

Q. Antipsychotic Drugs? [Major Tranquilizers]

• Schizophrenia, there is ↑ dopamine, ↓ serotonin

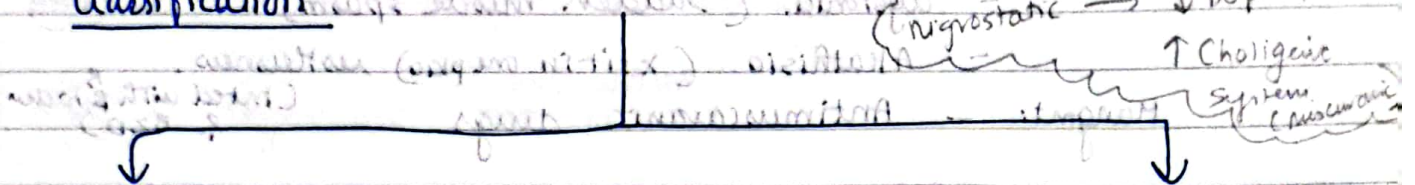
- +ve symp → ↑ Dop
- -ve symp → ↓ serotonin.

- There are 2 types of antipsychotic drugs **Typical** & **Atypical**

Typical → ↓ Dop

A.T → ↑ serotonin.

Classification



Typical (1st gen)

- Chlorpromazine
- Trifluoperazine
- Trifluoperidol
- Haloperidol
- Chlorprothixene

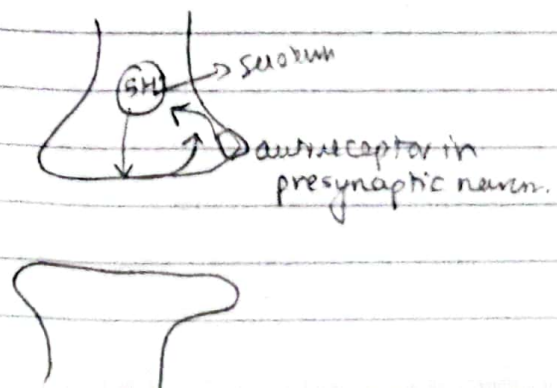
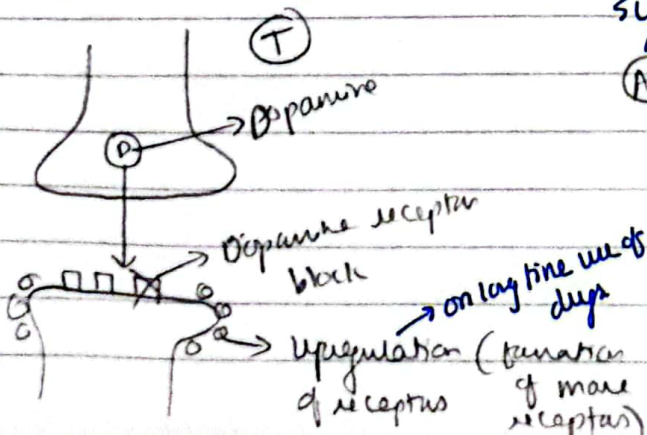
Atypical (2nd gen)

- Clozapine
- olanzapine

General mech of A.D. AntP

- Conventional antipsychotics → Mainly block dopamine (D₂) receptors in limbic system & mesocortical areas

Atypical antipsychotics → Block 5HT₂ receptors in mesolimbic system



uses of AP: dys: Bipolarity, Schizophrenia

TYPICAL

MOA: ✓

Side effects:

1. Dyskinesia

Acute

- Pseudoparkinsonism
 - dystonia. (sudden muscle spasm)
 - Akathisia (restlessness)
- Mangmt: - Antimuscarinic drugs. (Treated with β blocker & BZD)

Chronic

- Tardive dyskinesia. (involuntary movements of mouth tongue & lips)
- mgmt: discontinuation / switch to atypical drugs.

2. Dysphagia (feeling low)

3. Endocrine dysfunction (↑ prolactin, gynecomastia, weight gain)

4. Muscarinic Blockade (dryness of secretion)

5. α Blockade → Hypotension

ATYPICAL

CHLORPROMAZINE

- Injures 7th & 8th synapses
ie, hallucinations

MOA: Potent Dopamine D₂ receptor blocking action

on post synaptic membrane.

