



A Review On Risperidone-Induced Respiratory Depression In A Neonate Through Breast Milk

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Abstract-The aim of this review is to describe about therapeutic use and adverse effects of Risperidone-induced respiratory depression in a neonate through breast milk. Strategies are discussed to limit infant exposure to a medication while effectively treating the nursing mother. Risperidone is commonly used in postnatal mothers for depression and psychotic symptoms in spite of little data on its safety profile in neonates. It is previously reported that 6 mg/day can be used in mothers without having any untoward in breastfed neonates. Excretion of risperidone is dependent on the enzyme CYP2D6 whose activity varies as per individual phenotype. Maximum therapeutic levels are achieved at 2hr of administration of the drug. Risperidone works by inhibiting dopaminergic neurotransmission. This medication increase prolactin in women may result in unwanted breast milk, stopped menstrual cycle or difficulty becoming pregnant. When psychotropic medication is used during breast-feeding, it is strongly recommended that the infant's pediatrician be involved in monitoring the infant.

Keywords: Antidepressant; Antipsychotic; Respiratory depressant; Case study; Side effects

1.INTRODUCTION

Risperidone is an atypical antipsychotic medication, first approved for use in the USA by the Food and Drug Administration (FDA) in 1993. Risperidone is used to treat schizophrenia, bipolar disorder, or irritability associated with autistic disorder. In pregnant women who meet criteria for major or minor depression lack of treatment has been associated with an increased risk of third trimesters. In addition, there is an increase in fertility rate in women with psychiatric illnesses; this is partly due to improvements in drug formulation which confer reduced risk of hyperprolactinemia. About 67% of women with mental disorders unexpectedly become pregnant, unplanned or unwanted.

2.ANTIPSYCHOTIC

Breastfeeding moms can be encouraged to take antipsychotics if they are warranted and a discussion of the danger of not treating indicates that there may be serious unfavorable outcomes for mother and child. This recommendation is based on the limited data and our clinical experience. Antipsychotic exposure in newborns from human milk generally seems to be minimal and clinically negligible. To create suggestions that are supported by evidence, further study is necessary as there is still a dearth of literature. Initial generation Haloperidol and chlorpromazine may be acceptable with nursing, according to a few small trials.

FIRST GENERATION:

Chlorpromazine:

Several assessments of research that looked at the drug's release into breast milk and its negative effects on newborns have come to the conclusion that nursing and chlorpromazine may be compatible.

Haloperidol:

Based on limited observational studies of infants exposed to haloperidol through lactation, haloperidol is a reasonable option for mothers initiating a first-generation antipsychotic while nursing. The National Library of Medicine's LactMed database recommends the use of haloperidol in breastfeeding women on first-generation antipsychotic treatment. Furthermore, a number of reviews that looked at the drug's release into breast milk and its negative effects on newborns have come to the conclusion that breastfeeding and haloperidol may be compatible. The majority of nursing newborns are not negatively impacted by their mothers' usage of haloperidol, according to observational studies: •A number of case reports (total n = 14 newborns) have not revealed any immediate negative consequences.

SECOND GENERATION:

Compared to other second-generation antipsychotics, olanzapine has been investigated in the context of nursing more extensively; these studies imply that olanzapine may be compatible with breastfeeding. Risperidone and quetiapine seem to be the next most well researched medications, and the data suggests that these might also be safe to take while nursing.

Olanzapine:

The most data is currently available for olanzapine among the SGAs. Due to its increased incidence of placental transit compared to comparable drugs, the use of this antipsychotic during pregnancy has been linked to lower birth weights and neonatal problems. Periodically, there are also worries of self-remitting neurodevelopmental impairment and foetal deformity, but a lot of the evidence (including the registry data available for olanzapine) seems to be mixed up by the use of other psychiatric drugs. There have been multiple examples of healthy babies exposed to olanzapine during pregnancy, despite these worries.

Clozapine :

Despite having a B pregnancy rating from the FDA, clozapine is not frequently advised as a first line treatment during pregnancy due to a lack of data and worries about potentially dangerous side effects. Clozapine is one of the medications that the AAP identifies as having unclear but potentially concerning effects on nursing infants.¹⁶ According to the NICE guidelines, women should be moved from clozapine to an alternative antipsychotic.⁷ Clozapine does not appear to increase the risk of malformation, however there are some concerns regarding its use, such as the possibility of agranulocytosis in the foetus or newborn, decreased suction, gestational diabetes, floppy baby syndrome, cardiovascular instability, and neonatal seizures.

