



Antipsychotic agents

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Patel - Pharmacology - NIILMMC

Psychotropic agents

- **Antianxiety – sedatives**
- **Antidepressants – mood elevating agents**
- **Antimanic – mood stabilizing agents**
- **Antipsychotic / neuroleptic drugs**

- **Psychosis – mental disorder**
- **Schizophrenia – thinking disturbances**
- **Delusion – symptoms of false belief**
- **Hallucination – abnormal sensation**

Psychotic illness

- Abnormal thinking
- Disorganized / irrational behavior
- Altered mood
- Illogical / highly idiosyncratic communications

- **Schizophrenia –
Chronic thinking disorder
Emotional withdrawal
Delusion / auditory hallucinations**
- **Major psychosis – melancholia**
- **Bipolar disorder –
manic depressive disorder**
 - ▶ **↑ - risk of self harm /suicide /
stress / medical / complications /
mortality**



MAJOR DEPRESSION

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Major depression –

- Mood depression / Severe anxiety
- Obsessive – compulsive disorder
- Intense sadness / mental slowing
- Self deprecation
- Loss of concentration
- Variable agitation
- Altered eating pattern
- Insomnia / hypersomnia
- ↓ energy / libido
- Disruption of normal circadian rhythm

Psychotropic drugs

Antipsychotic

Antianxiety

Antidepressants

Antimanic

Psychotomimetic

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Antipsychotic drugs

- Phenothiazine
- Thioxanthenes
- Butyrophenones
- Miscellaneous

- **Phenothiazine –** chlorpromazine
Trifupromazine
Thioridazine
Trifluperazine
Fluphenazine
- **Butyrophenones –** Haloperidol
Trifluperidol
Droperidol
Penfluridol

- **Thioxanthenes –** Thiothixene
Flupenthixol
- **Atypical neuroleptics –** Clozapine
Risperidone
Olanzapine
- **Miscellaneous –** Pimozide
Loxapine
Reserpine

Mechanism of action

Block –

- Dopamine receptor
- Histamine receptor
- α adrenergic receptor
- Muscarinic receptor

Antipsychotic drugs

- Rapid, incomplete absorption
- First pass metabolism
- Highly – protein bound & lipid soluble
- Longer duration of action
- Near complete metabolism
- Brain concentration – high

Antipsychotic drugs

- CNS - Normal person
 - Loss of interest
 - Lack of initiative
 - Neuroleptic syndrome
- In a psychotic
 - ↓ Irrational behavior
 - ↓ Agitation
 - ↓ Aggressiveness
 - ↓ Hyperactivity

Antipsychotic drugs

- Performance – not altered
- Extrapyrarnidal symptoms –
- Seizure threshold – reduced
- Antiemetic effect – potent

Antipsychotic drugs

- ANS

 - α - blocking effect

 - Anticholinergic

- Local anesthetic effect – CPZ

- CVS – Hypotension, reflex tachycardia

- Skeletal muscle - ↓ spasticity

Antipsychotic drugs

- Endocrine –
 - ↓ Prolactin release –
 - ↓ ACTH release –
during stress response
 - ↓ GH hormone
 - ↓ ADH release - ↓ urine output
- Tolerance – sedative & hypotensive
- No physical dependence
- Withdrawal

Antipsychotic drugs – ADR

- CNS – lethargy, drowsiness, confusion
- Appetite ↑, wt gain,
- ↑ blood sugar /lipid
- ↑ seizure
- ANS - α blocking effect
anticholinergic action
- Pigmentation of skin

Antipsychotic drugs – ADR

- Endocrine –
Hyperprolactinemia, ↓ gonadotropins
- Extrapyrarnidal symptoms –
Acute muscular dystonias
Malignant neuroleptic syndrome
Parkinsonism
Akathisia
Tardive dyskinesia

Therapeutic uses

- ✓ **Psychosis –**
schizophrenia, mania
organic brain syndrome
- ✓ **Anxiety**
- ✓ **As antiemetic**
- ✓ **Hypnotic, anesthetic**
- ✓ **Intractable hiccough, tetanus**

Comparison of drugs

- Triflupromazine – more potent
- Thioredizone – low potency
- Haloperidol –
potent antipsychotic
few autonomic effect,
less epileptinogenic effect
- Droperidol –
short acting

Atypical Antipsychotic drugs

- Clozapine

Selective D4 action

5 – HT, H1, α blockade

Only weak D2 blocking effect

↓ Positive & Negative symptoms

Reserve drug

Less EPS, Hypersalivation

Agranulocytosis – monitoring

Seizure, wt gain

Atypical Antipsychotic drugs

Olanzapine – potent

- D4, 5 – HT, α , muscarinic, H1 blocker
- Weak D2 action – less EPS
- Dry mouth, constipation

Risperidone

- D2, 5-HT2 , α , H1 blocker
- Postural hypotension, agitation
- Less epileptogenic

Antipsychotic drugs

- Pimozide –
D2, adrenergic, cholinergic blocker
long duration of action
Arrhythmia
- Loxapine
- Penfluridol
- Trifluoperidol