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Brand Names

ANX , Atarax, Hyzine , Rezine, Vistaril, Vistaril Solution, Vistaril Suspension

Indication Specific Dosing

For the short-term treatment of anxiety, tension, and psychomotor agitation in conditions of emotional stress

Oral dosage

Adults

50 to 100 mg PO 4 times daily as needed, adjusted to patient response.

Geriatric Adults

50 to 100 mg PO 4 times daily as needed is the usual adult dose, adjusted to patient response. In general, begin with a lower dose in the geriatric adult and monitor closely as hydroxyzine may cause confusion and oversedation in the elderly.

Children and Adolescents 6 to 17 years

50 to 100 mg/day PO, given in divided doses (e.g., 4 times daily). Efficacy has not been proven in pediatric patients with generalized anxiety disorder; guidelines do not recommend use.

Children 1 to 5 years

50 mg/day PO, given in divided doses (e.g., 4 times daily). Max: 2 mg/kg/day in pediatric patients weighing 40 kg or less has been recommended due to the risk of cardiac arrhythmia. Efficacy has not been proven in pediatric patients with generalized anxiety disorder; guidelines do not recommend use.

Intramuscular dosage

Adults

50 to 100 mg IM initially, may repeat every 4 to 6 hours as needed. Switch to oral therapy when practicable.

Geriatric Adults

50 to 100 mg IM initially, may repeat every 4 to 6 hours as needed. In general, begin with a lower dose in the geriatric adult and monitor closely as hydroxyzine may cause confusion and oversedation in the elderly. Switch to oral therapy when practicable.

For the short term treatment of insomnia

Oral dosage

Adults

50 to 100 mg PO given 30 to 60 minutes before bedtime is the suggested dosage from studies. Lower dosages of 25 mg at bedtime have had mixed efficacy. Hydroxyzine is not usually a drug of choice for insomnia per guidelines.

Geriatric Adults

50 to 100 mg PO given 30 to 60 minutes before bedtime. In general, initiate with the lower dose and closely monitor. Hydroxyzine is not usually a drug of choice for insomnia per guidelines; the elderly are particularly sensitive to anticholinergic effects, cognitive impairment, and oversedation.

For the treatment of pruritus due allergic conditions, such as chronic urticaria (e.g., chronic spontaneous urticaria), atopic dermatitis, or contact dermatitis, and histamine-mediated pruritus

Oral dosage

Adults

25 mg PO 3 to 4 times daily as needed.

Children and Adolescents 6 to 17 years

50 to 100 mg/day PO in 3 to 4 divided doses as needed.

Children 1 to 5 years weighing more than 40 kg

50 mg/day PO in 3 to 4 divided doses as needed.

Children 1 to 5 years weighing 40 kg or less

50 mg/day PO in 3 to 4 divided doses as needed. A maximum of 2 mg/kg/day is recommended due to the risk of cardiac arrhythmia.

For the treatment of nausea/vomiting, excluding the nausea and vomiting of pregnancy

Intramuscular dosage

Adults

25 to 100 mg IM once.

Children and Adolescents

1.1 mg/kg (Max: 100 mg) IM once.

For post-operative nausea/vomiting (PONV) and post-operative nausea/vomiting (PONV) prophylaxis

Intramuscular dosage

Adults

25 to 100 mg IM once. Hydroxyzine is not recommended in clinical guidelines for the management of postoperative nausea and vomiting.

Children and Adolescents

1.1 mg/kg (Max: 100 mg) IM once. Hydroxyzine is not recommended in clinical guidelines for the management of postoperative nausea and vomiting.

For procedural sedation including as an adjunctive therapy to reduce anxiety and narcotic dosage pre- and postoperative or pre- and postpartum

Oral dosage

Adults

50 to 100 mg PO once.

Children and Adolescents

0.6 mg/kg (Max: 100 mg) PO once.

Intramuscular dosage

Adults

25 to 100 mg IM once.

Children and Adolescents

1.1 mg/kg (Max: 100 mg) IM once.

For the treatment of seasonal allergic rhinitis (seasonal allergies)

Oral dosage

Adults

Hydroxyzine is not commonly used for this purpose. Up to 150 mg/day PO, given in divided doses, has been reported effective for seasonal allergies. Drowsiness and dry mouth are frequently reported.

For the treatment of interstitial cystitis

Oral dosage

Adults

10 to 25 mg PO once daily at bedtime, initially. May increase the dose up to 75 mg PO once daily based on clinical response.

Adolescents

10 to 25 mg PO once daily at bedtime, initially. May increase the dose up to 75 mg PO once daily based on clinical response.

Children

5 to 10 mg PO once daily at bedtime.

Contraindications And Precaution

Drug Interactions

The coadministration of certain medications may lead to harm and require avoidance or therapy modification; review all drug interactions prior to concomitant use of other medications.

