

# NEUROLEPTIC MALIGNANT SYNDROME

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# Outline

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# Introduction

- This is a syndrome characterized by rigidity, hyperthermia, autonomic dysregulation and impaired consciousness.
- It is a medical emergency and life threatening condition
- The term was first used in 1960

# Epidemiology

- The incidence is between 0.07-2.2%
- No racial predilection
- There is genetic predisposition
- Commoner in male, especially those < 40years



# Risk factors

- High-dose neuroleptic use
- High-potency neuroleptic use
- Rapid increase in neuroleptic dose
- Depot injectable neuroleptic use
- Prior episodes of neuroleptic malignant syndrome
- Recent episode of catatonia
- Age younger than 40 years
- Male sex

# Pathophysiology

- Dopamine receptor antagonism
- Increased calcium release from sarcoplasmic reticulum
- Removal of tonic inhibition from sympathetic nervous system
- Sympathoadrenal hyperactivity and dysregulation



# Aetiology

- Neuroleptics e.g phenothiazines, haloperidol
- Withdrawal of antiparkinson disease drugs e.g levodopa, amantadine
- Antiemetics e.g metoclopramide, promethazine
- Atypical antipsychotics

# Clinical features

- Diaphoresis
- Dysphagia
- Tremors
- Delirium
- Incontinence
- Labile BP
- Dyspnoea
- Rigidity
- Hyperthermia
- Shuffling gait
- Tachycardia
- Psychomotor agitation



# Diagnosis

- High incidence of suspicion
- Detailed history
- Physical examination
- Supportive laboratory findings: leukocytosis and elevated creatinine kinase

# Treatment

- Withdrawal of neuroleptic
- Supportive and resuscitative care
- Treat hyperthermia
- Dopaminergic agonist: Bromocriptine
- Skeletal muscle relaxant: Dantrolene
- Benzodiazepines
- Electroconvulsive therapy



# Differential Diagnosis

- CNS infections e.g Encephalitis
- Lethal Catatonia
- Serotonergic syndrome
- Malignant hyperthermia
- Heat stroke

# Complications

- Rhabdomyolysis
- Hyperkalaemia
- AKI
- Cardiovascular collapse
- Respiratory Failure



# Conclusion

- NMS is a life threatening medical emergency that requires high index of suspicion and detailed evaluation. The outcome is good with early diagnosis and prompt treatment.



THANKS FOR  
YOUR  
ATTENTION