# Successful treatment of extrapyramidal symptoms with amantadine in a child: a case report



## Background

Children and adolescents are more susceptible to extrapyramidal symptoms (EPS) of antipsychotics<sup>1</sup>

In such cases, it may not be reasonable to change therapy to an alternative antipsychotic

EPS are typically treated with benztropine, a histamine and muscarinic receptor antagonist, which may cause intolerable anticholinergic effects

Amantadine, a dopaminergic agent, is a reasonable alternative for EPS studied in the adult population<sup>2,3</sup>

There is limited data for amantadine use in the pediatric population

#### **Patient Information**

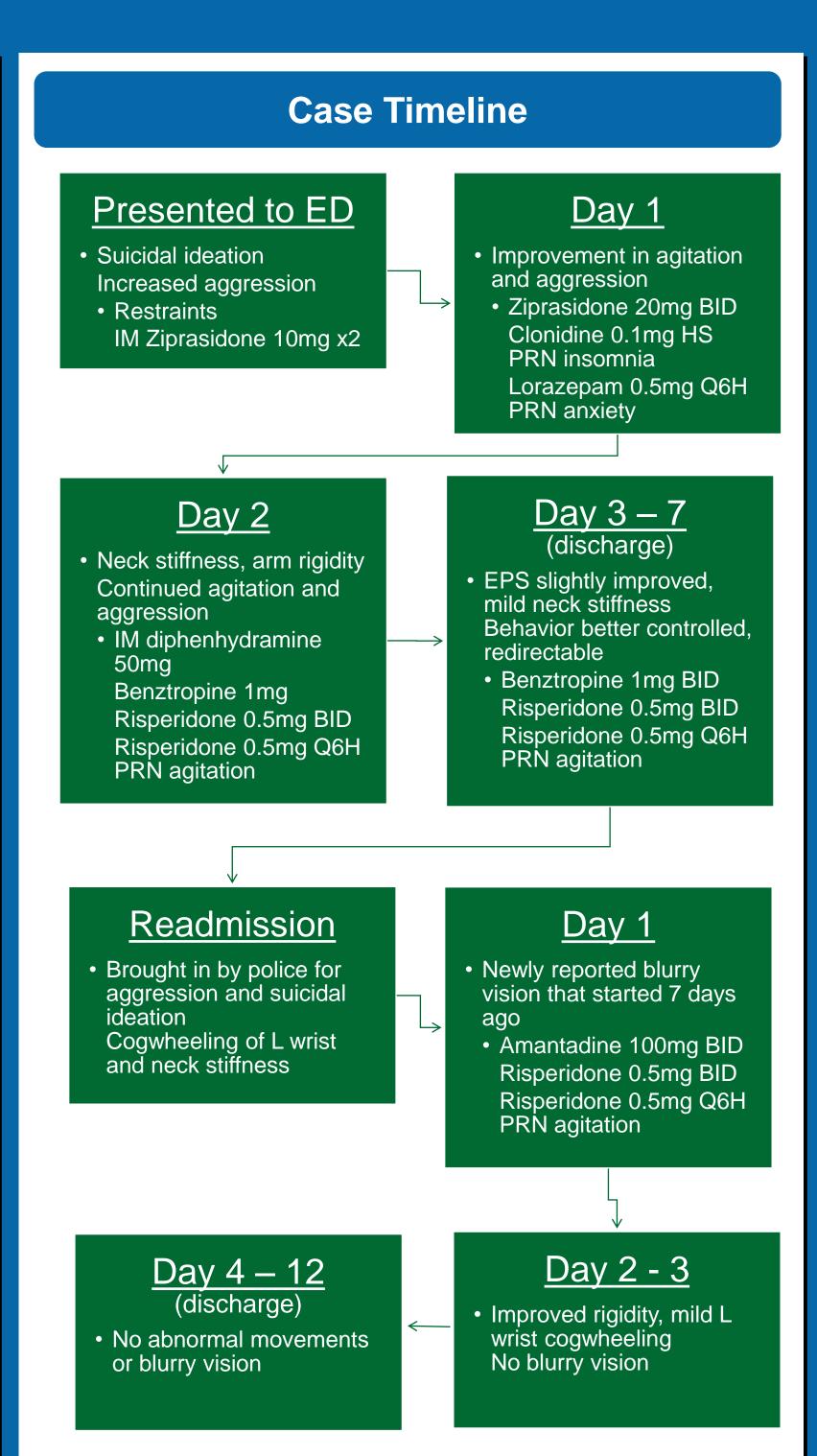
Past Psychiatric History

- Disruptive mood dysregulation disorder
- Attention deficit hyperactivity disorder (ADHD)
- Oppositional defiance disorder
- Intermittent explosive disorder

Past Medication Trials  Olanzapine (weight gain), haloperidol (dystonia), quetiapine, amphetamine salts ER, guanfacine ER

Current Medications

- Aripiprazole 5mg daily
- Escitalopram 20mg daily



#### **Literature Review**

A MEDLINE search was performed to identify any guidance or cases of use of amantadine to treat EPS in children or adolescents

No identified reports or guidelines were found

A review of the use of amantadine in child and adolescent psychiatry was used to guide dosing and assess for safety<sup>4</sup>

#### **Discussion**

### Implication of results

In this case, amantadine was effective for treating EPS associated with risperidone use in a child

Amantadine may be considered when benztropine causes adverse effects or is not successful in completely resolving EPS in children

#### Limitations

Only assessed safety and efficacy up until discharge

# References

- 1- Sikich L, Hamer RM, Bashford RA, Sheitman BB, Lieberman JA. A pilot study of risperidone, olanzapine, and haloperidol in psychotic youth: a double-blind, randomized, 8-week trial. *Neuropsychopharmacology*. 2004;29(1):133-45.
- 2- DiMascio A, Bernardo DL, Greenblatt DJ, Marder JE. A controlled trial of amantadine in drug-induced extrapyramidal disorders. *Psychopharmacol Bull.* 1977;13(3):31-3.
- 3- Stenson RL, Donion PT, Meyer JE. Comparison of benztropine mesylate and amantadine HCl in neuroleptic-induced extrapyramidal symptoms. *Compr Psychiatry*. 1976;17(6):763-8.
- 4- Hosenbocus S, Chahal R. Amantadine: a review of use in child and adolescent psychiatry. *J Can Acad Child Adolesc Psychiatry*. 2013;22(1):55-60.
- \*The author of this presentation have nothing to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation

Amantadine is a therapeutic option to treat extrapyramidal symptoms caused by atypical antipsychotics in children

Autumn Walkerly, PharmD
Author's Current Position:
PGY2 Psychiatric Pharmacy Resident
Michigan Medicine | University of Michigan