Hypersensitivity

This medication is contraindicated in patients with a history of hypersensitivity to it or any of its components. Also, hydroxyzine is contraindicated in individuals with a cetirizine hypersensitivity or levocetirizine hypersensitivity, as these are known human metabolites of hydroxyzine.

dialysis, renal failure, renal impairment

Use hydroxyzine with caution in patients with moderate to severe renal impairment or renal failure. Cetirizine, the active metabolite of hydroxyzine, may accumulate in people with end-stage renal disease. Although not discussed in the product labels, an initial dosage reduction of hydroxyzine has been recommended for people with reduced renal function based on creatinine clearance.

bradycardia, cardiomyopathy, congenital long QT syndrome, coronary artery disease, females, hypocalcemia, hypokalemia, hypomagnesemia, QT prolongation

Hydroxyzine is contraindicated in people with baseline QT prolongation. Use caution in people who have conditions that may increase the risk of QT prolongation or torsade de pointes, including bradycardia, congenital long QT syndrome, hypocalcemia, hypokalemia, hypomagnesemia, geriatric adults, females, structural abnormalities that interfere with electrical conduction (e.g., cardiomyopathy, coronary artery disease, ischemic heart disease), or in those who have other additional risk factors for QT prolongation or torsade de pointes. The use of other medications that have been associated with QT prolongation or torsade de pointes may further increase risk.

activities requiring coordination and concentration, driving or operating machinery

Because hydroxyzine may cause drowsiness, caution individuals against driving or operating machinery or doing other activities requiring coordination and concentration, until they are reasonably certain the medication does not affect them adversely. The concurrent use of alcohol, sedative/hypnotics, opioids or other agents may have additive CNS effects.

geriatric

The Beers Criteria identifies first-generation antihistamines as potentially inappropriate medications (PIMs) for geriatric adults, recommending their avoidance due to their high anticholinergic properties, decreased clearance in older age, the development of tolerance when used as sleep aids, and an increased risk of anticholinergic effects and toxicity compared to younger individuals. These medications should particularly be avoided in patients with dementia or cognitive impairment (due to adverse CNS effects), those at high risk for delirium (which can worsen or trigger new-onset delirium), and men with lower urinary tract symptoms or benign prostatic hyperplasia (due to risks of urinary retention or hesitancy). The extent of renal excretion of hydroxyzine has not been determined. Because geriatric adults are more likely to have decreased renal function, care should be taken in dose selection. Sedating drugs may cause confusion and over sedation in the older adult; geriatric individuals generally should be started on low doses of hydroxyzine and observed closely.

pregnancy

Hydroxyzine is contraindicated in early pregnancy, based on the lack of adequate human study and the fact that the drug is teratogenic in mice, rats, and rabbits. No adequately large, controlled, prospective studies exist for the use of hydroxyzine in early human pregnancy. However, prospective data of adequate sample size are not available to draw absolute conclusions. Seizures, thought to be due to hydroxyzine withdrawal, have also been reported in a newborn whose mother was taking hydroxyzine during the third trimester.

breast-feeding

Caution is recommended if hydroxyzine is used during breast-feeding. It is unknown whether hydroxyzine is excreted into breast milk; however, the molecular weight of the drug is low enough that excretion into breast milk should be expected. The effects of the drug on the nursing infant are unknown. In general, many first-generation antihistamines are not recommended for use during lactation, since irritability, drowsiness, unusual excitement or other infant effects might be observed. Antihistamines can lower basal prolactin secretion and may interfere with the establishment of lactation. Consider alternatives. Some guidelines recommend loratadine or cetirizine at the lowest dose as preferred antihistamines in breast-feeding individuals because they are safe with only low levels found in breast milk.

Pregnancy And Lactation

Hydroxyzine is contraindicated in early pregnancy, based on the lack of adequate human study and the fact that the drug is teratogenic in mice, rats, and rabbits. No adequately large, controlled, prospective studies exist for the use of hydroxyzine in early human pregnancy. However, prospective data of adequate sample size are not available to draw absolute conclusions. Seizures, thought to be due to hydroxyzine withdrawal, have also been reported in a newborn whose mother was taking hydroxyzine during the third trimester.

Interactions

Acetaminophen; Caffeine; Dihydrocodeine: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Acetaminophen; Codeine: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Avoid prescribing opioid cough medications in patients taking hydroxyzine. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Acetaminophen; HYDROcodone: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Avoid prescribing opioid cough medications in patients taking hydroxyzine. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Acetaminophen; oxyCODONE: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Adagrasib: (Major) Concomitant use of adagrasib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte

monitoring and repletion and ECG monitoring, if concomitant use is necessary.

ALFentanil: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Alfuzosin: (Moderate) Concomitant use of hydroxyzine and alfuzosin may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Alosetron: (Moderate) Alosetron, if combined with drugs that possess anticholinergic properties like sedating H1 blockers, may seriously worsen constipation, leading to events such as GI obstruction/impaction or paralytic ileus.

ALPRAZolam: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased sedation or respiratory depression) of either agent. Use caution with this combination.

Amantadine: (Moderate) Medications with significant anticholinergic activity may potentiate the anticholinergic effects of amantadine, and may increase the risk of antimuscarinic-related side effects. Additive drowsiness may also occur.

Amiodarone: (Major) Concomitant use of hydroxyzine and amiodarone increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary. Due to the extremely long half-life of amiodarone, a drug interaction is possible for days to weeks after drug discontinuation.

Amisulpride: (Major) Monitor ECGs for QT prolongation when amisulpride is administered with hydroxyzine. Amisulpride causes dose- and concentration- dependent QT prolongation. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP.

Amitriptyline: (Moderate) Monitor for unusual drowsiness and sedation, urinary retention, and reduced gastric motility during coadministration of hydroxyzine and tricyclic antidepressants. Concomitant use may result in additive CNS depression or anticholinergic effects.

Amivantamab; Hyaluronidase: (Minor) H1-blockers (antihistamines), when given in large systemic doses, may render tissues partially resistant to the action of hyaluronidase. Patients receiving these medications may require larger amounts of hyaluronidase for equivalent dispersing effect.

Amobarbital: (Major) Because hydroxyzine can cause pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including barbiturates.

Amoxapine: (Moderate) Additive anticholinergic effects may be seen when amoxapine is used concomitantly with drugs known to possess relatively significant antimuscarinic properties, including sedating H1-blockers. Antimuscarinic effects might be seen not only on GI smooth muscle, but also on bladder function, the eye, and temperature. Additive sedation may also occur.

