6.3: Antidepressants

Antidepressants are commonly used to treat depression but are also used to treat other conditions, such as anxiety, chronic pain, and insomnia. According to a research review by the Agency for Healthcare Research and Quality, antidepressant medications work relatively equally as well to improve symptoms of depression and to keep depression symptoms from coming back. For reasons not yet well understood, some people respond better to certain antidepressant medications than to others, so an individual may have to try different types of antidepressants before finding one that effectively treats their symptoms. Additionally, it may take antidepressants two or more weeks to achieve peak effect.

There are several classes and types of antidepressants, including selective serotonin reuptake inhibitors (SSRIs), serotonin and norepinephrine reuptake inhibitors (SNRIs), norepinephrine and dopamine reuptake inhibitors (NDRIs), serotonin antagonist and reuptake inhibitors, tricyclic antidepressants (TCAs), and monoamine oxidase inhibitors (MAOIs). TCAs and MAOIs are often referred to as first-generation antidepressants because they were first marketed in the 1950s. They have many side effects and are not prescribed as frequently to treat depression as are SSRIs, SNRIs, and bupropion that have fewer side effects.

Selective Serotonin Reuptake Inhibitors

Selective serotonin reuptake inhibitors (SSRIs) prevent the uptake of serotonin at the synapse, causing the serotonin neurotransmitter to stay in the synapse longer and overall raise the level of serotonin in the brain. SSRIs are primarily used to treat depression but are also used to treat bipolar disorder, obsessive-compulsive disorder, bulimia, panic disorder, post-traumatic stress disorder, anxiety, premenstrual syndrome, and migraines. Examples of common SSRIs include fluoxetine, citalopram, sertraline, paroxetine, and escitalopram.
**Serotonin Norepinephrine Reuptake Inhibitor (SNRI)**

Serotonin norepinephrine reuptake inhibitors (SNRI) prevent the reuptake of serotonin and norepinephrine, with weak inhibition of dopamine reuptake. Examples of SNRIs are venlafaxine and duloxetine. [4]

**Norepinephrine and Dopamine Reuptake Inhibitor (NDRI)**

Bupropion is an example of a norepinephrine and dopamine reuptake inhibitor. It is used to treat depressive disorders, seasonal affective disorder, attention deficit disorder and to help people stop smoking. [5]

**Serotonin Antagonist and Reuptake Inhibitor**

Trazodone is an example of a serotonin antagonist and reuptake inhibitor. It is an antidepressant but most commonly prescribed off-label for anxiety or as a hypnotic. Trazodone reduces levels of the neurotransmitters associated with arousal effects, such as serotonin, noradrenaline, dopamine, acetylcholine, and histamine. Low-dose trazodone use exerts a sedative effect for sleep, so is typically administered in the evening. [6]

**Tricyclic Antidepressants**

Tricyclic antidepressants (TCAs) are older first-generation antidepressants that block the reuptake of serotonin and norepinephrine in the synapse, which leads to increased concentration of these neurotransmitters in the brain. They are now more commonly used to treat neuropathic pain and insomnia. An example of a TCA is amitriptyline. [7]

TCAs are often administered at bedtime due to sedating effects. Older adults are particularly sensitive to the anticholinergic side effects of tricyclic antidepressants (e.g., tachycardia, urinary retention, constipation, dry mouth, blurred vision, confusion, psychomotor slowing, sedation, and delirium). Elderly clients should be started on low doses of amitriptyline and observed closely because they are at increased risk for falls. Blockage of adrenergic receptors can cause cardiac conduction disturbances and hypotension. [8]

Death may occur from overdosage with this class of drugs. Multiple drug ingestion (including alcohol) is common in deliberate tricyclic antidepressant overdose. If overdose occurs, call 911 in an outpatient setting or rapid response in an inpatient setting. Responders can consult with a Certified Poison Control Center (1-800-222-1222) or go to https://www.poisonhelp.org/help for the latest treatment recommendations. [9]

**Monoamine Oxidase Inhibitors (MAOI)**

Monoamine oxidase inhibitors (MAOIs) are an older first-generation antidepressant. MAOIs are contraindicated with all other classes of antidepressants. Monoamine oxidase is an enzyme that removes the neurotransmitters norepinephrine, serotonin, and dopamine from the brain. By inhibiting this enzyme, MAOIs cause the levels of these transmitters to increase. Tranylcypromine is an example of an MAOI. [10]
A significant disadvantage to MAOIs is their potential to cause a hypertensive crisis when taken with stimulant medications or foods or beverages containing tyramine. Examples of foods containing tyramine are aged cheese, cured or smoked meats, alcoholic beverages, and soy sauce. Older adults are at increased risk for postural hypotension and serious adverse effects.\[1\]

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Read additional information about mechanism of action, potential adverse effects, and related patient education regarding antidepressants in the “Treatments for Depression” section of the “Depressive Disorders” chapter.

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