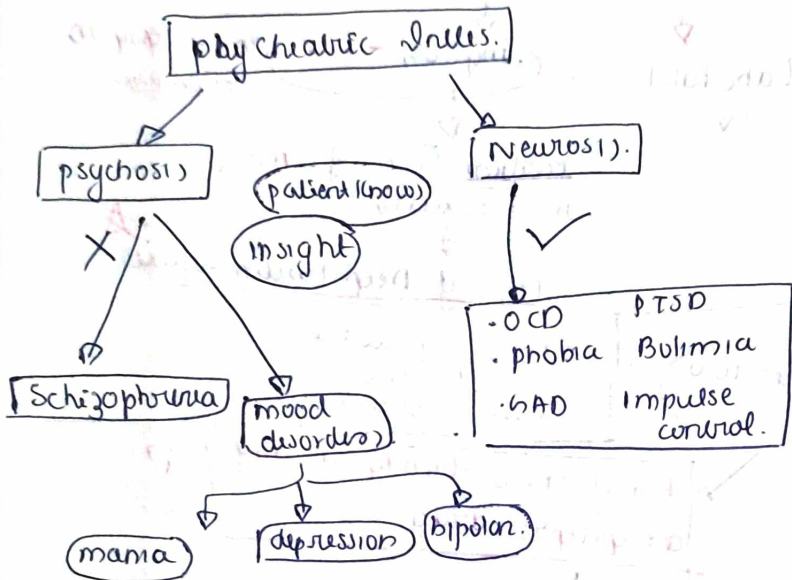


# Antipsychotic Drugs



- GAD - generalized anxiety disorder
- OCD - obsessive compulsive disorder
- Bulimia - eating disorder (over/under)
- Impulse control - eg: Kleptomania, Compulsive shopping
- In Neurosis - patient know he is unwell.
- In psychosis - patient doesn't know.

## Anti-psychotics

Schizophrenia → due to dopamine excess

Parkinson → dopamine deficiency

How to treat Schizo?

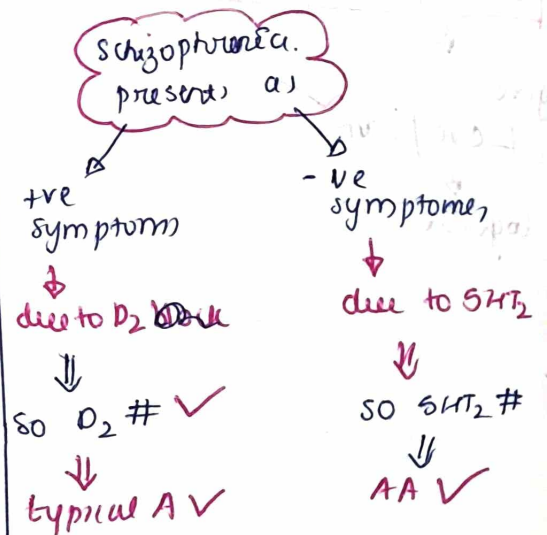
- block  $D_2$  receptor of dopamine

↓  
typical Antipsychotics

- drugs acting by any other mechanism

→ atypical antipsychotics

m/c mechanism →  **$5HT_2$  blockade**



- actually these drugs have both  $D_2$  # &  $5HT_2$  # ...
- we are marketing drug under a class based on it's prominent action only.

**Typical Antipsychotics.**

- ① Haloperidol  
Droperidol  
Fluphenazine } **Strong D<sub>2</sub> blockers.**  
 . effective antipsychotic.  
 (-↑ prolactin)  
 - EPS.
- ② Chlorpromazine  
Thioridazine } **weak D<sub>2</sub> blockers.**
- ③ Thiothixene  
Chlorprothixene } **Intermediate.**

• Strong D<sub>2</sub> #

→ **Good antipsychotics** ✓  
 → since they are strong, they could block D<sub>2</sub> even more than necessary  
 ↓  
 cause ds due to **D<sub>2</sub> deficiency**  
 ↓  
 Group of symptoms

called as **Extrapyramidal symptoms**

Pyramidal system → voluntary } **Involuntary motor activities**  
 Extrapyramidal system → involuntary } **motor activities**

- Earliest symptoms
- ① **Dystonia** → Torticollis, upward fixed gaze, rolling back of tongue, Oculogyric crisis, spalling tone of muscle.
  - ② **Akathisia** → constant purposeless movement from one place to other without anxiety.
  - ③ **Parkinsonism** → disp after few months. **Stabbit syndrome** - lipi move like rabbit.
  - ④ **Tardive dyskinesia** → after many years eg.
  - ⑤ **Malignant Neuroleptic syndrome** → In this, patients get high grade fever & muscle spasms.

**Treatment of EPS. Ach#**

Dystonia	Ach#	<b>DOC</b>	<b>anticholinergic</b>
akathisia	propranolol > Ach#		Benzhexol / pramipexime { 1st choice }
Park.	Ach#		
TD	<b>C/I</b> Ach#	<b>DOC</b>	Valbenazine. It's used.
MMS	Dantrolene > , Ach#		

• dopamine receptors are blocked...  
 • so we try to decrease **Ach** in accordance with **D<sub>2</sub>**.

