ZOLPIDEM IN PREGNANCY AND PYLORIC STENOSIS: A CASE REPORT

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INTRODUCTION

Zolpidem is a hypnotic benzodiazepine receptor agonist (HBRA) commonly used for the short-term treatment of insomnia[1]. Current available data is generally reassuring regarding the risk of congenital malformation with zolpidem use in pregnancy, but prior observational studies have identified a potential association between HBRA use and pyloric stenosis[1]. We present a case of pyloric stenosis following maternal zolpidem exposure in pregnancy and review the literature available for possible association.

A 34-year-old G1P1001 delivered a 2770 gram neonate via cesarean delivery after arrest of dilation at 8 cm with a pregnancy complicated by gestational hypertension and later development of pre-eclampsia, and occasional tobacco use (estimated 1-2 cigarettes daily). The infant was subsequently diagnosed with pyloric stenosis several months later.

METHODOLOGY

Maternal zolpidem exposure, pregnancy and delivery course, and neonatal outcomes were obtained through a retrospective chart review. A focused literature review was conducted through the PubMed database to identify studies evaluating the association between maternal use of zolpidem during pregnancy and congenital malformations, namely pyloric stenosis. Relevant studies evaluating known risk factors for pyloric stenosis were also evaluated. Findings from the case were compared with the available literature to establish any relationship that may be present between zolpidem exposure in pregnancy and pyloric stenosis.

RESULTS

Wikner et al. evaluated 1,979 infants in the Swedish Medical Registry who were exposed to benzodiazepines or HBRA medications and identified 7 cases of pyloric stenosis compared with 1.84 expected cases (RR 3.80, 95% CI 1.53-7.84) based on the incidence of pyloric stenosis in the general population at the time. However, overall congenital malformation rates among benzodiazepine and HBRA users compared to non-users were not significantly increased (OR 1.09, 95% CI 0.68-1.75). Fung et al. evaluated 4.2 million pregnancies and found no increased risk of congenital malformations following first-trimester zolpidem exposure (RR 1.01, 95% CI 0.95-1.08). Yu et al. found a small but statistically significant association between second-trimester HBRA exposure and congenital malformations (RR 1.27, 95% CI 1.13-1.43).

DISCUSSION

Available evidence regarding zolpidem exposure during pregnancy and pyloric stenosis is limited. Some studies have identified a small but statistically significant risk of congenital malformations with maternal zolpidem use, especially later in pregnancy[1,2,3]. However, these studies are observational and limited by confounding variables and limited power due to rarity of congenital malformations in the general population. More recently, larger studies have disputed this relationship, finding no statistically significant association[2]. Another study found mildly increased but significant risk of congenital malformation with maternal exposure to zolpidem during the second trimester of pregnancy[3]. Regarding the case presented, it is important to correlate the review of these studies with the pre-existing risk factors such as cesarean delivery and maternal tobacco use[4].

CONCLUSION

While larger, more recent studies have not found a strong association between maternal zolpidem exposure and pyloric stenosis, the extent of the relationship between the two remains unclear. This case highlights a previously reported but insufficiently studied association which is complicated mainly by confounding risk factors for pyloric stenosis. Further research, specifically non-observational studies, on the relationship between zolpidem and pyloric stenosis along with timing and duration of use should be completed to better understand the potential association. Counseling on potential maternal and fetal risk factors should be discussed when recommending zolpidem use during pregnancy.

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