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Neuroleptic Malignant Syndrome
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Intro/Overview

- Identified in France during the 1960’s as Syndrome Malin Des Neuroleptiques (Galli-Ojurongbe, & Williams, 2015).
- NMS is a rare, life-threatening reaction to antipsychotic therapy.
- Associated with 1st and 2nd generation antipsychotics, atypical antipsychotics, and centrally acting antemetic agents (Al Danaf, Madara, & Dietsche, 2015).
- Estimated incidence of 0.02% to 3.23% (Wilson, Evans, 2017).
- Occurs in all age groups; elderly may be at higher risk due to coexisting medical conditions; men affected = no genetic link (Waldorf, 2003).
- Mortality rate 4%-30% (Waldorf, 2003).

Pathophysiology

- Hypothesis of Hypodopaminergic Tone: inhibition of dopamine receptor activity in the CNS (Belvederi Murri, Guaglanione, Bugliani, Calcagno, Respino, Serafini, & Amore, 2015).
- Neuroleptic medications gain their therapeutic effect from blocking dopamine receptors.
- Usually develops within the first 2 weeks of treatment, but can develop at any time during the therapy period (Galli-Ojurongbe & Williams, 2015).
- Occurs in all age groups; elderly may be at higher risk due to coexisting medical conditions; men affected = no genetic link (Waldorf, 2003).

Signs/Symptoms

* Decreased levels of Dopamine are responsible for the tetrad of cardinal features presented in NMS.


Significance of Pathophysiology

- There is NO gold standard, diagnostic test available.
- NMS confirmed by clinical presentation, and exclusion of other causes.
- Differential diagnostic considerations: Malignant Hyperthermia, pheochromocytoma, thyroid storm, serotonin syndrome, lethal catatonia, acute porphyria, tetany, encephalitis, brain lesions and tumors, sepsis, heat stroke, and drug use (Waldorf, 2003).

Nursing Implications

- Number of people taking antipsychotics/neuroleptic medications is on the rise.
- Advanced practice nurses (APNs) may be the ones prescribing these medications and the NMS will be administering them → imperative to recognize the s/s associated with NMS.
- Important to know how to treat NMS:
  - IMMEDIATELY stop medications
  - Supportive care: control temperature, restore fluid/electrolyte balance, give a muscle relaxant such as Dantrolene, and stimulate dopamine production with Bromocriptine (Waldorf, 2003).
- EDUCATE EDUCATE EDUCATE!

Conclusions

- Although the incidence of NMS is low, it may be fatal if early recognition is delayed!
- Can be difficult to Dx dt multiplet factors associated with its presentation.
- Knowledge of pharmacology, a good history of medication use, and quick identification of s/s in mild cases can prevent occurrence and progression to lethal outcomes (Belvederi Murri, et al., 2015).
- Goal = ↓ mortality

References


Additional Sources

