

Depression

- Is a psychiatric disorder, characterized by a pervasive low mood, loss of interest in usual activities and diminished ability to experience pleasure

Antidepressants

- The drugs which elevate mood in depressive illness
- They effect monoaminergic transmission in the brain
- They have a delayed onset of action and are usually taken over the course of weeks

Nutrients for which there are claims of antidepressant activity include

Food containing the following

- Phenylalanine
- Tyrosine,
- Tryptophan
- 5-Hydroxytryptophan
- Choline

Prozac a Selective Serotonin Inhibitor



Classification

Monoamine oxidase inhibitors (MAOIs)

- Isocarboxide
- Nialamide

Reversible inhibitors of MAO-A (RIMAs)

- Moclobemide
- Clorgyline

Tricyclic antidepressants (TCAs)

A) NA + 5-HT reuptake inhibitors

- Imipramine
- Amitriptyline
- Trimipramine
- Doxepin
- Dohiepin
- Clomipramine

B) predominantly NA reuptake inhibitors

- Desipramine
- Nortriptyline
- Amoxapine

c) Antimanic drugs

- Lithium carbonate

New Drugs

Selective serotonin reuptake inhibitors (SSRIs)

- Fluoxetine
- Fluvoxamine
- Paroxetine
- Sertraline
- Citalopram

A Typical Antidepressants

- Trazodone
- Mianserin
- Mirtazapine
- Venlafaxine
- Tineptine
- Amineptine
- Bupropion

Monoamine oxidase inhibitors (MAOIs)

- Iso carboxide
- Nialamide
- Moclobemide
- They are a class of powerful antidepressant drugs
- Prescribed for the treatment of depression
- They are particularly effective in treating a typical depression

- There are two isoforms of monoamine oxidase
 - MAO-A
 - MAO-B
- MAO-A preferentially deaminates serotonin, melatonin, epinephrine and norepinephrine
- MAO-B preferentially deaminates phenylethylamine and trace amines
- Dopamine is equally deaminated by both types

Mode of action

- Act by inhibiting the activity of monoamine oxidase
- Preventing the breakdown of monoamine neurotransmitters, leading to accumulation of monoamines in the brain

Pharmacological Actions of MAO Inhibition

CNS

- These drugs elevate the mood of depressed individuals
- Suicidal tendency is markedly diminished

CVS

- MAO inhibitors like pargyline exert a hypotensive effect

Other effects

- They potentiate the sympathomimetic actions of other amines like amphetamine and ephedrine

Uses

Mainly used for the treatment of

- Depression
- Agoraphobia or social anxiety
- Parkinsons disease
- Migraine prophylaxis

Adverse Effects

- Agitation
- Hallucinations
- Mania
- Peripheral neuropathy
- Hepatocellular damage

Drug Interactions

- MAO inhibitors potentates the actions of barbiturates, general anaesthetics pethidine and other narcotics
- This potentiation persists for at least two weeks after stopping MAOI

Tricyclic Antidepressants

- The first tricyclic antidepressant discovered was imipramine
- They work by inhibiting the re-uptake of the neurotransmitters norepinephrine and serotonin by neurons.
- Tricyclics may also possess an affinity for muscarinic and histamine H₁ receptors to varying degrees

Mainly indicated for the treatment of

- Clinical depression
- Neuropathic pain
- Nocturnal enuresis and
- Attention Deficite Hyperkinetic Disorder (ADHD)

But they have also been used successfully for headache (including migraine headache)

- Anxiety
- Insomnia,
- Smoking cessation
- Bulimia nervosa,
- Irritable bowel syndrome,
- Narcolepsy
- Laughing and
- Persistent hiccups.

Side Effects

- Dry mouth (salivary secretion is affected)
- Dry nose
- Blurred vision (accommodation in the eye is affected)
- Decreased gastro-intestinal motility and secretion
- Leads to constipation
- Urinary retention
- Hyperthermia