Amoxicillin; Clarithromycin; Omeprazole: (Major) Concomitant use of hydroxyzine and clarithromycin increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Amphetamine: (Moderate) Amphetamines may pharmacodynamically counteract the sedative properties of some antihistamines, such as the sedating H1-blockers (i.e., diphenhydramine). This effect may be clinically important if a patient is receiving an antihistamine agent for treatment of insomnia. Alternatively, if a patient is receiving an amphetamine for treatment of narcolepsy, the combination with a sedating antihistamine may reverse the action of the amphetamine.

Amphetamine; Dextroamphetamine Salts: (Moderate) Amphetamines may pharmacodynamically counteract the sedative properties of some antihistamines, such as the sedating H1-blockers (i.e., diphenhydramine). This effect may be clinically important if a patient is receiving an antihistamine agent for treatment of insomnia. Alternatively, if a patient is receiving an amphetamine for treatment of narcolepsy, the combination with a sedating antihistamine may reverse the action of the amphetamine.

Amphetamine; Dextroamphetamine: (Moderate) Amphetamines may pharmacodynamically counteract the sedative properties of some antihistamines, such as the sedating H1-blockers (i.e., diphenhydramine). This effect may be clinically important if a patient is receiving an antihistamine agent for treatment of insomnia. Alternatively, if a patient is receiving an amphetamine for treatment of narcolepsy, the combination with a sedating antihistamine may reverse the action of the amphetamine.

Anagrelide: (Major) Do not use anagrelide with other drugs that prolong the QT interval, such as hydroxyzine. Torsade de pointes (TdP) and ventricular tachycardia have been reported with anagrelide; dose-related increases in mean QTc and heart rate were observed in healthy subjects. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP.

Apomorphine: (Moderate) Caution is recommended if hydroxyzine is administered with apomorphine due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, because hydroxyzine causes pronounced sedation, an

enhanced CNS depressant effect may occur when it is combined with other CNS depressants including apomorphine. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Dose-related QTc prolongation is associated with therapeutic apomorphine exposure.

Apraclonidine: (Minor) No specific drug interactions were identified with systemic agents and apraclonidine during clinical trials. Theoretically, apraclonidine might potentiate the effects of CNS depressant drugs such as the anxiolytics, sedatives, and hypnotics, including barbiturates or benzodiazepines.

ARIPIprazole: (Moderate) Concomitant use of aripiprazole and hydroxyzine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP. Also, monitor for unusual drowsiness and sedation during coadministration due to the risk for additive CNS depression.

Arsenic Trioxide: (Major) Avoid coadministration of hydroxyzine and arsenic trioxide due to the potential for additive QT prolongation and risk of torsade de pointes (TdP); discontinue or select an alternative drug that does not prolong the QT interval prior to starting arsenic trioxide therapy. Monitor ECG frequently if coadministration is required. QT interval prolongation, TdP, and complete atrioventricular block have been reported with arsenic trioxide use. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP.

Artemether; Lumefantrine: (Major) Avoid coadministration of hydroxyzine and artemether; lumefantrine due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). Monitor ECG for QT prolongation if coadministration is required. Artemether; lumefantrine is associated with QT interval prolongation. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP.

Asenapine: (Major) Avoid coadministration of hydroxyzine and asenapine due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). Additive CNS depression may also occur. Asenapine has been associated with QT prolongation.

Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP.

Aspirin, ASA; Butalbital; Caffeine: (Major) Because hydroxyzine can cause pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including barbiturates.

Aspirin, ASA; Caffeine; Orphenadrine: (Moderate) Additive anticholinergic effects may be seen when drugs with anticholinergic properties, like sedating H1-blockers and orphenadrine, are used concomitantly. Adverse effects may be seen not only on GI smooth muscle, but also on bladder function, the CNS, the eye, and temperature regulation. Additive drowsiness may also occur.

Aspirin, ASA; Carisoprodol; Codeine: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Avoid prescribing opioid

cough medications in patients taking hydroxyzine. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression. (Moderate) Carisoprodol is metabolized to meprobamate, a significant CNS depressant.

Carisoprodol can cause additive CNS depression if used concomitantly with other CNS depressants. Additive effects of sedation and dizziness, which can impair the ability to undertake tasks requiring mental alertness, may occur if carisoprodol is taken with sedating H1-blockers. Utilize appropriate caution if carisoprodol is coadministered with another CNS depressant.

Aspirin, ASA; oxyCODONE: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Atezolizumab; Hyaluronidase: (Minor) H1-blockers (antihistamines), when given in large systemic doses, may render tissues partially resistant to the action of hyaluronidase. Patients receiving these medications may require larger amounts of hyaluronidase for equivalent dispersing effect.

Atomoxetine: (Moderate) Concomitant use of atomoxetine and hydroxyzine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Atropine: (Moderate) Monitor for unusual drowsiness or excess sedation and for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and atropine use. Concomitant use may result in additive CNS depression or anticholinergic adverse effects.

Atropine; Difenoxin: (Moderate) An enhanced CNS depressant effect may occur when diphenoxylate/difenoxin is combined with other CNS depressants.

Diphenoxylate/difenoxin decreases GI motility. Other drugs that also decrease GI motility, such as sedating H1 blockers, may produce additive effects with diphenoxylate/difenoxin if used concomitantly. (Moderate) Monitor for unusual drowsiness or excess sedation and for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and atropine use. Concomitant use may result in additive CNS depression or anticholinergic adverse effects.

