Sleep Aid Found Not to Affect Pregnancy Outcomes

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WASHINGTON — Even though the sleeping aid zolpidem does cross the placenta, use of the drug during pregnancy does not appear to significantly affect outcomes, a study of 45 women shows.

The study, presented as a poster at the annual meeting of the American Psychiatric Association, included pregnant women who were enrolled in a prospective study of the pharmacokinetics of psychotropic drugs during pregnancy and who were treated with zolpidem (Ambien) during pregnancy. Maternal diagnoses were determined using the Structured Clinical Interview for DSM-IV (SCID). Maternal and cord blood samples were obtained at delivery when possible.

The placental passage rate was calculated as the ratio of medication concentration in the umbilical cord plasma to that in maternal plasma. When umbilical cord concentrations were below the limit of detection (less than 4.0 ng/mL), this value was used for data analysis. This approach was thought to be conservative, erring toward overestimation of fetal exposure to zolpidem. When both maternal and umbilical plasma concentrations were less than the detection limit, the pair was excluded from the analysis.

Despite the main study findings, a trend toward preterm delivery and low-birth-weight infants was noted among women on zolpidem during pregnancy.

Obstetric and neonatal outcomes among women who had given birth to a live infant after taking zolpidem during pregnancy were compared with outcomes among a group of 45 women who were matched for age, race, level of education, SCID diagnosis, and pregnancy exposure to the same classes of nonzolpidem psychotropic medications.

In additional analyses, the researchers looked at zolpidem use during the third trimester versus use during the first or second (but not third) trimesters, those taking a low (5 mg or less per day) zolpidem daily dose versus those receiving a greater daily dose, and those with extended (10 weeks or greater) zolpidem exposure versus those with shorter exposure.

For women who took zolpidem during pregnancy, exposure by trimester included 38% in the first trimester, 56% in the second trimester, and 38% in the third trimester. The average zolpidem exposure during pregnancy was 14 weeks, and the average dose was 9 mg.

There were no statistically significant differences between the two groups in terms of obstetric and neonatal outcomes. However, there was a trend toward preterm delivery and low-birth-weight infants among women on zolpidem during pregnancy. In the zolpidem group, 27% of the women had a preterm delivery and 16% had low-birth-weight infants, compared with 16% and 8%, respectively, for the nonzolpidem group.

"It is unclear if these outcomes were driven by zolpidem exposure and/or sleep disturbance or other pharmacological intervention in pregnancy," wrote Sandra Juric and her colleagues at Emory University's Women's Mental Health Program in Atlanta.

Nine women reported taking zolpidem within 24 hours of delivery, but this could be confirmed for only six women. For these women, zolpidem concentrations at delivery were lower than expected for both maternal plasma (range of less than 4 ng/mL to 64 ng/mL) and umbilical plasma (range of less than 4 ng/mL to 15 ng/mL.

"These concentrations are lower than the peak plasma concentrations reported for healthy adults after a single 5- or 10-mg dose," the researchers noted. "Zolpidem appears to rapidly clear the fetal circulation; however, if delivery occurs less than 11 hours after the last maternal dose, zolpidem may still be present in the neonatal circulation."

Women who reported longer zolpidem use during pregnancy (10 weeks or longer) did not have a greater rate of complications. There also appeared to be no difference between drug use in a particular trimester versus use throughout the pregnancy in terms of complications.

Ms. Juric stated she had no conflicts of interest to report. ■