Can we use metronidazole during pregnancy and breastfeeding?
Putting an end to the controversy

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**Abstract**

**Question**

Two of my patients have been diagnosed with giardiasis, and I would like to treat them with the drug of choice for this infection, metronidazole (Flagyl®). One of them is 6 weeks pregnant and the other is breastfeeding a 2-month-old infant, and I have received conflicting information about the safety of this drug during pregnancy and breastfeeding. What should I do?

**Answer**

Although metronidazole has been on the market for almost 40 years, its use remains controversial during pregnancy and breastfeeding. Recent evidence has shown, however, that this drug is not associated with adverse effects during either pregnancy or breastfeeding.

**Résultat**

**Question**

On a diagnostiqué une lambliase chez deux de mes patientes et j’aimerais leur prescrire le médicament indiqué pour cette infection, du metronidazole (Flagyl®). L’une d’entre elles est enceinte de six semaines et l’autre allaite son enfant de deux mois. Les renseignements que j’ai reçus sont contradictoires quant à l’innocuité de ce médicament durant la grossesse et l’allaitement. Que devrais-je faire?

**Réponse**

Même si le metronidazole est sur le marché depuis près de 40 ans, son usage demeure controversé durant la grossesse et l’allaitement. Par ailleurs, de récentes données probantes font valoir que ce médicament n’est pas associé à des effets indésirables durant la grossesse ou l’allaitement.

**Motéronidazole** is bactericidal against anaerobic bacteria. It exerts trichomonacidal activity and is also active against Giardia lamblia and Entamoeba histolytica. Its exact mechanism of action is unknown. A chemically reactive reduced form of metronidazole appears to be responsible for the drug’s activity.

**Pregnancy**

Use of metronidazole during pregnancy has been controversial. The drug is mutagenic in bacteria and carcinogenic in rodents, but has never, in almost 40 years of use, been shown to be associated with human cancer. These concerns, together with some old case reports describing three cases of midline facial defects, are probably the main reason this drug has not been recommended for use during pregnancy. Adding to the fear and uncertainty is a passage in the product monograph describing use of metronidazole during pregnancy: “metronidazole crosses the placental barrier; it should be withheld during the first trimester. In addition, it is advisable that administration be avoided during the second and third trimesters; however, if treatment is considered necessary, its use requires that the potential benefits outweigh the possible risks.” After reading that, it is quite understandable that physicians would hesitate to prescribe this drug to pregnant women, even when indicated.

The latest studies, which examined the cases of thousands of women exposed to metronidazole during pregnancy, including a Medicaid cohort study, a large case-control study, and two meta-analyses, have concluded that there is no evidence that using metronidazole during pregnancy increases the rate of major birth defects above the baseline rate of 1% to 3% or that there are any detectable adverse effects on fetuses.

Motherisk questions are prepared by the Motherisk Team at the Hospital for Sick Children in Toronto. Ms Einarson, Ms Ho, and Dr Koren are members of the Motherisk Team.
Breastfeeding
Most drugs are excreted into breast milk in small amounts (i.e., less than 5% of the mother's dose corrected for the infant's body weight) and are generally considered safe to use because it is thought that full-term infants can handle that amount of drug. Usage of metronidazole during breastfeeding has been controversial, however, probably because it is excreted into breast milk in relatively large amounts, up to 20%. Despite this, there have been no reports of adverse effects on breastfed infants of mothers who took metronidazole. Furthermore, in a group of 12 mothers who received 400 mg of metronidazole three times daily and breastfed their babies, no adverse reactions were seen in any of the babies.

References

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