Buspirone

Buspirone is primarily prescribed to treat generalized anxiety disorder as the second-line drug of choice after SSRIs and its therapeutic effect typically takes 2 to 4 weeks. Buspirone's primary mechanism of action is through 5-HT1A receptor partial agonism, which causes initial inhibition of serotonergic neuron firing. Buspirone also has secondary dopaminergic and noradrenergic effects, including weak D2 autoreceptor antagonism that may increase dopamine release and dose-dependent activation of locus coeruleus neurons that may increase central noradrenergic activity. Because Buspirone has limited to no significant activity on benzodiazepine GABA receptors and its partial agonism activity on 5-HT1A receptors, it has a minimal side-effect profile. While formal research shows that there is no increased alcohol induced impairments when buspirone is taken, patients are still advised to avoid alcohol during treatment.



PLAY PICMONIC

Indications

Generalized Anxiety

General with Anxiety-bag

Buspirone is primarily prescribed to treat generalized anxiety disorder, and it can also be used for short-term relief of anxiety symptoms. It is considered the second-line drug of choice after SSRIs, often prescribed when a patient poorly responds to SSRIs or has poor tolerance of side effects associated with SSRIs. Buspirone is also an alternative drug of choice to manage anxiety in patients with contraindications to benzodiazepines (Ie: older adults with fall risks or those with substance use disorder). Therapeutic effect typically takes 2 to 4 weeks.

Mechanism of Action

Stimulates 5-HT1A receptors

Turning on 5-HT Silver-tonic Receptors

Buspirone's primary mechanism of action is through 5-HT1A receptor partial agonism. Buspirone has a strong affinity for serotonin 5-HT1A receptors, acting as a partial agonist on those receptors and causing initial inhibition of serotonergic neuron firing. Because there is only partial agonist activity at the 5-HT1A receptor, Buspirone allows for the antidepressant results of an SSRI without the SSRI-induced sexual impairments.

Dopaminergic and Noradrenergic Effects

Doberman and North-epi-pen

The other mechanism of action of Buspirone is its secondary dopaminergic effects. Buspirone has a moderate affinity for D2 dopamine receptors, where it acts as a weak antagonist and may increase dopamine release in certain areas of the brain. Buspirone may also increase central noradrenergic activity in a dose-dependent manner by increasing locus coeruleus neuronal firing, which may increase norepinephrine release and contribute to stimulant-like-side effects.

Side Effects

Low Side Effect Profile

Low Side Fx Sign

Buspirone has a low side effect profile, mainly due to the partial agonism activity on 5-HT1A receptors. Additionally, Buspirone has no significant activity on the benzodiazepine GABA receptors, thereby limiting side-effects like sedation, hypnosis, or muscle relaxation and having no significant risk of physical dependence.

Safer with Alcohol than Other Anxiolytics

Martini Ignored

Because buspirone does not have significant activity on GABA receptors, it does not potentiate the effects of alcohol which does directly act on GABA receptors leading to alcohol induced cognitive impairment. While formal research shows that there is no increased alcohol induced impairments when buspirone is taken, patients are still advised to avoid alcohol during treatment.

Sign up for FREE at picmonic.com