Gabapentin

Gabapentin is a medication indicated for use in to treat different seizure presentations, peripheral neuropathic pain and migraine prophylaxis. Other uses include bipolar disorder and post-herpetic neuralgia, though these are off-label uses. This medication was originally designed to be a GABA analog, but does not act on the same neuronal receptors. The mode by which this medication works as an anticonvulsant and treats pain is not entirely clear, though there are theorized mechanisms of action. It is known, however, that gabapentin inhibits high voltage-gated Ca²⁺ channels, leading to decreased levels of mono-amine neurotransmitters.Patients taking this drug often complain of sedation and feeling sluggish. Another side effect, seen only in a small percentage of users, is ataxia.

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Primary Indication

Seizure Treatment
Caesar
Gabapentin is primarily used as a treatment for seizures. It has anti-convulsant actions against simple and complex partial seizures, as well as tonic-clonic (grand mal) generalized seizures.

Secondary Indications

Peripheral Neuropathy
Purple-wavy Neuron-extremities
This drug is particularly useful for treating peripheral neuropathies in patients, such as chronic neuropathic pain or fibromyalgia.

Postherpetic Neuralgia
Post-harp Nerve-algae
An off-label use of this drug is postherpetic neuralgia, which occurs along dermatomic regions in response to Varicella infections. A gabapentin-related drug, pregabalin, is used more often, however.

Bipolar Disorder
Bi-polar-bear
An off-label use for Gabapentin is as a mood-stabilizer for bipolar disorder. This drug has little activity by itself, and is almost always combined with another mood stabilizing agent when used for this indication.

Migraine Prophylaxis
Mind-rain with Purple-axes
Migraine prophylaxis is an indication which has been highly debated for gabapentin use. This drug is often prescribed as a preventative measure.

Characteristics

Inhibits Voltage-Gated Ca2+ channels
Inhibiting-Chains on Electric-gate Calcium-cow
This drug interacts with high voltage-gated Ca²⁺ channels, inhibiting their action and decreasing mono-amine neurotransmitters. Beyond this mechanism, it is highly debated and mostly unknown how gabapentin works.

Designed as a GABA Analog
GABA-goose On-a-Log
Gabapentin, per its namesake, was designed to be a GABA analog. Further studies revealed that it does not in fact bind to GABA receptors, but primarily works by another mechanism of action which remains to be elucidated. It is important to remember that Gabapentin does NOT bind to GABA receptors.

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Side Effects

Ataxia

A-taxi

Patients taking this medication may describe difficulty with walking, also known as ataxia. Pronounced ataxia is also a sign of gabapentin overdose.

Sedation

Sedation-dart

Patients taking this medication primarily complain of sedation. Often patients will feel mentally sluggish, and a small percentage may complain of ataxia.

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