



ORIGINAL RESEARCH PAPER

Psychiatry

NEUROLEPTIC MALIGNANT SYNDROME FOLLOWING ZUCLOPENTHIXOL DEPOT, A CASE STUDY IN YOUNG ADULT

KEY WORDS:

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INTRODUCTION:

Neuroleptic malignant syndrome- is a rare, but life-threatening complication to antipsychotics.

C/F- Muscular rigidity and dystonia, akinesia, mutism, obtundation, and agitation. The autonomic symptoms include hyperthermia, diaphoresis, and increased pulse and blood pressure. Laboratory findings include an increased WBC count and increased levels of creatinine phosphokinase, liver enzymes, plasma myoglobin, and myoglobinuria.

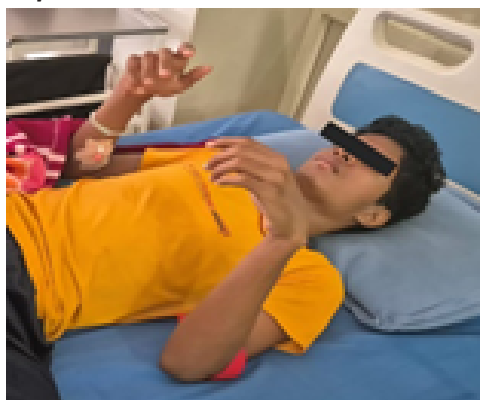
Zuclopenthixol is typical antipsychotic which acts as an antagonist at D2 receptor, commonly prescribed for schizophrenia and other psychosis, acute mania

- Available in oral tablets (2mg, 10mg, 25mg), oral drops 20mg/ml, acetate form injection 50mg/ml, decanoate form injection 200mg/ml
- T_{1/2}- oral preparations 20hrs, acetate- 32hrs and depot preparations- 17-21 days
- S/E- EPS, Tardive dyskinesia, priapism, sedation, dizziness, weight gain, hypotension.
- Rare S/E- NMS, seizure, agranulocytosis, neutropenia

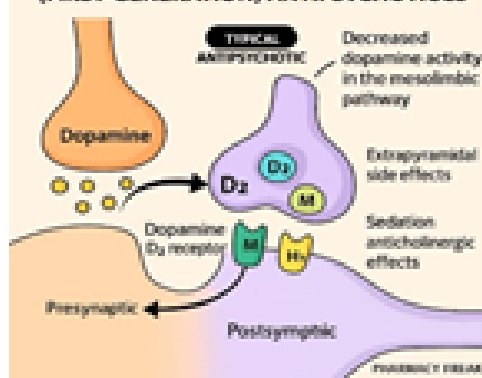
Case Details:

A 17-year-old male belonging to urban area of low socioeconomic status presented to the casualty with high grade fever, muscular rigidity and involuntary turning of head to right side. Patient was admitted elsewhere 10 days back with complaints of irritability, sudden anger outbursts, excessive intake of cigarettes, decreased sleep at night. Following admission patient was administered injectable antipsychotics (Zuclopenthixol acetate) for 3 days and risperidone with zuclopenthixol depot (200mg) before discharge.

- C/F - Hyperthermia (102 to 103°F), Rigidity, Tremors, Dystonia, Hypersalivation.
- Lab Tests- CPK - 1236 U/L, TLC - 13200/ul, Liver enzymes - mildly elevated,



MECHANISM OF ACTION OF TYPICAL (FIRST-GENERATION) ANTIPSYCHOTICS



DISCUSSION:

The abrupt and sustained blockade of D2 receptors by depot antipsychotics especially in hypothalamus, nigrostriatal and spinal cord pathways leads to disinhibition of muscle tone regulation, hyperthermia, autonomic dysregulation- core features of NMS. Depot injections release the drugs slowly over weeks and cannot be cleared rapidly unlike oral antipsychotics, that can be stopped immediately.

MANAGEMENT:

- Supportive nursing care regular vitals monitoring and titration of medications
- Mixed regimen of injectable lorazepam and oral anticholinergic agents (THP and Promethazine). Doses and timing of the medications were decided based on severity of symptoms.
- Adequate hydration along with paracetamol infusion and external cooling were given for symptomatic relief.
- Lab parameters like CPK were regularly monitored, whose values gradually reduced with 3-4 days

CONCLUSION:

Depot preparations to be avoided in antipsychotics naïve patients and young patients. Early diagnosis and intervention are crucial in the management of NMS to prevent complications and fatal outcomes.

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