Case Report

A Case of Neuroleptic Malignant Syndrome Following Antipsychotic Overdosage: A Case of Survival

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Background: Neuroleptic Malignant Syndrome (NMS) is a rare but potentially fatal adverse reaction to dopamine receptor–blocking agents. It is characterized by hyperthermia, generalized rigidity, altered sensorium, autonomic instability, and elevated serum creatine kinase (CK). Antipsychotic overdosage is a recognized precipitating factor, and early diagnosis is critical for survival. **Methods:** This is a descriptive single-patient case report. Clinical evaluation, laboratory investigations including serum CK and liver enzymes, and neuroimaging were used to establish the diagnosis. Management involved immediate discontinuation of antipsychotics, intensive care monitoring, aggressive supportive treatment, and dopaminergic agents. **Case Discussion:** A 45-year-old male with schizophrenia presented with five days of high-grade fever, severe generalized "lead-pipe" rigidity, altered consciousness, and poor oral intake following excessive ingestion of risperidone and olanzapine. Examination revealed hyperthermia, tachycardia, and labile blood pressure. Investigations showed leukocytosis, markedly elevated CK, and raised liver enzymes; MRI brain was normal. The patient was managed in the ICU with active cooling, intravenous hydration, electrolyte correction, bromocriptine, and amantadine. Gradual clinical and biochemical improvement occurred over one month. Subsequent cautious antipsychotic rechallenge with low-dose clozapine and amisulpride was well tolerated. **Conclusion:** Early recognition, prompt withdrawal of offending agents, intensive supportive care, and multidisciplinary management are essential for survival in NMS. Carefully monitored antipsychotic rechallenge can be safely undertaken after complete recovery.

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Introduction

Neuroleptic malignant syndrome (NMS) is a rare but potentially fatal idiosyncratic reaction to dopamine receptor–blocking agents, most commonly antipsychotic medications.[1] It is characterized by hyperthermia, severe muscvle rigidity, altered mental status, autonomic instability, and elevated serum creatine kinase levels.[1,2] Despite advances in psychopharmacology, NMS continues to be associated with significant morbidity and mortality if not promptly recognized and managed.[2,3] Early diagnosis, immediate discontinuation of offending agents, and aggressive supportive care remain the cornerstone of successful treatment.[1,4]

Case Report

A 45-year-old male, a known case of schizophrenia on regular antipsychotic treatment, was brought to the emergency department with a five-day history of high-grade fever, generalized body stiffness, altered sensorium, and markedly reduced oral intake. According to caregivers, the patient had ingested excessive amounts of his prescribed antipsychotic medications risperidone and olanzapine.[5,6] The exact dosages could not be reliably determined. There was no history of recent infection, substance use, trauma, or withdrawal of dopaminergic agents.

On presentation, the patient was critically ill. He was febrile, tachycardic, and exhibited labile blood pressure suggestive of autonomic instability. Neurological examination revealed severe generalized "lead-pipe" rigidity involving all four limbs, along with altered sensorium. Given the clinical suspicion of neuroleptic malignant syndrome, urgent laboratory investigations were performed, which revealed leukocytosis and a markedly elevated serum creatine kinase level and increased liver enzymes.[1,2] MRI of the brain was performed to rule out any organic or structural pathology

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and was reported to be within normal limits, thereby confirming the diagnosis.[1,7]

Recognizing the life-threatening nature of the condition, all antipsychotic medications were immediately discontinued, and the patient was shifted to the Medicine Intensive Care Unit. He was managed with aggressive supportive care, including active temperature control, intravenous hydration, correction of electrolyte imbalances, and close monitoring of vital parameters, renal function, and creatine kinase levels.[1,4,8] In addition, pharmacological management in the ICU included initiation of bromocriptine and amantadine to address the underlying dopaminergic dysfunction.[4,9] Multidisciplinary coordination between psychiatry, medicine, and intensive care teams was ensured throughout the course of treatment.

Over the subsequent weeks, the patient showed gradual but consistent improvement. Fever subsided, rigidity reduced, sensorium improved, and laboratory parameters normalized. After improved general condition and better oral intake, he was shifted to the psychiatry ward after 1 month of ICU stay.

In the psychiatry ward, Antipsychotic rechallenge was undertaken cautiously, considering his underlying psychiatric illness and reappearance of symptoms. He was initiated on clozapine 12.5 mg and then Amisulpride 50 mg, increased very slowly and was titrated carefully and well tolerated. Bromocriptine and Amantadine were gradually stopped during hospitalization after full remission from NMS. The patient demonstrated partial recovery in psychiatric symptoms and was discharged after 1 month. He is now on regular follow-up and is currently maintained on clozapine 200 mg and amisulpride 200 mg.[10-12]

Discussion

This case illustrates a classical presentation of neuroleptic malignant syndrome precipitated by excessive exposure to antipsychotic medications.[1,5] The hallmark features of hyperthermia, rigidity, altered mental status, autonomic instability, and elevated creatine kinase were clearly evident.[1,2] The case emphasizes that NMS remains a medical emergency where survival depends largely on early clinical suspicion and rapid initiation of treatment.[1,4]

The successful outcome in this patient highlights the critical role of prompt discontinuation of antipsychotics, early ICU admission, and aggressive supportive management.[1,4,8] Multidisciplinary collaboration was instrumental in preventing complications such as renal failure, rhabdomyolysis, and cardiovascular instability.[2,13] Furthermore, the case demonstrates that antipsychotic rechallenge, when done cautiously with appropriate agent selection and close monitoring, can be safely achieved in patients requiring ongoing psychiatric treatment.[10-12,14]

Conclusion

Neuroleptic malignant syndrome is a potentially fatal yet reversible condition when managed promptly and effectively.[1-3] This case underscores the importance of early recognition, immediate withdrawal of offending agents, intensive supportive care, and coordinated multidisciplinary management in saving patients from life-threatening complications.[1,4,8] Careful psychiatric rechallenge after recovery allows continued management of the underlying psychiatric disorder while minimizing the risk of recurrence.[10,14,15]

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