Azelastine: (Major) Avoid concomitant use of azelastine and sedating H1-blockers due to risk for additive CNS depression.

Azelastine; Fluticasone: (Major) Avoid concomitant use of azelastine and sedating H1-blockers due to risk for additive CNS depression.

Azithromycin: (Major) Concomitant use of azithromycin and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Baclofen: (Moderate) An enhanced CNS depressant effect may occur when sedating H1-blockers are combined with other CNS depressants including skeletal muscle relaxants, such as baclofen.

Barbiturates: (Major) Because hydroxyzine can cause pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including barbiturates.

Bedaquiline: (Major) Monitor ECGs if bedaquiline is coadministered with hydroxyzine. Discontinue bedaquiline if evidence of serious ventricular arrhythmia or QTcF interval greater than 500 ms. Bedaquiline prolongs the QT interval. Postmarketing data indicate that hydroxyzine causes QT prolongation and torsade de pointes.

Belladonna; Opium: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression. (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and belladonna use. Concomitant use may result in additive anticholinergic adverse effects.

Benzgalantamine: (Moderate) Concurrent use of sedating H1-blockers and galantamine should be avoided if possible. Galantamine inhibits acetylcholinesterase, the enzyme responsible for the degradation of acetylcholine, and improves the availability of acetylcholine. Sedating H1-blockers may exhibit significant anticholinergic activity, thereby interfering with the therapeutic effect of galantamine.

Benzhydrocodone; Acetaminophen: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Benzodiazepines: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased sedation or respiratory depression) of either agent. Use caution with this combination.

Benzoic Acid; Hyoscyamine; Methenamine; Methylene Blue; Phenyl Salicylate:

(Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and hyoscyamine use. Concomitant use may result in additive anticholinergic adverse effects.

Benzphetamine: (Moderate) Amphetamines may pharmacodynamically counteract the sedative properties of some antihistamines, such as the sedating H1-blockers. This effect may be clinically important if a patient is receiving an antihistamine agent for treatment of insomnia. Alternatively, if a patient is receiving an amphetamine for treatment of narcolepsy, the combination with a sedating antihistamine may reverse the action of the amphetamine.

Benztropine: (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and benztropine use. Concomitant use may result in additive anticholinergic adverse effects.

Bismuth Subcitrate Potassium; metroNIDAZOLE; Tetracycline: (Moderate) Concomitant use of metronidazole and hydroxyzine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Bismuth Subsalicylate; metroNIDAZOLE; Tetracycline: (Moderate) Concomitant use of metronidazole and hydroxyzine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP. Budesonide; Glycopyrrolate; Formoterol: (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and glycopyrrolate use. Concomitant use may result in additive anticholinergic adverse effects.

Buprenorphine: (Major) Concomitant use of hydroxyzine and buprenorphine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary. In addition, if concomitant use is necessary, consider a dose reduction of one or both drugs because of the potential for additive pharmacological effects. Hypotension, profound sedation, coma, respiratory depression, or death may occur during co-administration of buprenorphine and other CNS depressants. Prior to concurrent use of buprenorphine in patients taking a CNS depressant, assess the level of tolerance to CNS depression that has developed, the duration of use, and the patient's overall response to treatment. Evaluate the patient's use of alcohol or illicit drugs. It is recommended that the injectable buprenorphine dose be halved for patients who receive other drugs with CNS depressant effects; for the buprenorphine transdermal patch, start with the 5

mcg/hour patch. Monitor patients for sedation or respiratory depression.

Buprenorphine; Naloxone: (Major) Concomitant use of hydroxyzine and buprenorphine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary. In addition, if concomitant use is necessary, consider a dose reduction of one or both drugs because of the potential for additive pharmacological effects.

Hypotension, profound sedation, coma, respiratory depression, or death may occur during co-administration of buprenorphine and other CNS depressants. Prior to concurrent use of buprenorphine in patients taking a CNS depressant, assess the level of tolerance to CNS depression that has developed, the duration of use, and the patient's overall response to treatment. Evaluate the patient's use of alcohol or illicit drugs. It is recommended that the injectable buprenorphine dose be halved for patients who receive other drugs with CNS depressant effects; for the buprenorphine transdermal patch, start with the 5 mcg/hour patch. Monitor patients for sedation or respiratory depression.

Butalbital; Acetaminophen: (Major) Because hydroxyzine can cause pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including barbiturates.

Butalbital; Acetaminophen; Caffeine: (Major) Because hydroxyzine can cause pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including barbiturates.

Butalbital; Acetaminophen; Caffeine; Codeine: (Major) Because hydroxyzine can cause pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including barbiturates. (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Avoid prescribing opioid cough medications in patients taking hydroxyzine. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Butalbital; Aspirin; Caffeine; Codeine: (Major) Because hydroxyzine can cause pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including barbiturates. (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence.

Avoid prescribing opioid cough medications in patients taking hydroxyzine. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical

effect. Educate patients about the risks and symptoms of excessive CNS depression.

Butorphanol: (Moderate) Concomitant use of butorphanol with sedating H1-blockers can potentiate the effects of butorphanol on CNS and/or respiratory depression. Use together with caution. If a CNS depressant needs to be used with butorphanol, use the smallest effective dose and the longest dosing frequency of butorphanol.

Cabotegravir; Rilpivirine: (Moderate) Concomitant use of hydroxyzine and rilpivirine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP. The degree of QT prolongation associated with rilpivirine is not clinically significant when administered within the recommended dosage range; QT prolongation has been described at 3 times the maximum recommended dose.

