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Benzodiazepine Use Before Conception and Risk of Ectopic Pregnancy

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Introduction

Ectopic pregnancy occurs in 1% to 2% of the all recognized pregnancies, yet half of women who have an ectopic pregnancy do not have any known risk factors. A potential but unstudied risk factor for ectopic pregnancy is benzodiazepine use, which could affect muscle contraction in the fallopian tube.

Objectives and Approach

We compared the risk of ectopic pregnancy among women with and women without benzodiazepine prescriptions before conception. using data from United States commercial insurance claims (IBM® MarketScan® Databases). We performed a cohort study of 1,691,366 pregnancies between November 1, 2008 and September 30, 2015, and used unadjusted and inverse probability of treatment (IPT) weighted log-binomial models to calculate relative risks (RR) of ectopic pregnancy for pregnant women who did and did not fill any prescriptions for benzodiazepines in the 90 days before conception. Sub-group analysis was conducted on women who had anxiety and women who had insomnia diagnoses in the year before conception.

Results

Of the 1,691,366 pregnant women, 1.06% filled at least two benzodiazepine prescriptions in the 90 days before conception. Among women with a benzodiazepine prescription, there was an excess of 80 ectopic pregnancies per 10,000 pregnancies, and their IPT-weighted risk of ectopic pregnancies was 1.47 (95% CI 1.32 to 1.63) times greater relative to women without benzodiazepine prescriptions before conception. The IPT-weighted RR between ectopic pregnancy and benzodiazepine use was 1.34 (95% CI 1.18 to 1.53) among women with anxiety disorder diagnoses and 1.28 (95% CI 0.99 to 1.68) among women with an insomnia diagnosis.

Conclusion/Implications

This study found that women who have a benzodiazepine prescription before conception are at an increased risk of ectopic pregnancy. This information can help women and their health care providers make more fully informed decisions about benzodiazepine use in their reproductive years.

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