• this is the tr. of all EPS...  
 Except? **Tardive dyskinesia**  
 ↓  
 due to supersensitivity to D<sub>2</sub> right?  
 so that's so **C/I actually**

• Earliest EPS → **Dystonia**.  
 • MC EPS → **Akathisia**.

why? #  
 upregulation & ↑ sensitivity due to blockade  
 so if drug is stopped → so hyperactivity.  
 ie, due to **Supersensitivity of dopamine receptors**.

In hypothalamus,  $D_2 \ominus$   
prolactin.

so in strong  $D_2 \#$

there will be

hyperprolactinemia.

in strong  $D_2 \#$

→ hyperprolactinemia

→ EPS

So we thought, EPS & prolactin ↑  
occurs due to strong  $D_2 \#$  right?

→ So what if we make weak  $D_2 \#$

→ weak  $D_2 \#$  → ↓ EPS & prolactin.

→ But efficacy ↓

- this is the problem with  
typical antipsychotics.

Another problem --

they are not just  $D_2 \#$ , they also block,

results in

H<sub>1</sub> # → sedation.

M # → dry mouth, blurred vision, Urret.  
↓ lessens risk of EPS due to ↓ Ach action.

α # → ↓ BP

serotonins - ✓

ie, list of em are non specific #.

they are also m/c in weak  $D_2 \#$

(ie, all the above s/e)

Other: they can't ↓ Negative symptoms.

So we developed,

Atypical Antipsychotics.

5HT<sub>2</sub> #

• ↓ risk of EPS, ↑ prolactin

✓ can treat both ⊕ & ⊖ symptoms

maximally of Lipodys Sx.

CLOZAPINE

RISPERIDONE

OLANZAPINE

PALIPERIDONE.

QUEITAPINE

Aripiprazole.

pimavanserin.

s/e

metabolic s/e → ↑ Sugar hyperglycemia

Hyperlipidemia

Insulin resistance.

weight gain

due to

5HT<sub>2C</sub> #.

Called

Lipodystrophy syndrome.

→ these are all feature of Metabolic syndrome.

so why do we call it Lipodystrophy Sx.?

By definition, met Sx is idiopathic.

so if met Sx, occurs due to drugs

Called → Lipodystrophy Sx.

weight gain is due to 5HT<sub>2C</sub> #

so we thought, if we make 5HT<sub>2C</sub> agonist

then, can it cause weight loss? Yes

5HT<sub>2C</sub> agonist → LORCAsERIN

approved in obesity

# CLOZAPINE

- \* high incidence of LOS
  - \* Sialoshea - hyper salivation
  - \* Sedation → { due to  $m_4 \oplus$ ,  $d_2 \#$  }
  - \* myocarditis
  - \* Agranulocytosis → Dose independent (MCQ)
  - \* Seizures.
- ↓  
Dose dependent ✓

→ Clozapine is very effective actually but we don't use it due to the much s/e

→ Reserved for Resistant Schizophrenia

- Quetiapine → cataract.
- Aripiprazole → can be given sublingually.
- Risperidone → strongest  $d_2 \#$  among atypical EPS ✓ prolactin ↑

## LONG ACTING INJECTIONS.

for ease of treatment in mental patients  
 composed of:  
 Haloperidol  
 Fluphenazine  
 Risperidone  
 paliperidone

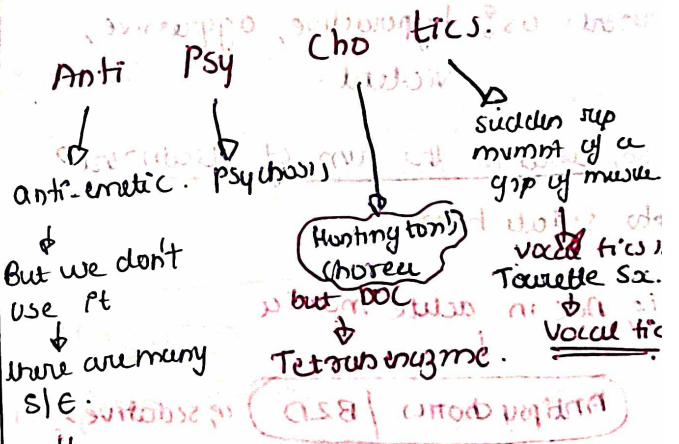
Long acting injections are available.  
 ↓  
 IM route  
 ↓  
 Z track technique.

Te. is also given in that 5.

The only drug in CNS that causes ↑ salivation - clozapine  
 all others → dry mouth { anticholinergic }

So we have to regularly check Count cause we don't know at what dose it will come.

## Other uses of Antipsychotics



! DONT! WRITE VOMITING AS S/E FOR ANTI PSYCHOTICS LIKE HALOPERIDONE (MCQ)

DOC in drug induced parkinson →  
 Trihexyphenidyl  
 AKA - Benzhexolone.