Calcium, Magnesium, Potassium, Sodium Oxybates: (Contraindicated) Sodium oxybate should not be used in combination with CNS depressant anxiolytics, sedatives, and hypnotics or other sedative CNS depressant drugs.

Cannabidiol: (Moderate) Monitor for excessive sedation and somnolence during coadministration of cannabidiol and sedating H1-blockers. CNS depressants can potentiate the effects of cannabidiol.

Capsaicin; Metaxalone: (Moderate) Concomitant administration of metaxalone with other CNS depressants can potentiate the sedative effects of either agent.

Carbidopa; Levodopa; Entacapone: (Moderate) COMT inhibitors should be given cautiously with other agents that cause CNS depression, including sedating H1-blockers, due to the possibility of additive sedation. COMT inhibitors have also been associated with sudden sleep onset during activities of daily living such as driving, which has resulted in accidents in some cases. Prescribers should re-assess patients for drowsiness or sleepiness regularly throughout treatment, especially since events may occur well after the start of treatment. Patients should be advised to avoid driving or other tasks requiring mental alertness until they know how the combination affects them.

Cariprazine: (Moderate) Due to the CNS effects of cariprazine, caution should be used when cariprazine is given in combination with other centrally-acting medications including benzodiazepines and other anxiolytics, sedatives, and hypnotics like hydroxyzine.

Carisoprodol: (Moderate) Carisoprodol is metabolized to meprobamate, a significant CNS depressant. Carisoprodol can cause additive CNS depression if used concomitantly with other CNS depressants. Additive effects of sedation and dizziness, which can impair the ability to undertake tasks requiring mental alertness, may occur if carisoprodol is taken with sedating H1-blockers. Utilize appropriate caution if carisoprodol is coadministered with another CNS depressant.

Celecoxib; Tramadol: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Cenobamate: (Moderate) Monitor for excessive sedation and somnolence during coadministration of cenobamate and sedating H1-blockers. Concurrent use may result in additive CNS depression.

Ceritinib: (Major) Avoid coadministration of ceritinib with hydroxyzine if possible due to the risk of QT prolongation. If concomitant use is unavoidable, periodically monitor ECGs and electrolytes; an interruption of ceritinib therapy, dose reduction, or discontinuation of therapy may be necessary if QT prolongation occurs. Ceritinib causes concentration-dependent prolongation of the QT interval. Postmarketing data indicate that hydroxyzine also causes QT prolongation and torsade de pointes (TdP).

Cetirizine: (Moderate) Monitor for unusual drowsiness and sedation, urinary retention, and reduced gastric motility during coadministration of cetirizine and sedating H1-blockers. Concomitant use may result in additive CNS depression or anticholinergic effects.

Cetirizine; Pseudoephedrine: (Moderate) Monitor for unusual drowsiness and sedation, urinary retention, and reduced gastric motility during coadministration of cetirizine and sedating H1-blockers. Concomitant use may result in additive CNS depression or anticholinergic effects.

Chlorcyclizine: (Moderate) Drugs that can cause CNS depression, if used concomitantly with iloperidone, may increase both the frequency and the intensity of adverse effects such as drowsiness, sedation, and dizziness. Caution should be used when iloperidone is given in combination with other centrally-acting medications, such as sedating H1-blockers.

chlordiazepoxide: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased sedation or respiratory depression) of either agent. Use caution with this combination.

chlordiazepoxide; Amitriptyline: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased sedation or respiratory depression) of either agent. Use caution with this combination. (Moderate) Monitor for unusual drowsiness and sedation, urinary retention, and reduced gastric motility during coadministration of hydroxyzine and tricyclic antidepressants. Concomitant use may result in additive CNS depression or anticholinergic effects.

chlordiazepoxide; Clidinium: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased sedation or respiratory depression) of either agent. Use caution with this combination.

Chloroquine: (Major) Concomitant use of hydroxyzine and chloroquine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Chlorpheniramine; Codeine: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Avoid prescribing opioid cough medications in patients taking hydroxyzine. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Chlorpheniramine; HYDROcodone: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Avoid prescribing opioid cough medications in patients taking hydroxyzine. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

chlorproMAZINE: (Major) Concomitant use of hydroxyzine and chlorpromazine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Chlorzoxazone: (Moderate) Additive CNS depression is possible if chlorzoxazone is used concomitantly with other CNS depressants including sedating H1-blockers. Additive effects of sedation and dizziness can occur, which can impair the ability to undertake tasks requiring mental alertness. Dosage adjustments of one or both medications may be necessary.

Ciprofloxacin: (Moderate) Concomitant use of ciprofloxacin and hydroxyzine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Cisapride: (Contraindicated) Avoid concomitant use of hydroxyzine and cisapride due to an increased risk for torsade de pointes (TdP) and QT/QTc prolongation.

Citalopram: (Major) Concomitant use of citalopram and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte

monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Clarithromycin: (Major) Concomitant use of hydroxyzine and clarithromycin increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

cloBAZam: (Moderate) Clobazam, a benzodiazepine, may cause drowsiness or other CNS effects. Additive drowsiness may occur when clobazam is combined with CNS depressants such as sedating H1-blockers. In addition, caution is recommended when administering clobazam with medications extensively metabolized by CYP2D6 such as diphenhydramine because clobazam has been shown to inhibit CYP2D6 in vivo and may increase concentrations of drugs metabolized by this enzyme.

Clofazimine: (Moderate) Concomitant use of clofazimine and hydroxyzine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

clomiPRAMINE: (Moderate) Monitor for unusual drowsiness and sedation, urinary retention, and reduced gastric motility during coadministration of hydroxyzine and tricyclic antidepressants. Concomitant use may result in additive CNS depression or anticholinergic effects.

clonazePAM: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased sedation or respiratory depression) of either agent. Use caution with this combination.