Risperdal, or Risperidone:

Data from 197 retrospective instances and 68 prospectively reported cases of pregnant women who received risperidone have been analyzed by the risperidone pregnancy registry. There was no discernible rise in the background rates of birth abnormalities, such as organ deformities and spontaneous abortions. Twelve pregnancies that were retrospectively examined featured substantial organ anomalies; the most commonly reported cases involved the brain, heart, lip, and/or palate. Thirty-seven retrospective instances involving perinatal syndromes were documented, most of which had motor and behavioral problems. In addition, tremor, jitteriness, irritability, feeding issues, and somnolence were observed in a number of these instances. These symptoms were believed to be indicative of a withdrawal syndrome brought on by exposure to risperidone during the third trimester. After analyzing the data, it was determined that there was no evidence

of a higher than background incidence of spontaneous abortions, structural abnormalities, or fetal teratogenicity associated with risperidone exposure. But according to this study and other references, more information would be useful to ascertain what dangers there might be from taking risperidone while pregnant.

3. ATYPICAL ANTIPSYCHOTIC

New information is starting to emerge about some atypical antipsychotics such as risperidone and olanzapine but their safety has yet to be established. Plasma levels of an infant breastfed by a mother taking risperidone and showed that the relative infant dose was below the notional 10% level of concern. Maternal risperidone therapy is unlikely to be a significant hazard for breastfed infants in short term. Some cases of milk excretion data for risperidone have low excretion into milk <3% of the maternal weight adjusted dose.

4. FORMS AND STRENGTHS

GENERIC: Risperidone

FORM: orally disintegrating tablet

STRENGTHS: 0.5mg, 1mg, 2mg, 3mg, 4mg

BRAND: Risperdal

FORM: oral tablet

STRENGTHS: 0.25mg, 0.5mg, 1mg, 2mg, 3mg, 4mg

5. RISPERIDONE MAY INTERACT WITH OTHER MEDICATIONS

Risperidone oral tablet can interact with other medications, vitamins, or herbs you may be taking. An interaction is when a substance changes the way a drug works. These can be harmful or prevent the drug from working well. Taking risperidone with certain medications raises your risk for side effects from risperidone. This is because the amount of risperidone in your body is increased, or both medications may cause the same side effects. Examples of these drugs include:

Anxiety drugs, such as alprazolam, clonazepam, diazepam, chlordiazepoxide, and lorazepam.

Muscle relaxants, such as baclofen, cyclobenzaprine, methocarbamol, tizanidine, carisoprodol, and metaxalone.

Pain drugs, such as morphine, oxycodone, fentanyl, hydrocodone, tramadol, and codeine.

Antihistamines, such as hydroxyzine, diphenhydramine, chlorpheniramine, and brompheniramine.

6. WARNING FOR WOMEN WHO ARE BREASTFEEDING:

Risperidone may pass into breast milk and may cause side effects in a child who is breastfed. Talk with your doctor if you breastfeed your child. You may need to decide whether to stop breastfeeding or stop taking this medication. Risperidone oral solution should not be mixed with tea or coal.

FOR INFANT:

For treatment of schizophrenia. These drugs haven't been studied and shouldn't be used in infant younger than 10 years for the treatment of this condition

For treatment of irritability with autistic disorder. These drugs haven't been studied and shouldn't be used in infant younger than 5 years for treatment of this condition.

7. LIMITATIONS:

Only limited data are available for the passage of atypical antipsychotics into breast milk. The majority of studies are single case reports or studies in small numbers of breast-feeding mothers. Infant serum values are often lacking. The above outline is provided for general guidance. Many decisions as to the safety of antipsychotic regimens in breastfeeding mothers will need to be taken on a case-by-case bases, particularly if there are unusual circumstances e.g., infant morbidity, requirement for high doses, concurrent medications etc.

8.DISCUSSION:

Although there is insufficient data about the safety profile and effects on neonates, risperidone use in nursing mothers is frequently recommended in cases of postpartum psychosis or depression. One study showed no measurable levels of risperidone in plasma after measuring the drug's levels in the blood of breastfed infants six hours after the mother administered it. This result validates the feeding strategy the neonate in our instance used. Two feedings after risperidone have been skipped, and their place has been taken by either formula or stored breast milk that has been expressed before to risperidone administration. At six hours, breastfeeding was resumed, and our newborn did not experience respiratory depression.

9. CONCLUSION:

Here by, we conclude that risperidone in nursing mothers should be used with caution and monitoring of the infant is needed for respiratory depression irrespective of dose prescribed. Maternal risperidone therapy is unlikely to be a significant hazard for the breast feed infant in the short term. Nevertheless, decisions on whether a women may breastfeed should be made as an individual risk benefit analysis.

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