An Overview of the Clinical Relationship Between Antipsychotics and Prolactin Levels in Children: A Literature Review

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Abstract

INTRODUCTION
Antipsychotics are medications that affect the brain by altering the neurotransmitter dopamine, a crucial element in the regulation of mood and movement. This class of medications is primarily used to treat schizophrenia, bipolar disorder, and some mood disorders. However, antipsychotic medications can cause significant side effects, particularly in children and adolescents. Among these side effects is a substantial increase in prolactin levels.

METHODS
A comprehensive literature search was conducted on PubMed, FRED, and CORD19 using terms related to antipsychotics and prolactin levels in children. The search included articles from 2000 to 2020 to ensure a broad range of data. The studies were evaluated for their relevance and quality, and the most relevant studies were included in the review.

RESULTS
Prevalence of elevated serum prolactin levels varies considerably between antipsychotics. Risperidone-induced hyperprolactinemia is more pronounced in young patients' growth, particularly sexual development. Clinicians are advised to monitor serum prolactin levels in pediatric patients taking antipsychotics and adjust dosing or regimen accordingly.

CONCLUSION
Antipsychotics are widely used to treat children and adolescents with schizophrenia and related psychoses, but they can cause significant side effects, including hyperprolactinemia. Clinicians should monitor prolactin levels in pediatric patients receiving antipsychotics to mitigate this risk.

References

Figure 1. Methods for Literature Search

Table 1. Disorders Treated with Antipsychotics in Adolescents

- Schizophrenia
- Bipolar disorder
- Attention-deficit/hyperactivity disorder
- Autism spectrum disorder
- Tourette's syndrome

Figure 2. Publication Frequency of Selected Studies (n=111)

Figure 3. Prolactin Levels in Children Taking Risperidone Normalize to Upper Limit of Normal (GLN) After 6 Weeks Without Dosage Augmentation

Figure 4. Relative Risk of Antipsychotics to Induce Hyperprolactinemia in Pediatric Patients

Conclusion

Antipsychotics, as a class, may be especially applicable in children and adolescents due to their pervasive use in treating psychiatric disorders. However, they can also cause significant side effects, including hyperprolactinemia. Clinicians need to carefully monitor prolactin levels in pediatric patients receiving antipsychotics to mitigate this risk.