Clorazepate: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased sedation or respiratory depression) of either agent. Use caution with this combination.

cloZAPine: (Major) Caution is recommended if hydroxyzine is administered with clozapine due to the potential for additive QT prolongation, increased risk of torsade de pointes (TdP), significant sedation, and anticholinergic effects. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Treatment with clozapine has been associated with QT prolongation, TdP, cardiac arrest, and sudden death.

Codeine: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Avoid prescribing opioid cough medications in patients taking hydroxyzine. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Codeine; Dexbrompheniramine: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Avoid prescribing opioid cough medications in patients taking hydroxyzine. Limit the use of opioid pain

medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Codeine; guaiFENesin: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Avoid prescribing opioid cough medications in patients taking hydroxyzine. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Codeine; guaiFENesin; Pseudoephedrine: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Avoid prescribing opioid cough medications in patients taking hydroxyzine. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Codeine; Phenylephrine; Promethazine: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Avoid prescribing opioid cough medications in patients taking hydroxyzine. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression. (Moderate) Concomitant use of hydroxyzine and promethazine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients as well as additive anticholinergic adverse effects and CNS depression. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP, and monitor for signs and symptoms of anticholinergic toxicity and unusual drowsiness and sedation.

Codeine; Promethazine: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Avoid prescribing opioid cough medications in patients taking hydroxyzine. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression. (Moderate) Concomitant use of hydroxyzine and promethazine may increase the risk of QT/QTc prolongation and

torsade de pointes (TdP) in some patients as well as additive anticholinergic adverse effects and CNS depression. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP, and monitor for signs and symptoms of anticholinergic toxicity and unusual drowsiness and sedation.

COMT inhibitors: (Moderate) COMT inhibitors should be given cautiously with other agents that cause CNS depression, including sedating H1-blockers, due to the possibility of additive sedation. COMT inhibitors have also been associated with sudden sleep onset during activities of daily living such as driving, which has resulted in accidents in some cases. Prescribers should re-assess patients for drowsiness or sleepiness regularly throughout treatment, especially since events may occur well after the start of treatment. Patients should be advised to avoid driving or other tasks requiring mental alertness until they know how the combination affects them.

Crizotinib: (Major) Avoid coadministration of crizotinib with hydroxyzine due to the risk of QT prolongation. If concomitant use is unavoidable, monitor ECGs for QT prolongation and monitor electrolytes. An interruption of therapy, dose reduction, or discontinuation of therapy may be necessary for crizotinib if QT prolongation occurs. Crizotinib has been associated with concentration-dependent QT prolongation.

Postmarketing data indicate that hydroxyzine also causes QT prolongation and torsade de pointes (TdP).

Cyclobenzaprine: (Moderate) Monitor for unusual drowsiness and sedation, urinary retention, and reduced gastric motility during coadministration of cyclobenzaprine and hydroxyzine. Concomitant use may result in additive CNS depression or anticholinergic effects.

Dantrolene: (Moderate) Because sedating H1-blockers cause sedation, an enhanced CNS depressant effect (e.g., drowsiness) may occur when dantrolene is combined with other CNS depressants.

Daratumumab; Hyaluronidase: (Minor) H1-blockers (antihistamines), when given in large systemic doses, may render tissues partially resistant to the action of hyaluronidase. Patients receiving these medications may require larger amounts of hyaluronidase for equivalent dispersing effect.

Dasatinib: (Moderate) Concomitant use of hydroxyzine and dasatinib may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Degarelix: (Moderate) Concomitant use of hydroxyzine and androgen deprivation therapy (i.e., degarelix) may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc

interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Desflurane: (Major) Caution is recommended if hydroxyzine is administered with halogenated anesthetics due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, because hydroxyzine causes pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including halogenated anesthetics. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Halogenated anesthetics can prolong the QT interval.

Desipramine: (Moderate) Monitor for unusual drowsiness and sedation, urinary retention, and reduced gastric motility during coadministration of hydroxyzine and tricyclic antidepressants. Concomitant use may result in additive CNS depression or anticholinergic effects.

Desloratadine: (Minor) Although desloratadine is considered a 'non-sedating' antihistamine, dose-related sedation has been noted. For this reason, it would be prudent to monitor for drowsiness during concurrent use of desloratadine with CNS depressants such as other H1-blockers.

Desloratadine; Pseudoephedrine: (Minor) Although desloratadine is considered a 'non-sedating' antihistamine, dose-related sedation has been noted. For this reason, it would be prudent to monitor for drowsiness during concurrent use of desloratadine with CNS depressants such as other H1-blockers.

Deutetrabenazine: (Moderate) Caution is recommended if hydroxyzine is administered with deutetrabenazine. Postmarketing data indicate that hydroxyzine causes QT prolongation and torsade de pointes (TdP). Deutetrabenazine may prolong the QT interval, but the degree of QT prolongation is not clinically significant when deutetrabenazine is administered within the recommended dosage range. Also, monitor for excessive sedation and somnolence during coadministration of hydroxyzine and deutetrabenazine. Concurrent use may result in additive CNS depression.

dexmedeTOMIDine: (Moderate) Concomitant use of dexmedetomidine and hydroxyzine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP. In addition, consider a dosage reduction for dexmedetomidine or hydroxyzine during concomitant use due to the risk of additive CNS effects.

