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A REVIEW ON SCHIZOPHRENIA

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Abstract:

Neuroleptics, also known as antipsychotic medications, are used to treat and manage symptoms of many psychiatric disorders. They fall into two classes: first-generation or "typical" antipsychotics and second-generation or "atypical" antipsychotics. Both first and second-generation antipsychotics are used in various neuropsychiatric conditions. These include attention-deficit hyperactivity disorder (ADHD), behavioral disturbances in dementia, geriatric agitation, depression, eating disorders, personality disorders, insomnia, generalized anxiety disorder, obsessive-compulsive disorder, post-traumatic stress disorder (PTSD), and substance use and dependence disorders. For many of these conditions.

Key words: Neuroleptics, classification, Types, Advantages, Disadvantages, Advers effects

Neuroleptic Malignant Syndrome, Treatment.

Introduction:

Neuroleptics, also known as antipsychotic medications, are used to treat and manage symptoms of many psychiatric disorders. They fall into two classes: first-generation or "typical" antipsychotics and second-generation or "atypical" antipsychotics. Both first and second-generation antipsychotics are used in various neuropsychiatric conditions. These include attention-deficit hyperactivity disorder (ADHD), behavioral disturbances in dementia, geriatric agitation, depression, eating disorders, personality disorders, insomnia, generalized anxiety disorder, obsessive-compulsive disorder, post-traumatic stress disorder (PTSD), and substance use and dependence disorders. For many of these conditions, the evidence for their use is equivocal. This activity reviews the indications and contraindications of neuroleptics and highlights the role of the interprofessional team in the safer prescription of these drugs.

Classification of neuroleptics:

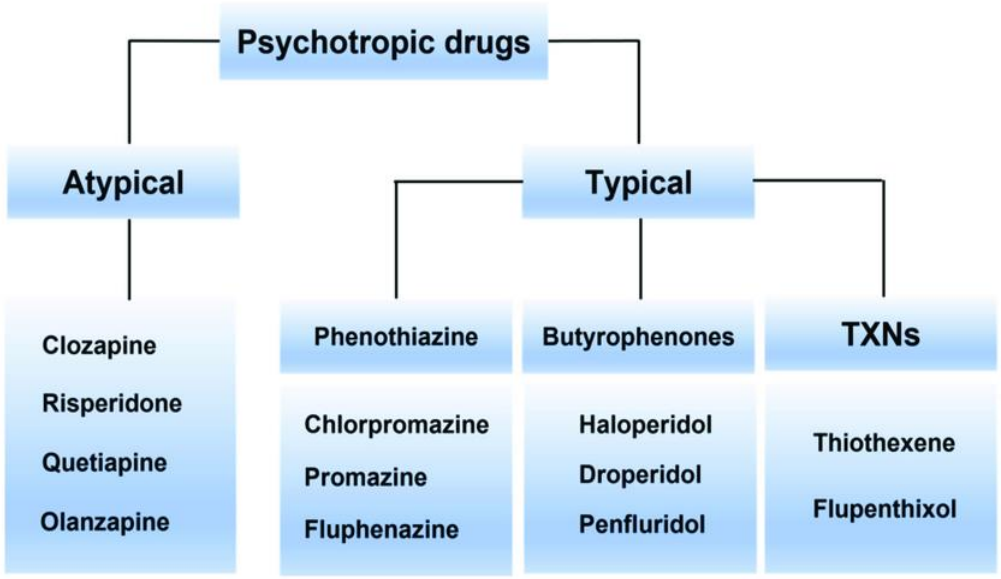

Fig 1: classification of drugs

Mechanism of action:

The underlying pathophysiologic mechanisms of NMS are complex and elements still debated among experts, but most agree that a marked and sudden reduction in central dopaminergic activity resulting from D2 dopamine receptor blockade within the nigrostriatal, hypothalamic, and mesolimbic/cortical pathways helps explain .

D2 receptor antagonism in the brain is a general pharmacodynamic property of all antipsychotics; this has given rise to the hypothesis that schizophrenia involves a dysregulation of dopaminergic circuits with excess dopaminergic activity in the mesolimbic pathway (leading to positive symptoms of psychosis) and reduced dopaminergic signalling in the mesocortical pathway (leading to negative symptoms). Evidence for the dopamine hypothesis comes from not only the efficacy of D2 receptor antagonists, but also through the effects of D2 agonists such as amphetamine in precipitating psychosis and the effects of dopamine-depleting drugs such as reserpine in reducing psychotic symptoms.

