

Anti-Anxiety Drugs

Drug	MOA	Pharmacokinetics	Pharmacological Actions	Uses	Adverse effect
Benzodiazepines (BDZ).	By binding to BZ receptors in the brain → enhance GABA action on brain.	Lipid soluble. Well absorbed orally . Can be given parenterally. Chlordiazepoxide-Diazepam (IV only NOT IM). Widely distributed. Cross placental barrier (Fetal depression). Excreted in milk (neonatal depression).	Depression of cognitive & psychomotor function. Sedative & hypnotic actions. Anterograde amnesia . Minimal depressant effects on: Cardiovascular system. Respiratory system. Some have anticonvulsant effect: clonazepam, diazepam	Short term relief of severe anxiety . General anxiety disorder . Obsessive compulsive disorder. Panic attack w ith Depression Alprazolam (anti-depressant effect). Sleep disorders (Insomnia). Triazolam, Lorazepam, Flurazepam . Treatment of epilepsy Diazepam – Lorazepam In anesthesia : Preanesthetic medication (diazepam). Induction of anesthesia (Midazolam, IV).	Ataxia. Cognitive impairment Hangover : (drowsiness, confusion). Tolerance & dependence . Risk of withdrawal symptoms Rebound Insomnia , anorexia, anxiety, agitation, tremors & convulsion. Toxic effects : respiratory & cardiovascular depression in large doses.
SHT_{1A} agonists Bupirone	Agonist at brain SHT _{1A} receptors.	Rapidly absorbed orally . T _{1/2} → 2 – 4 h. Liver dysfunction → ↓ its clearance.	Only anxiolytic . Minimal psychomotor & Cognitive dysfunctions. Does not affect driving skills. Minimal risk of dependence.	In anxiolytic in mild anxiety & generalized anxiety disorders. No hypnotic effect. Not muscle relaxant. Not anticonvulsant. No withdrawal signs. No potentiation of other CNS depressants.	Disadvantages : Slow onset of action. Not effective in severe anxiety/panic disorder. GIT upset, dizziness, drowsiness Drug Interactions with CYP 450 inducers & inhibitors.
SSRIs (SHT reuptake inhibitors). Fluoxetine	By blocking uptake of SHT.	Orally . Delayed onset of action (weeks). Long T _{1/2}		Used for panic disorder – OCD depression . Generalized anxiety disorders – phobia .	Nausea, diarrhea. Weight gain , Dry mouth. Sexual dysfunction, Seizures . Sleep disturbance .
Tricyclic Antidepressants Doxepin Imipramine Desipramine	By reducing uptake of SHT & NA.	Delayed onset of action (weeks).		Used for anxiety especially associated with depression . Effective for panic attacks .	Atropine like actions (dry mouth-blurred vision). α-blocking activity (Postural hypotension). Sexual dysfunction . Weight gain .
beta-adrenergic blockers Propranolol Atenolol	By blocking peripheral sympathetic system.		Reduce somatic symptoms of anxiety. ↓ BP & slow HR.	Used in performance anxiety .	Are less effective for other forms of anxiety.
MAO inhibitors Phenelzine	By blocking the action of MAO enzymes. Require dietary restriction Avoid wine, beer, fermented foods as old cheese that contain tyramine .			Used for panic attacks and phobia	Dry mouth, constipation, diarrhea, restlessness, Dizziness.