

**COURSE: CLINICAL ASSESSMENT AND INTERVENTION**

**CC-7 (PGDCP, SEM II); Unit III**

**By**

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## **DRUGS TREATMENTS**

Drug therapy, or psychopharmacotherapy, aims to treat psychological disorders with medications. Drug therapy is usually combined with other kinds of psychotherapy. The main categories of drugs used to treat psychological disorders are antianxiety drugs, antidepressants, and antipsychotics

The drugs which have a significant effect on higher mental functions are called as *psychoactive* or *psychotropic drugs*. These psychotropic drugs can be broadly classified as follows:

1. Antipsychotics
2. Antidepressants
3. Mood stabilising drugs (or drugs for maintenance treatment of bipolar disorder)
4. Anti-anxiety and hypnotics
5. Miscellaneous drugs, such as stimulants, drugs used in treatment of eating disorders, drugs used in treatment of alcohol and drug dependence, anaesthetics, drugs used in treatment of dementia, drugs used in child psychiatry, vitamins, calcium channel blockers, and other drugs.

### ***An Ideal Psychotropic Drug***

An ideal psychotropic drug should have the following characteristics (modified after Hollister, 1983):

1. It should cure the underlying pathology causing the disorder or symptom(s) under focus, so that the drug can be stopped after sometime.
2. It should benefit all the patients suffering from that disorder.
3. It should have no side-effects or toxicity in the therapeutic range.
4. It should have rapid onset of action.
5. There should be no dependence on the drug and no withdrawal symptoms on stopping the drug.
6. There should be no tolerance to the drug so that same dose is effective for long duration of time.
7. It should not be lethal in overdoses.
8. It can be given in both inpatient and outpatient settings.

Although psychotropic drugs available at present are far from ideal, they are still helpful in alleviation of symptoms and suffering of patients. With increasing research, new emerging products appear to be better in efficacy and have fewer, though newer, side-effects.

## **ANTIPSYCHOTIC DRUGS**

Antipsychotics are psychotropic drugs which are used in the treatment of psychotic disorders and psychotic symptoms. These are also known as major tranquilisers, neuroleptics, ataractics, anti-schizophrenic drugs and D<sub>2</sub>-receptor (dopamine receptor) blockers; however, the term *antipsychotic* appears to be the most appropriate and the most widely used term.

### **Indications**

Presently, the indications for the use of Antipsychotics include:

#### ***Organic Psychiatric Disorders***

1. Delirium (in small doses; e.g. haloperidol, risperidone)
2. Dementia (careful and considered use for psychotic features, and severe agitation)
3. Delirium tremens (and psychoses occur ring in drug and alcohol withdrawal states; e.g. haloperidol, risperidone)
4. Drug induced psychosis (e.g. haloperidol in amphetamine-induced psychosis)
5. Other organic mental disorders (e.g. organic hallucinosis; organic delusional disorder; secondary mania)

#### ***Non-organic Psychotic Disorders***

1. Schizophrenia
2. Schizo-affective disorder
3. Acute psychoses
4. Mania (with or without mood stabilisers)
5. Maintenance treatment of bipolar disorders (e.g. olanzapine, quetiapine)
6. Major depression (for psychotic features, agitation, and melancholic features; along with antidepressants)
7. Delusional disorders

#### ***Neurotic and Other Psychiatric Disorders***

1. Severe, intractable, and disabling anxiety (rarely used and not recommended)
2. Treatment refractory obsessive compulsive disorder (as an adjunct)
3. Anorexia nervosa (rarely used and not widely recommended)

### ***Medical Disorders***

1. Huntington's chorea (e.g. haloperidol)
2. Intractable hiccups (e.g. chlorpromazine in low doses) (rarely used)
3. Nausea and vomiting (rarely, in low doses); ondansetron, an anti-emetic drug, is a weak antipsychotic
4. Tic disorders, e.g. Gilles de la Tourette syndrome (e.g. haloperidol, risperidone)

### **Mechanism of Action**

The exact mechanism of action of antipsychotics is unknown. However, one of the major mechanisms appears to be *antidopaminergic activity* of these drugs. Antipsychotic drugs block D<sub>2</sub>-receptors. The relative potencies of these drugs in competing for D<sub>2</sub>-receptors parallel quite closely their clinical potencies. It is currently believed that antipsychotic drugs are effective in treating psychosis due to their action on the D<sub>2</sub>-receptors. However, other neurotransmitters (such as 5-HT, acetylcholine) are clearly implicated.

## **ANTIDEPRESSANT DRUGS**

Antidepressants are those psychotropic drugs which are used for treatment of depressive disorders. These have also been called as mood-elevators and *thymoleptics*. Isoniazid (INH) was found to have mood elevating properties in some patients suffering from tuberculosis in 1951. Iproniazid, a MAO inhibitor and a derivative of INH, was later (1958) introduced for the treatment of depression. The first tricyclic antidepressant (TCA) *imipramine* was used in 1958 by Thomas Kuhn. It was different from phenothiazines by only a replacement of sulphur with an ethylene linkage. With this small structural difference (discovered by chance), imipramine was found not effective as an antipsychotic but instead quite beneficial in depressed patients. Since 1958, the number of antidepressants has been gradually increasing. Antidepressants have no euphoriant effect when administered to normal, non-depressed individuals.

