exposed to this drug had cardiac defects.¹² Finally, a pregnancy registry maintained by the manufacturer of montelukast contains prospective reports of 185 live births, 7 of which had major congenital anomalies including limb defects.⁸

We prospectively followed up on 180 cases of montelukast exposure during pregnancy. Analysis of singleton outcomes among montelukast-exposed women resulted in a statistically lower mean (SD) birth weight of 3214.1 (656) g ($P=.038$) and shorter gestational age at birth (37.8 [3.1] weeks) compared with the nonteratogen-exposed group ($P=.045$) but not the disease-matched group ($P=.891$). Moreover, significantly

higher rates of fetal distress at delivery ($P=.007$) were reported by montelukast-exposed women (25.6%) among the 3 groups. Montelukast-exposed infants were statistically different from the nonteratogen control group with respect to birth weight ($P=.028$) and rate of fetal distress ($P=.010$), while the disease-matched group differed from the nonteratogen-exposed women with respect to gestational age at birth ($P=.046$).¹³

Further subanalysis was conducted on those women who continued to use montelukast until the end of their pregnancies, and it is important to note that the only statistical difference that remained was found in the mean birth weight among the 3 groups ($P=.032$). Of the 143 infants exposed in utero during organogenesis, there was only 1 case of major malformation reported by a woman exposed to montelukast.¹³

Exposure to montelukast during pregnancy does not appear to increase the risk of major malformations above

MOTHERISK

Motherisk questions are prepared by the Motherisk Team at the Hospital for Sick Children in Toronto, Ont. Dr Koren is Director, Dr Sarkar is a member and Ms Einarson is Assistant Director of the Motherisk Program. Dr Koren is supported by the Research Leadership for Better Pharmacotherapy during Pregnancy and Lactation. He holds the Ivey Chair in Molecular Toxicology in the Department of Medicine at the University of Western Ontario in London.

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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the 1% to 3% baseline in the general population. It is important that women are treated effectively for asthma during pregnancy to ensure the best outcome for the mothers.✱

Competing interests

None declared

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