




EVALUATION OF CASES OF TOXICITY WITH ANTIPARKINSONIAN DRUGS



➤ Drugs used in the treatment of patients with Parkinson's disease are occasionally taken in Overdose:

*age

*suicide attempt




Normal person



Parkinson disease







Drug therapy is aimed to restoring the balance between the dopaminergic and cholinergic components



Classification of antiparkinsonian Drugs:

- Drugs acting on dopaminergic system:
 - Dopamine precursors – Levodopa
 - Peripheral decarboxylase inhibitors –
carbidopa ,benserazide
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- Drugs acting on cholinergic system
 - Central anticholinergics – *Benzhexol*,
Procyclidine,

Levodopa

L-dopa is converted by dopa decarboxylase to dopamine, an active catecholamine with prominent alpha and beta-adrenergic effects

mechanism of toxicity

toxicity appears to be a direct effect and also receptor-mediated. it undergoes autooxidation and forms reactive oxygen species (highly reactive hydroxyl radicals)



Signs and symptoms of toxicity

- Initial hypertension
- was followed by prolonged symptomatic hypotension,
- sinus tachycardia, mental confusion, agitation,
- insomnia and anorexia
- Diarrhea, vomiting

Treatment of toxicity


1-Gastric lavage if the patient presents within 1-2 h of ingestion if a large amount of levodopa.

2-activated charcoal : patient should be conscious

3- Pyridoxine 50 mg tds acts as a co-factor for dopa decarboxylase and reverses the neurotoxicity of levodopa



4- Benzodiazepine should be used to control convulsions or for sedation.



5- Postural hypotension is best treated with bed rest, elevation of the feet and intravenous fluids if necessary. The cardiac rhythm should be monitored





GOOD 'N NATURAL

Activated Charcoal Capsules

260 mg (4 grain)

Traditional Absorbent

Dietary Supplement

100 CAPSULES






Levodopa and benserazide

Overdosage of benserazide with levodopa should be managed with supportive measures

as for levodopa alone with the exception that pyridoxine has no benefit when benserazide has been taken in addition to L-dopa.







Benzhexol


Toxicity is due to both peripheral and central anticholinergic effects.

The peripheral symptoms of overdose include nausea, dizziness, blurred vision, a dry mouth and urinary retention,





signs include dilated pupils, flushed faces,
tachycardia




Central nervous system manifestations
include excitement, confusion, restlessness,
and euphoria

Treatment of toxicity


The management of benzhexol and benztropine overdoses is supportive.

Gastric lavage is indicated only if a substantial overdose has been ingested within 1-2 h of presentation.

some toxicologists recommend extension of gastric lavage time up to 4 h????



The anticholinergic effects can be reversed by
slow intravenous injection of 2 mg
physostigmine




if sedation is needed **diazepam** is the drug of
choice.



Case

A 61 years old parkinsonian patient ingested up to 100 gm levodopa during a period of 12 hours , signs of parkinsonism were completely alleviated. Adverse effects included initial hypertension followed rapidly by hypotension of few hours duration





sinus tachycardia, mental confusion,
insomnia & anorexia

Analysis of serum & urine for dopa & its
metabolites confirmed the overdose