(Diagram)

Pharm actions: (CNS) → Psychomotor slurring,
Ataxia
↓ anxiety,

(CTZ) - ↓ epend antiemetic

(ANS) - Has α adrenergic blocking effect.

(CRS) - Hypotensive, Myocardial, Antidepressant

(Endocrine) - Produces prolactin inhibition, Amenorrhea, ^{inhibition} lactation
In female.

- makes loss of libido

These effects are produced by blocking the action of Dopamine on hypothalamus and pituitary.

(Misc):
- Hiccups X
- local anesthetic effect.
- skeletal muscle relaxation

Side effects

- Anusmia
- skin rashes
- Panniculitis
- photosensitivity
- Tremor
- Gynecomastia
- lactation

Therapeutic uses:

- Major psychosis
- Anxiety disorders
- Agitation control in child
- Antiemetic
- Hiccups
- pre-anesthetic medication

(MCA)

Thioridazine → QT prolongation
→ Pigmentary retinitis

Fluphenazine → less sedative, I.M

Haloperidol → x weight gain, x sedation, ↑ risk of toxicity

* **Primogide** → QT prolongation
→ Tourette syndrome (upresent vocalization)
→ Hypokalemia

ATYPICAL

- H.O.A: weak D₂ blocking action.

They have significant 5HT_{2A} & α₁ blocking action

⊕ (Diagram)

- Margin of safety is more.
- Improve negative symptoms.
- X elevate serum prolactin level.
- Do not produce cataplexy in animals (limb rigidity)
- negative symp like: social withdrawal, loss of motivation

①

CLOZAPINE

- Prototype

- α₁ muscarinic, H₁ blocking action ✓

- = 've symp ✓

- Free from parkinsonism, hyperprolactemia.

Effects: ↑ salivation syndrome *

weight gain

urinary incontinence

cardiac toxicity

- Myocarditis, cardiomyopathy.

* Used in resistant Schizophrenia.

② OLANZAPINE

- Antipsychotic + mood stabilizing action

③ QUITAPINE - strong 5HT_{2A} action - QT prolongation *

- X weight gain *

④ RESPERIDONE

- X weight gain

- X sedation

- X worsen epilepsy

* - Dual action - atypical typical
blw only atypical.

ZIPRASIDONE

⑤ - QT prolongation *

- blocks neuronal reuptake of NA & 5HT.

⑥ ARIPRAZOLE

- ↓ weight gain. (superior) *

- ✓ safe in epileptic patients *

- partial D₂ agonist.
5HT₂ blockade.

BIPOLAR DRUGS

Intro - It is a psychiatric disorder in which depression alternates with mania
(manic-depressive illness)

Drugs used

- Lithium
- Carbamazepine
- Sodium valproate
- Olanzapine
- Risperidone
- Haloperidol

Unipolarity

Bipolarity

present extreme mood fluctuations.

LITHIUM

- Small monovalent cation

H.O.A - ↓ release of dopamine & nor-adrenaline

- ↓ sensitivity of post synaptic receptor

- Altered activity of proton kinase

- PK:
- Oral
 - X protein binding
 - Narrow margin of safety

- Uses:
- Unipolar mania
 - Unipolar depression.
 - Episodic violence in children
 - SIADH (primary agent)
 - Minimize leukopenic action in anticancer drugs.

- A/E:
- Nausea, V, D
 - tremor, muscle weakness.
 - confusion
 - convolution.
 - Hypothyroidism, intestinal necrosis.
 - Fetal hypothyroidism, Ebstein's anomaly (Vx from pregnancy)

DOC in Bipolarity → Lithium

DOC. Bipolarity in pregnancy → Carbamazepine

★
MCQ.

- DI:
- Li x thiazides / furosemide → Hyponatremia
 - ↑ Li reabsorption → toxicity

- Li x Haloperidol. → Long term Li therapy causes rigidity & potentiation Extra pyrimidal s/e of haloperidol (ie toxicity)