Q. Antipsycotic Drugs? [Major Tranquilizers]

- Schizophrenia, there is ↑ dopamine, ↓ seratonin
  - +'ve symp → ↑ Dop
  - -'ve symp → ↓ seratonin.

- There are 2 types of antipsycotic drugs Typical & Atypical
  - Typical → ↓ Dop
  - A.T → ↑ seratonin.

mesolimbic system → ↑ Dopamin ↓ Seratonin balance

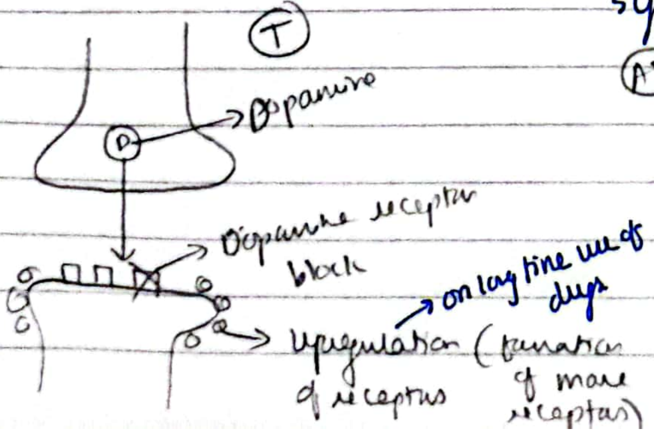
nigrostratic → ↓ Dopa parkinsonism, ↑ Choligenic system (muscarinic)

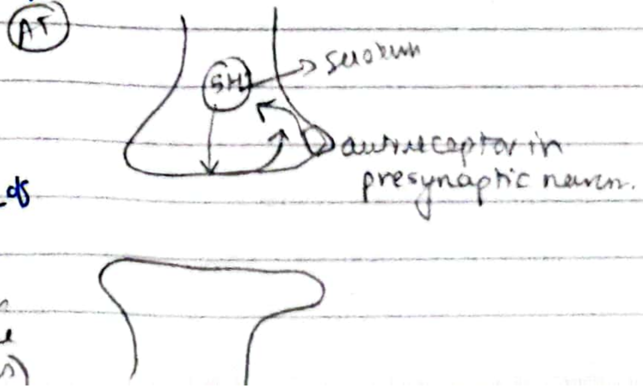
Classification

Typical (1st gen)	Atypical (2nd gen)
- Chlorpromazine	- Clozapine
- Triflupromazine	- Olanzepine
- Triflupevidol	
- Haloperidol	
- Chlorprothixene	

General mech of AntP

- Conventional antipsycotics → Mainly block dopamine (D_2) receptor in limbic system & mesocortical areas
- Atypical antipsycotics → Block $5HT_2$ receptor in mesolimbic system





uses of AP: dys: Bipolarity, Schizophrenia

TYPICAL

MOA:

Side effects:

1. Dyskinesis
   - Acute: – Pseudoparkinsonism
     - dystonia. (sudden muscle spasm)
     - Akathisia (x sit in one place) restlessness.
     - Mangmt: – Antimuscarinic drugs. (mixed with β blocker & BZD)
   - Chronic: – Tartine dyskinesia. (involuntary movement of mouth tongue & upper limbs)
     - Mgmt: discontinuation / switch to atypical dys.
2. Dysphasia (feeling low)
3. Endocrine dysfunction (↑ prolactin. gynaecomastia, ↑ weight gain)
4. Muscarinic Blockade (dryness of secretion)
5. α1 Blockade → Hypotension

YPICAL

CHLORPROMAZINE

– Improve +'ve symptoms ie, hallucinations

MOA: Potent Dopamine D2 receptor blocking action on post synaptic membrane.

(Diagram)

Pham actions:

(CNS) → Psycomotor slowing. Quite ↓ anxiety,

(CTZ) – ↓ reqired antiemetic

(ANS) – Has α andegenic blocking effect.

(CVS) – Hypotensive, Myocardial antidepressant.

(Endocrine) – Produces amenorrhea inhibition, amenorrhea, lactation inhibition in female.

– Causes loss of libido

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

(Misc): – Hiccups ✗

– Local anesthetic effect.

– Skeletal muscle relaxation

Side effects
- Drowsiness.
- Parkinsonism.
- Tremor.
- Gynaecomastia
- lactation

* skin rashes photosensitivity.

Therapeutic uses:
- Major psychosis
- Anxiety disorders.
- Aggressiveness control in child
- Antiemetic.
- Hiccough
- preanesthetic medication.

(HCQ.)

Thioridazine → QT prolongation
→ Pigmentary retinitis

Fluphenazine → less sedative, I.M

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

* Primozide → QT prolongation
→ Tourette syndrome (unpleasant vocalization)
→ Hypokalemia.

TYPICAL — M.O.A: Weak D_2 blocking action.
They have significant 5HT & α, blocking action

(Diagram)

- Margin of safety is more.
- Improve negative symptoms.
- ✗ elevate serum prolactin level.
- Do not produce catalepsy in animals (limb rigidity)

- negative symp like: social withdrawal, loss of motivation

(1) CLOZAPINE
- Prototype
- α_1, muscarinic, H_1 blocking actions ✓
- -ve symp ✓

- free from parkinsonism, hyperprolactinemia.

Effects: ↑salivation sysnomes ☆
weight gain
urinary incontinency
cardiac toxicity — Myocarditis, cardiomyopathy.

☆ Used in resistant Schizophrenia.

(2) OLANZEPINE ☆
- Antipsychotic + mood stabilizing action

(3) QUITAPINE — strong $5HT_A$ action ∴ QT prolongation ☆
— ✗ weight gain ☆

(4) RESPERIDONE — ✗ weight gain.
— ✗ sedation ✗ worsen epilepsy
☆ - Dual action — above 6mg typical
below 6mg atypical.

⑤ ZIPRASIDONE
- QT prolongation ★
- blocks neuronal reuptake of NA & 5HT.

⑥ ARIPRAZOLE
- ↓ weight gain. (super apetic) ★
- ✓ safe in epileptic patients ★.
- partial D2 agonist.
  5HT2 blockade.

BIPOLAR DRUGS

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

Drugs used :
- Lithium
- Carbamazepine
- Sodium valproate
- Olanzepine
- Resperidone
- Haloperidol.

} Unipolarity, Bipolarity. Prevent extreme mood fluctuations.

LITHIUM

- Small monovalent cation

M.O.A – ↓ release of dopamine & nor-adrenaline
- ↓ sensitivity of post synaptic α1 receptor
- Altered activity of protein kinase C.

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

Uses: - Unipolar mania
- Unipolar depression.
- Episodic violance in children
- SIADH (pituitary origin)
- Minimize toxic effect in anticancer drugs.

A/E: - Nause, V, D
- tremors, muscle weakness.
- confusion
- convulsion.
- Hypothyroidism., intestinal necrosis.
- Fetal hypothyroidism., Ebsteins anomaly (↓ x fow propely)

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 & potentiates extra pyramydal s/e of haloperidol (ie toxicity)