

ANTI - PSYCHOTICS

Schizophrenia:

+ve symptoms: Delusions, Hallucination, Agitation

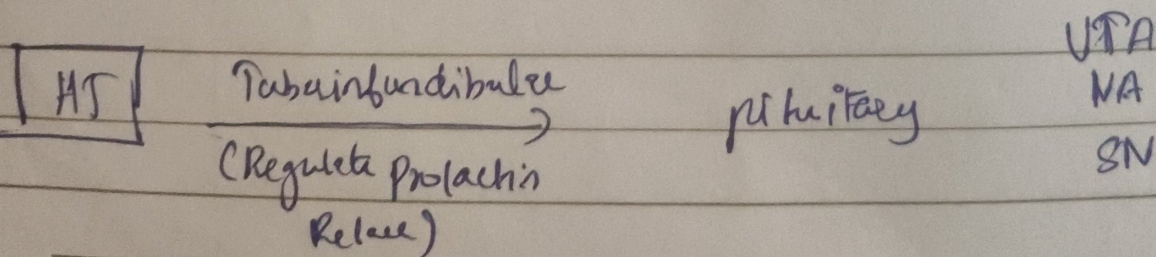
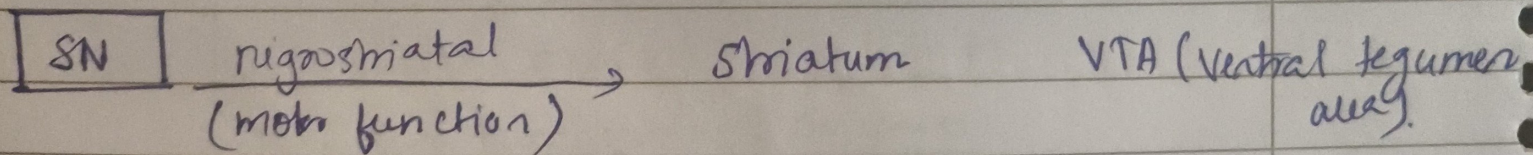
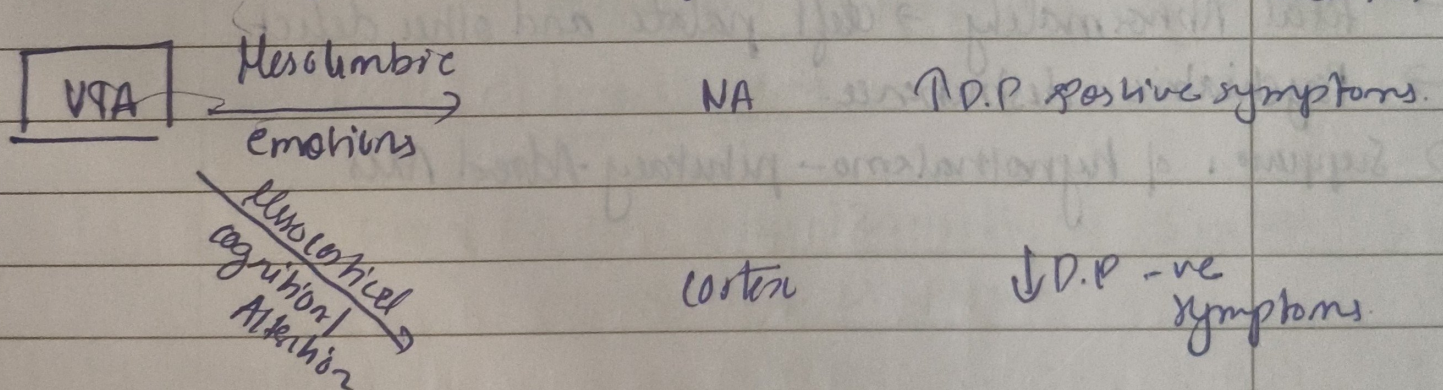
-ve symptoms: Emotional blunting, Lack of motivation