### **Indications**

Presently, the indications for the use of antidepressants include:

#### ***Depression***

1. Depressive episode (also called major depression, endogenous depression)
2. Depressive episode with melancholia (with or without ECTs)
3. Depressive episode with psychotic features (with antipsychotics or ECTs)
4. Dysthymia (with psychotherapy)

5. Reactive depression (with psychotherapy)
6. Depressive equivalents and masked depression (sometimes)
7. Atypical depression (e.g. MAO inhibitors)
8. Secondary depression (e.g. in hypothyroidism, Cushing's syndrome)
9. Abnormal grief reaction

### ***Child Psychiatric Disorders***

1. Enuresis (with or without behaviour therapy)
2. Attention deficit disorder with hyper activity (in low doses, after 6 years of age, when stimulant medication is not available)
3. School phobia (sometimes, in low doses)
4. Separation anxiety disorder (in children)
5. Somnambulism
6. Night terrors

### ***Other Psychiatric Disorders***

1. Panic attacks (e.g. SSRIs)
2. Agoraphobia and social phobia
3. Obsessive compulsive disorder with or without depression (e.g. clomipramine, SSRIs)
4. Cataplexy (associated with narcolepsy)
5. Aggression in elderly (e.g. trazodone)
6. Eating disorders (e.g. fluoxetine in bulimia nervosa)
7. Borderline personality disorder (for treatment of depressive symptoms)
8. Trichotillomania (e.g. clomipramine; fluoxetine)
9. Depersonalisation syndrome
10. Post-traumatic stress disorder (PTSD)
11. Generalised anxiety disorder (e.g. SSRIs)
12. Nicotine dependence (e.g. bupropion is used for treatment of craving)
13. Alcohol dependence (e.g. fluoxetine sometimes used for treatment of craving)

### ***Medical Disorders***

1. Chronic pain (in low doses, e.g. amitriptyline, duloxetine)
2. Migraine (as an adjuvant)

## **MOOD STABILISING DRUGS**

These drugs are usually effective in treatment of mania and therefore the word *antimanic* is often used to describe them. But as they are effective in preventing

mood swings in bipolar disorder, the better term is *mood-stabilising agent* or a *prophylactic agent*. The most commonly used mood-stabilising agents include lithium, valproate, carbamazepine, and lamotrigine, though there are several other experimental mood stabilisers such as oxcarbazepine. Recently, several atypical antipsychotics such as olanzapine, quetiapine and aripiprazole have been added to list of drugs used in *maintenance treatment* of bipolar disorder. In addition, other antipsychotics such as risperidone are also used as antimanic agents.

## **ANTI-ANXIETY DRUGS**

Anti-anxiety drugs, also known as minor tranquilisers and anxiolytics, can be classified as follows:

### **Classification**

#### ***Barbiturates***

Barbiturates can be divided into four main types:

#### ***Long Acting***

The duration of action is more than 8 hours. Examples include phenobarbital.

#### ***Intermediate Acting***

The duration of action is 5-8 hours. Examples include amobarbital and pentobarbital.

#### ***Short Acting***

The duration of action is 1-5 hours. Examples include secobarbital.

#### ***Ultra-Short Acting***

The duration of action is less than 1 hour. Examples include thiopentone and methohexital. Barbiturates are no longer used or recommended as anti-anxiety agents. They produce multiple side effects such as excessive sedation, respiratory and circulatory depression, hepatic enzyme induction, dependence, withdrawal symptoms, rebound increase in REM- sleep on withdrawal, and potential for use in suicide.

#### ***Non-barbiturate, Non-benzodiazepine***

#### ***Anti-anxiety Agents***

These can be further divided into the following categories:

#### ***Carbamates***

The common examples are meprobamate, tybamate and carisoprodol. These are not used commonly due to the potential for abuse and dependence.

### ***Piperidinediones***

An example is glutethimide. This drug too is not used now-a-days due to its dependence potential.

### ***Alcohols***

The examples include ethanol, chloral hydrate and ethchlorvynol. These drugs are highly dependence producing and clearly not recommended.

### ***Quinazoline Derivatives***

An example is methaqualone. Methaqualone had become a street drug (i.e. a drug of abuse) and its use was discontinued as an anti-anxiety agent and a hypnotic.

### ***Anti-histaminics***

The common examples include diphenhydramine, hydroxyzine and promethazine. In past, diphenhydramine was usually combined with methaqualone or diazepam. They may be used as hypnotic-sedatives, but their use as anti-anxiety agents is minimal and probably not safe.

### ***Other Drugs***

The other newer hypnosedative and anti-anxiety drugs include *suriclone* (a cyclopyrrolone derivative; a hypnotic), *bretazenil* and *imidazenil* (partial benzodiazepine agonists; anxiolytic without sedation; rapid onset of action), *abecarnil* ( $\beta$ -carboline partial agonist at benzodiazepine receptor; anxiolytic and anticonvulsant), *tiagabine*, *riluzole*, and *alpidem* (anxiolytic). *Pregabalin* is licensed for treatment of anxiety in some countries. Cognitive behaviour therapy with or without medication is helpful in treatment of several anxiety disorders.