Administration:

Most first-generation antipsychotic medications are available in oral formulations. Several are also available in injectable intramuscular formulations, which are useful in the treatment of psychotic agitation. Clinicians sometimes use intravenous formulations of haloperidol and droperidol to treat psychosis, agitation, or delirium in acute medical settings. Long-acting, decanoate preparations of haloperidol and fluphenazine are deliverable via intramuscular injection one to two times per month, which is useful for nonadherent patients with daily oral dosing.

Second-generation antipsychotics are available in oral form. Additionally, aripiprazole is available as an intramuscular injection (immediate release) for use in acute settings, and olanzapine, risperidone, paliperidone, and aripiprazole are available in the form of long-acting injectables for use in nonadherent patients. The injectable form is for use in older and non-

Advantages:

Atypical neuroleptics advantages :

- Greartly reduced to no propensity for EPS or TD
- Minimal elevation of prolactin
- Less impact on negative symptoms,cognition
- Broader spectrum of action

Typical neuroleptics advantages:

- Depot formulations
- Cost
- Less severe metabolic impact

Disadvantages:

- Atypical drugs causes weighgain
- Drugs may exacerbate DM & Hpyerlipidemia
- Are more expensive than typical neuroleptic

Adverse effects:

- Low-potency,
- prevalence of dizziness,
- sedation,
- and anticholinergic effects (dry mouth, urinary retention, constipation),
- carry a lower risk of extrapyramidal side effects.

Adverse effects	First choice	Third choice
• Weight gain, • dyslipidemia	• Behavioral • Modification(diet, exercise)	• metformin
• Anticholinergic effects(drymouth,blurryvission,tachycardia, constipation)	• Low dose	• Treatsymptoms • e.g.constipationwithosmoticagents stimulant ,laxatives

Neuroleptic Malignant Syndrome:

Neuroleptic malignant syndrome (NMS) is a life-threatening syndrome associated with the use of dopamine-receptor antagonist medications or with rapid withdrawal of dopaminergic medications. NMS has been associated with virtually every neuroleptic agent but is more commonly reported with the typical antipsychotics like haloperidol and fluphenazine. Classic clinical characteristics include mental status changes, fever, muscle rigidity, and autonomic instability. This activity describes the presentation of neuroleptic malignant syndrome and highlights the role of the interprofessional team in the management of affected patients.

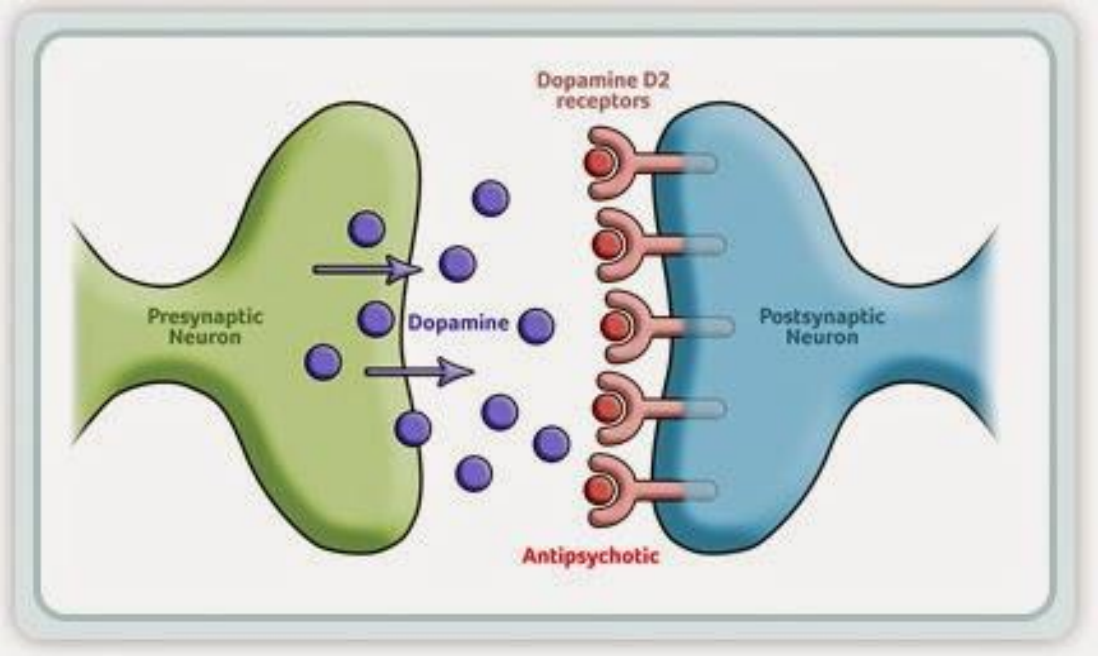

Fig1: neuroleptic malignant syndrome

Etiology:

The primary trigger for NMS is dopamine receptor blockade, most often due to an antipsychotic agent. NMS is usually associated with high-potency first-generation neuroleptic agents but also may be caused by low-potency and atypical antipsychotic agents, antiemetics, tricyclic antidepressants, and lithium.

