

Risperdal-induced neutropenia: a case report

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Abstract/Introduction

- Adverse reactions to antipsychotics are commonly known to include metabolic syndrome, tardive dyskinesia, anticholinergic effects, and QTc prolongation.¹
- Neutropenia is a lesser-known adverse reaction that can occur with antipsychotic medication use, as well as with carbamazepine, procainamide, methimazole, and sulfasalazine².
- Agranulocytosis, which represents the severe, life-threatening form of neutropenia, is rare at an incidence of about 7 cases per million people per year³.
- Neutropenia can be seen in up to 1 in 30 patients on clozapine, and close monitoring of CBC is required for prescription.⁴
- In this case report, we show evidence that patients on Risperdal should also have periodic monitoring of complete blood counts due to risk of blood dyscrasias.

Case Report

A 33-year-old man with history of intellectual disability, ADHD, psychosis, and impulse control disorder, as well as type 2 DM and hyperlipidemia, established care concurrently at UAB Family Medicine and Psychiatry clinics. He had been on Risperdal, methylphenidate, and guanfacine for many years. No prior records were available.

Patient was noted to have lost about 30lbs over a 6-month period. He had no acute complaints, and his physical exam was normal. He had moved to his mother's house from a group home, and he had adequate calorie intake. On lab evaluation, he was found to have **WBC of 2.5x10³/uL** (range 3.4-10.8). Peripheral smear showed **absolute neutrophil count at 0.7x10³/uL** (range 1.4-7.0). Reticulocyte count was normal.

Patient's Risperdal was held and changed to aripiprazole. Sedimentary rate and CRP were checked and were reassuring.

Four weeks after changing medications, his absolute neutrophil count improved to **1.7x10³/uL**, and 3 weeks after this it returned to normal at **2.0x10³/uL** with a **WBC of 3.6 x10³/uL**. Patient did well on aripiprazole, and his weight stabilized. He will continue to follow-up with family medicine and psychiatry for monitoring.

Discussion

This patient's neutropenia quickly resolved after discontinuation of the offending agent. It is unclear how long his neutropenia had been ongoing due to lack of prior records, but fortunately he did not develop severe infection prior to discovery of the lab abnormalities. We encourage PCPs to monitor labs during treatment with antipsychotic medications. **Consider checking CBC at baseline, 4 weeks after starting, and q6-12 months subsequently.**

References

- 1: Keepers GA, Fochtmann LJ, Anzia JM, et al. The American Psychiatric Association practice guideline for the treatment of patients with schizophrenia. American Psychiatric Association 2020
- 2 Kaufman DW, Kelly JP, Jurgelon JM, Anderson T, Issaragrisil S, Wiholm BE, Young NS, Leaverton P, Levy M, Shapiro S. Drugs in the aetiology of agranulocytosis and aplastic anaemia. Eur J Haematol Suppl. 1996;60:23-30. doi: 10.1111/j.1600-0609.1996.tb01641.x. PMID: 8987237.
- 3: Strom BL, Carson JL, Schinnar R, Snyder ES, Shaw M. Descriptive epidemiology of agranulocytosis. Arch Intern Med. 1992 Jul;152(7):1475-80. PMID: 1627027.
- 4: Flanagan RJ, Dunk L. Haematological toxicity of drugs used in psychiatry. Hum Psychopharmacol. 2008 Jan;23 Suppl 1:27-41. doi: 10.1002/hup.917. PMID: 18098216.

