Chlorpromazine (Thorazine)

Chlorpromazine (Thorazine) is a low-potency antipsychotic used to treat schizophrenia, manic phase of bipolar disorder, schizoaffective disorder, and intractable hiccups. Side effects of the medication include sedation, orthostatic hypotension, weight gain, anticholinergic effects, QT prolongation, hiccups, and neuroendocrine effects. This medication should be used with caution in patients at risk for seizures, as it lowers the seizure threshold. Chlorpromazine has a low risk of (early) extrapyramidal reactions, but there is still a risk of tardive dyskinesia (a late reaction), as there is with other first-generation antipsychotics (FGAs).



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Mechanism

Low Potency Antipsychotic
Low Pot Ant-tie-psychiatrist
Chlorpromazine is a low-potency, first-generation antipsychotic (FGA) that works as an antagonist to dopamine in the central nervous system. This medication also exhibits significant anticholinergic and alpha-adrenergic blocking effects. There is a low risk of early extrapyramidal reaction (dystonia, akathisia, parkinsonism); however, symptoms of tardive dyskinesia (involuntary twisting, writhing, worm-like movements of mouth and face; lip-smacking; tongue flicking [fly-catching motion]) can occur.

Indications

Schizophrenia
Sketchy-fern
Schizophrenia is the primary indication for this first-generation antipsychotic medication, though it can also be used to treat bipolar and schizoaffective disorders. Positive symptoms of schizophrenia, such as delusions and hallucinations, may respond better to treatment with chlorpromazine. In comparison, negative symptoms (lack of interest, or lack of facial expression) may not respond as well to this drug. Initial improvement in patient condition with chlorpromazine can occur within one to two days, but significant improvement can take two to four weeks.

Hiccups
Hick-cup
Chlorpromazine is the only medication approved for hiccups by the US Food and Drug Administration, and for many years was the drug of choice in treating intractable hiccups. Because of this medication's side effect profile, it is no longer a first-line agent, and other drug classes, and combinations are preferred over chlorpromazine.

Side Effects

Sedation
Sedation-dart
Sedation is a common side effect seen during the first few days of treatment with chlorpromazine; however, this symptom typically goes away after one week of treatment.

Weight Gain
Up-arrow Scale
Chlorpromazine can have moderate metabolic effects, including weight gain, and subsequently, an increased risk of diabetes and dyslipidemia. This is one of the most common side effects, and an often-cited reason for noncompliance among patients.

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Orthostatic Hypotension

Oar Hippo-BP

Orthostatic hypotension occurs when blood pressure falls upon standing. Due to the alpha-adrenergic blockade caused by chlorpromazine, blood vessels are unable to vasoconstrict, a mechanism needed to increase blood pressure. Patients should be advised to stand up slowly, or to sit or lie down, if they feel dizzy upon standing.

Anticholinergic Effects

Ant-tie-cola

Anticholinergic drugs work by blocking acetylcholine, which in turn inhibits parasympathetic nerve activity. The parasympathetic nervous system is responsible for activities such as digestion, pupil constriction, and elimination of wastes. Therefore, suppression or inhibition of this system results in symptoms such as dry mouth, blurred vision, photophobia, urinary retention, constipation, and tachycardia in patients taking chlorpromazine.

QT Prolongation

QT-heart Prolonged

The QT interval on an electrocardiogram (EKG) represents the depolarization and repolarization of the cardiac ventricles. A prolonged QT interval poses a serious risk of cardiac problems, including Torsades de Pointes, which is a serious arrhythmia that can lead to fatal ventricular tachycardia.

Neuroendocrine Effects

Nerve-endocrine glands

Dopamine functions to inhibit prolactin release. Because chlorpromazine functions as a dopamine antagonist, prolactin levels subsequently increase in patients taking antipsychotic medications. Higher levels of circulating prolactin can induce breast growth (gynecomastia) and promote nipple discharge (galactorrhea) in both men and women. Menstrual irregularities are also common among women taking antipsychotics.

Caution in Seizure Patients

Caution-tape Caesar

First-generation antipsychotics (FGAs) can lower the seizure threshold in patients, thus increasing the risk of seizures. Patients with known seizure disorders, such as epilepsy, should be monitored closely for development of seizures. If this does occur, the patient's provider should increase their anti-seizure medication dosage.

Corneal Deposits

Corn-eyes

Long term or high dosages of chlorpromazine may lead to deposits in corneal tissues, as well as the formation of cataracts.

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