Rapid withdrawal of dopaminergic drugs, most often used to manage parkinsonian diseases, such as levodopa and amantadine, also may cause this syndrome.

The rapid switching of one Parkinson medication to another also is associated with the development of NMS.

Epidemiology:

- Incidence rates for NMS range from 0.02 to 3 percent among patients taking antipsychotic agents , This wide range probably reflects differences in the populations sampled, for example, inpatient versus outpatient psychiatric populations, as well as differences in the surveillance methods and definitions of disease used.
- While most patients with NMS are young adults, the syndrome has been described in all age groups from 0.9 to 78 years. Age is not a risk factor .
- In most studies, males outnumber females twofold. Both age and sex distributions correspond with the distribution of the exposure to antipsychotic agents
- Most cases occur in young adults, but this is most likely because it is the age of first exposure to neuroleptic medications rather than an age-related risk.
- Men outnumber women 2:1, also related to the likelihood of exposure to the causative agent. Incidence due to the withdrawal of dopaminergic drugs is more likely in the geriatric population based on the likelihood of exposure to the inciting cause.

Pathophysiology:

- The pathophysiology of NMS is complex and incompletely understood. Most symptoms are attributed to the sudden reduction in central dopaminergic activity due to a D2 receptor blockade or abrupt withdrawal of D2 receptor stimulation.
- This accounts for the characteristic muscle rigidity, hyperthermia, and The most widely accepted mechanism by which antipsychotics cause neuroleptic malignant syndrome is that of dopamine D2 receptor antagonism.
- In this model, central D2 receptor blockade in the hypothalamus, nigrostriatal pathways, and spinal cord leads to increased muscle rigidity and tremor via extrapyramidal pathways.
- mental status changes. Other neurotransmitters are involved, and NMS has features suggestive of disruption of the sympathetic nervous system.
- Other theories suggest a calcium-mediated disruption of the musculoskeletal system, pathophysiologically similar to malignant hyperthermia. Familial clusters of patients with NMS and genetic testing suggest a predisposition to the development of NMS in certain individuals.

Treatment / Management:

- In more severe cases of NMS, empiric pharmacologic therapy is typically tried. The two most frequently used medications are bromocriptine mesylate, a dopamine agonist, and dantrolene sodium, a muscle relaxant that works by inhibiting calcium release from the sarcoplasmic reticulum.
- Recomendations for the specific medical treatments in NMS are based upon case reports and clinical trials their efficacy is unclear and disputed
- Lorazepam, a benzodiazepam ,is used 1 to2 mg 1M of IV every four to six hours.Diazepam is dosed as 10mg IV every eight hours

Differential Diagnosis:

- As mentioned below, the differential must include conditions in which muscle rigidity and/or hyperthermia are prominent.
- Thus, CNS infections, lithium intoxication, heat shock, lethal catatonia, central anticholinergic syndrome, and
- malignant hyperthermia are some of the conditions to be ruled out in the differential diagnosis.
- neuroleptic drugs that shows differential diagnosis its below

Medications Associated with Neuroleptic Malignant Syndrome

Typical Neuroleptics	Atypical Neuroleptics
Haloperidol • Chlorpromazine • Fluphenazine • Thioridazine	• Olanzapine • Clozapine • Risperidone • Quetiapine

Diagnosis	Key differential characteristics
Central anticholinergic syndrome	No rigidity, CPK levels normal
Lithium toxic encephalopathy	No fever, CPK levels are normal
Malignant hyperthermia	There is history of anesthesia with fluoronade anesthesics
Heat shock related to neuroleptics	No diaphoresis, no rigidity
Heat shock	No diaphoresis, no rigidity; History of heat and sun exposition
CNS Infection	Abnormal CSF, usually there is neurological focality
Lethal Catatonia	Semiology can be very similar but there is no history of neuroleptic

Conclusion:

The nephrotic syndrome has systemic consequences,They result, in part, from significant changes in the protein environment of the body as a result of overproduction of proteins in the liver and loss of low molecular weight proteins in the urine.Treatment in the maintenance phase of treatment following acute response among first-episode patients, differences do begin to emerge favoring second-generation medications, incuding olanzapine and risperidone, as well as amisulpride, quetiapine, and ziprasidone.In the treatment of multiepisode patients the picture becomes more complicated. The enthusiasm with which the second-generation drugs were received was fueled by unmet need, a long period without any new antipsychotics, vigorous marketing, and to some extent “wishful thinking” as clinicians would also like to believe that they have new and better tools with which to help their patients.

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