

# Clozapine (Clozaril)

Clozapine (Clozaril) is an atypical antipsychotic agent (second-generation antipsychotic, SGA) that works by antagonizing serotonergic and dopaminergic receptors. It is indicated for treating schizophrenia, especially in patients in whom other treatments have failed. In patients with Parkinson's disease, this drug can be used to manage levodopa-induced psychosis. Side effects include agranulocytosis, weight gain, and other metabolic effects; thus, weekly lab tests should be done. Patients may complain of sedation and can experience myocarditis or orthostatic hypotension.



**PLAY PICMONIC** 

#### Mechanism

#### **Atypical Antipsychotic**

#### A-tipi Anti-tie-psychiatrist

Clozapine is a second generation atypical antipsychotic drug given to patients who are unresponsive to other atypical medications for the treatment of psychosis. Atypical antipsychotics are less likely to cause extrapyramidal symptoms than typical antipsychotics, like haloperidol.

# **Indications**

#### Schizophrenia

# Sketchy-fern

This medication is used in patients who are intolerant or unresponsive to other therapies for schizophrenia, or those who have treatment-resistant schizophrenia.

### Levodopa-Induced Psychosis

#### Levitating L-Doberman and Psycho in Straight-jacket

Clozapine has also been shown to be effective in treating the psychosis associated with levodopa use in patients with Parkinson's disease. Furthermore, it can also diminish the tremor and dyskinesia associated with Parkinson's disease.

#### **Side Effects**

# Weight Gain

# **Up-arrow Weight-scale**

Clozapine causes significant weight gain and leads to other metabolic effects as well. Patients develop impaired glucose metabolism, leading to diabetes, along with dyslipidemias and metabolic syndrome.

#### Hypersalivation (Sialorrhea)

# Hiker-salivating

A very common side effect of clozapine use is sialorrhea, or hypersalivation, and this is typically dose related. Tolerance to this side effect typically dose not develop, and this may persist for years. Risks of hypersalivation include aspiration, chronic cough and hoarseness when speaking.



#### Myocarditis

#### Mayo-heart-card

Myocarditis is a sometimes fatal side effect of this medication, and is seen in the first month of treatment. Thus, patients should have their C-reactive protein (CRP) and troponin levels monitored for the first four weeks of treatment, in order to assess for possible cardiac damage.

### **Agranulocytosis**

#### A-granny-side-toe

A serious side effect that occurs with this medication is agranulocytosis, or a severe and dangerous decrease in white blood cell count. The cause is unknown. It occurs within the first six months of administration with a gradual onset.

#### **Sedation**

#### Sedation-dart

Due to dopaminergic blockade, this medication can lead to heavy sedation in patients, and this is the most commonly experienced side effect.

#### Orthostatic Hypotension

#### Oar Hippo-BP

Clozapine can lead to the side effect of orthostatic hypotension, with or without associated syncope. This occurs because clozapine has anti alpha 1 adrenergic effects, which may lead to decreased catecholamine release. Clozapine also binds to serotonergic, and cholinergic sites throughout the brain. This may lead to anticholinergic side effects, which could include acute glaucoma, urinary retention, and constipation. Important to note, sialorrhea rather than dry mouth is more common with this medication.

#### Constipation (Risk of Bowel Ileus)

#### Corked Con-toilet

Another common side effect of this medication is constipation. While patients may only complain of abdominal discomfort, this side effect can lead to more treacherous outcomes, such as bowel ileus, gastric outlet obstruction, and peritonitis with bowel infarction or perforation.

#### **Considerations**

### **Weekly Lab Tests**

# Weekly-newspaper with Lab-coat and Test-tubes

Because agranulocytosis is a common fatal side effect, blood lab values are checked often. For the first six months, white blood cell (WBC) levels and absolute neutrophil count (ANC) are checked weekly. For the second six months, they are checked every two weeks. They must continue to be checked for four weeks after discontinuing treatment with the medication. C-reactive protein (CRP) and troponins are also followed because of the risk of myocarditis.