Dextroamphetamine: (Moderate) Amphetamines may pharmacodynamically counteract the sedative properties of some antihistamines, such as the sedating H1-blockers (i.e., diphenhydramine). This effect may be clinically important if a patient is receiving an antihistamine agent for treatment of insomnia. Alternatively, if a patient is receiving an amphetamine for treatment of narcolepsy, the combination with a sedating

antihistamine may reverse the action of the amphetamine.

Dextromethorphan; quinidine: (Major) Concomitant use of quinidine and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

diazepam: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased sedation or respiratory depression) of either agent. Use caution with this combination.

Dicyclomine: (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and dicyclomine use. Concomitant use may result in additive anticholinergic adverse effects.

Difelikefalin: (Moderate) Monitor for dizziness, somnolence, mental status changes, and gait disturbances if concomitant use of difelikefalin with CNS depressants is necessary. Concomitant use may increase the risk for these adverse reactions.

Diphenoxylate; Atropine: (Moderate) An enhanced CNS depressant effect may occur when diphenoxylate/difenoxin is combined with other CNS depressants.

Diphenoxylate/difenoxin decreases GI motility. Other drugs that also decrease GI motility, such as sedating H1 blockers, may produce additive effects with diphenoxylate/difenoxin if used concomitantly. (Moderate) Monitor for unusual drowsiness or excess sedation and for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and atropine use. Concomitant use may result in additive CNS depression or anticholinergic adverse effects.

Disopyramide: (Major) Disopyramide should be used cautiously and with close monitoring with hydroxyzine. Postmarketing data indicate that hydroxyzine causes QT prolongation and torsade de pointes (TdP). Disopyramide administration is associated with QT prolongation and TdP. In addition, the anticholinergic effects of hydroxyzine are moderate and may be enhanced when combined with other medications with anticholinergic effects, such as disopyramide. Antimuscarinic effects might be seen not only on GI smooth muscle, but also on bladder function, the eye, and temperature regulation.

Dofetilide: (Major) Concomitant use of hydroxyzine and dofetilide increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Dolasetron: (Moderate) Concomitant use of hydroxyzine and dolasetron may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in

patients with additional risk factors for TdP.

Dolutegravir; Rilpivirine: (Moderate) Concomitant use of hydroxyzine and rilpivirine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP. The degree of QT prolongation associated with rilpivirine is not clinically significant when administered within the recommended dosage range; QT prolongation has been described at 3 times the maximum recommended dose.

Donepezil: (Moderate) Concomitant use of hydroxyzine and donepezil may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Donepezil; Memantine: (Moderate) Concomitant use of hydroxyzine and donepezil may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Dordaviprone: (Major) Concomitant use of dordaviprone and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Doxepin: (Moderate) Monitor for unusual drowsiness and sedation, urinary retention, and reduced gastric motility during coadministration of hydroxyzine and tricyclic antidepressants. Concomitant use may result in additive CNS depression or anticholinergic effects.

droNABinol: (Moderate) Use caution if coadministration of dronabinol with antihistamines is necessary. Concurrent use of dronabinol, THC with antihistamines may result in additive drowsiness, hypertension, tachycardia, and possibly cardiotoxicity.

Dronedarone: (Contraindicated) Avoid concomitant use of hydroxyzine and dronedarone due to an increased risk for torsade de pointes (TdP) and QT/QTc prolongation.

droPERidol: (Major) Droperidol should not be used in combination with any drug known to have potential to prolong the QT interval, such as hydroxyzine. If coadministration cannot be avoided, use extreme caution; initiate droperidol at a low dose and increase the dose as needed to achieve the desired effect. Droperidol administration is associated with an established risk for QT prolongation and torsade de pointes (TdP). Some cases have occurred in patients with no known risk factors for QT prolongation

and some cases have been fatal. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP.

Efavirenz: (Moderate) Concomitant use of hydroxyzine and efavirenz may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Efavirenz; Emtricitabine; Tenofovir Disoproxil Fumarate: (Moderate) Concomitant use of hydroxyzine and efavirenz may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Efavirenz; IamiVUDine; Tenofovir Disoproxil Fumarate: (Moderate) Concomitant use of hydroxyzine and efavirenz may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Efgartigimod Alfa; Hyaluronidase: (Minor) H1-blockers (antihistamines), when given in large systemic doses, may render tissues partially resistant to the action of hyaluronidase. Patients receiving these medications may require larger amounts of hyaluronidase for equivalent dispersing effect.

Eliglustat: (Moderate) Concomitant use of hydroxyzine and eliglustat may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Emtricitabine; Rilpivirine; Tenofovir alafenamide: (Moderate) Concomitant use of hydroxyzine and rilpivirine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP. The degree of QT prolongation associated with rilpivirine is not clinically significant when administered within the recommended dosage range; QT prolongation has been described at 3 times the maximum recommended dose.

Emtricitabine; Rilpivirine; Tenofovir Disoproxil Fumarate: (Moderate) Concomitant use of hydroxyzine and rilpivirine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP. The degree of QT prolongation associated with rilpivirine is not clinically significant when

administered within the recommended dosage range; QT prolongation has been described at 3 times the maximum recommended dose.

Encorafenib: (Major) Concomitant use of hydroxyzine and encorafenib increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Entacapone: (Moderate) COMT inhibitors should be given cautiously with other agents that cause CNS depression, including sedating H1-blockers, due to the possibility of additive sedation. COMT inhibitors have also been associated with sudden sleep onset during activities of daily living such as driving, which has resulted in accidents in some cases. Prescribers should re-assess patients for drowsiness or sleepiness regularly throughout treatment, especially since events may occur well after the start of treatment. Patients should be advised to avoid driving or other tasks requiring mental alertness until they know how the combination affects them.