Cognitive symptoms: Loss of verbal fluency, Problems with learning

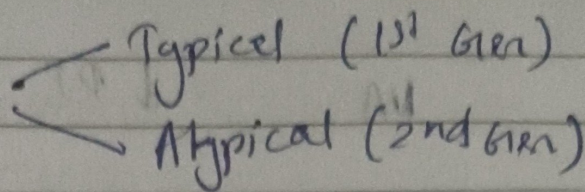
Occur due to Dopaminergic over Activity in Limbic system

Dopaminergic tracts:

- Mesolimbic pathway - Excess of Dopamine = +ve symptoms
- Mesocortical pathway - DA hypoactivity = -ve symptoms
- Nigrostriatal pathway → less dopamine - Parkinsonism
- Tuboinfundibular Pathway → less dopamine = ↑ Prolactin secretion



CLASSIFICATION



→ Typical

①

Phenothiazines

Aliphatic
side chain

Piperidine
side chain

piperazine
side chain

→ chlorpromazine

Thioridazine

Trifluoperazine

→ Trifluoperazine

②

Butyrophenones

- Haloperidol

- Trifluoperidol

③

Thioxanthenes

Flupenthixol

④ Other heterocyclic compounds

• Pimozide

• Levosulpiride

• Loxapine

Atypical Antipsychotics

- Clozapine, Risperidone, Olanzapine, Zolopine, Paliperidone.

ATYPICAL ANTIPSYCHOTICS

→ Potent D_2 blockers w/ mesolimbic & mesocortical dopaminergic projection.

→ Also block D_1 , D_3 , B_1 Receptor α_1 , Muscarinic Blocker

--- mainly Act on +ve symptoms.

MOA

VTA	~~Mesolimbic cortical~~	NA	↓ D.P. Release +ve symptoms
	~~Hypocortical attention~~	Cortex	↓ D.P. worsen +ve Symptoms.
SN	nigrostriatal	Striatum	Gamma pyramidal symptoms.
HT	Tuberoinfero- diencephalic	Pituitary ↓ Inhibition of prolactin Release	Hypersensitive MIA

PHARMACOLOGICAL ACTION:

1) CNS: - Psychotic.

- ↓ Agitation, Aggression, hallucination, delusion
- ↓ Relieve Anxiety.
- Antiemetic.

2) ANS: α Blockade → Anticholinergic Action

3) CVS - Postural hypotension And Reflex tachycardia.

4) Endocrine → ↑ Prolactin Release → Galactorrhea, gynaecomastia

↓ GH Release → Amenorrhoea, Infertility

↓ ADH Release

↓ GH Release.

Phenothiazines:

- Chlorpromazine, Trifluoperazine
- Low potency
- Less EPS
- More sedative & hypnotic effect.
- More epileptogenic
- Deposits in cataract of lens.
- Thioridazine
 - low potency → Potent Anticholinergic Caused Arrhythmia.
 - Less EPS → Retinal degeneration
- Trifluoperazine, Fluphenazine.
 - High Potency
 - More EPS
 - Less epileptogenic

Butyrophenones:

- High Potency, EPS more
 - Halo peridol - acute psychosis & Maintenance
 - Droperidol - Neurolept analgesia
 - Perfluridol - Long Acting used in c/c schizophrenia
- Drug D/ → Block the Action of Dopamine

Limitation of typical Antipsychotics

- More chance of extrapyramidal symptoms
- Hypotension
- More Autonomic side effect.
- Not effective Against -ve symptoms.

Atypical Antipsychotics:

~~— Absolute Properties~~

~~weak D₂ Blocking~~

~~significant blockade of 5HT₂, α , H₁ & muscarinic~~

ADR of typical psychotics.

① Extrapyramidal : eg: clozapine, Haloperidol, pimozide

→ Parkinsonism : Rigidity, tremor, hypokinesia

Levodopa is not effective since D₂ Receptor are Blocked.

→ ② Acute muscular dystonias

③ Akathisia

④ Tardive dyskinesia

⑤ Malignant neuroleptic syndrome

② CNS → Blurred vision, lethargy, mental confusion,

③ CVS → Postural hypotension, palpitations, QT prolongation

④ Anticholinergic → Dry mouth, blurring of vision

⑤ Endocrine → Hypoprolactinemia

⑥ Hepatic effects - elevation of Blood sugar.

⑦ Hypersensitivity reactions.