Entrectinib: (Major) Concomitant use of hydroxyzine and entrectinib increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

erIBULin: (Major) Concomitant use of hydroxyzine and eribulin increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Erythromycin: (Major) Concomitant use of hydroxyzine and erythromycin increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Escitalopram: (Moderate) Concomitant use of hydroxyzine and escitalopram may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Esketamine: (Major) Closely monitor patients receiving esketamine and hydroxyzine for sedation and other CNS depressant effects. Instruct patients who receive a dose of esketamine not to drive or engage in other activities requiring alertness until the next day after a restful sleep.

Estazolam: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased

sedation or respiratory depression) of either agent. Use caution with this combination. Eszopiclone: (Moderate) A reduction in the dose of eszopiclone and concomitantly administered CNS depressants, such as sedating H1-blockers, should be considered to minimize additive sedative effects. In addition, the risk of next-day psychomotor impairment is increased during co-administration of eszopiclone and other CNS depressants, which may decrease the ability to perform tasks requiring full mental alertness such as driving.

Ethanol: (Major) Advise patients to avoid alcohol consumption while taking CNS depressants. Alcohol consumption may result in additive CNS depression.

Etomidate: (Minor) Because sedating H1-blockers cause sedation, an enhanced CNS depressant effect may occur when they are combined with general anesthetics.

Etrasimod: (Moderate) Concomitant use of etrasimod and hydroxyzine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP. Etrasimod has a limited effect on the QT/QTc interval at therapeutic doses but may cause bradycardia and atrioventricular conduction delays which may increase the risk for TdP in patients with a prolonged QT/QTc interval.

Fenfluramine: (Major) Avoid coadministration of hydroxyzine with fenfluramine due to the risk of additive CNS depression. If CNS depressants are administered concomitantly with hydroxyzine, reduce the dosage.

fentaNYL: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Fexinidazole: (Major) Concomitant use of hydroxyzine and fexinidazole increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Fingolimod: (Moderate) Concomitant use of hydroxyzine and fingolimod may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

flavoxATE: (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and flavoxate use. Concomitant use may result in

additive anticholinergic adverse effects.

Flecainide: (Major) Concomitant use of hydroxyzine and flecainide increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Flibanserin: (Moderate) The concomitant use of flibanserin with CNS depressants, such as sedating H1-blockers, may increase the risk of CNS depression (e.g., dizziness, somnolence) compared to the use of flibanserin alone. Patients should avoid activities requiring full alertness (e.g., operating machinery or driving) until at least 6 hours after each dose and until they know how flibanserin affects them.

Fluconazole: (Moderate) Concomitant use of hydroxyzine and fluconazole may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

FLUoxetine: (Moderate) Concomitant use of hydroxyzine and fluoxetine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

fluPHENAZine: (Moderate) Caution is recommended if hydroxyzine is administered with fluphenazine due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, additive anticholinergic effects and CNS depression may also occur. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Fluphenazine is associated with a possible risk for QT prolongation.

Flurazepam: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased sedation or respiratory depression) of either agent. Use caution with this combination.

fluvoxaMINE: (Moderate) Concomitant use of hydroxyzine and fluvoxamine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Food: (Major) Advise patients to avoid cannabis use while taking CNS depressants due to the risk for additive CNS depression and potential for other cognitive adverse reactions.

Foscarnet: (Major) Concomitant use of hydroxyzine and foscarnet increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Fostemsavir: (Moderate) Concomitant use of hydroxyzine and fostemsavir may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP. The degree of QT prolongation associated with fostemsavir is not clinically significant when administered within the recommended dosage range; QT prolongation has been described at 4 times the recommended daily dose.

Gabapentin: (Major) Initiate gabapentin at the lowest recommended dose and monitor patients for symptoms of sedation and somnolence during coadministration of gabapentin and hydroxyzine. Reduce the gabapentin dose by 50% or more when used with hydroxyzine intramuscular injection. Concomitant use of gabapentin with hydroxyzine may cause additive CNS depression. Educate patients about the risks and symptoms of excessive CNS depression.

Galantamine: (Moderate) Concurrent use of sedating H1-blockers and galantamine should be avoided if possible. Galantamine inhibits acetylcholinesterase, the enzyme responsible for the degradation of acetylcholine, and improves the availability of acetylcholine. Sedating H1-blockers may exhibit significant anticholinergic activity, thereby interfering with the therapeutic effect of galantamine.

Gemifloxacin: (Moderate) Concomitant use of hydroxyzine and gemifloxacin may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Gemptuzumab Ozogamicin: (Moderate) Concomitant use of hydroxyzine and gemituzumab ozogamicin may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Gepirone: (Moderate) Concomitant use of gepirone and hydroxyzine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP. QT prolongation with gepirone has been observed at 2 times the maximum recommended dose.

Gepotidacin: (Major) Concomitant use of gepotidacin and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Gilteritinib: (Moderate) Concomitant use of hydroxyzine and gilteritinib may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Givinostat: (Major) Concomitant use of givinostat and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary. The degree of QT prolongation associated with givinostat is not clinically significant when administered within the recommended dosage range; QT prolongation has been described at 5 times the maximum recommended dose.

Glasdegib: (Major) Avoid coadministration of glasdegib with hydroxyzine due to the potential for additive QT prolongation. If coadministration cannot be avoided, monitor patients for increased risk of QT prolongation with increased frequency of ECG monitoring. Glasdegib therapy may result in QT prolongation and ventricular arrhythmias including ventricular fibrillation and ventricular tachycardia. Postmarketing data indicate that hydroxyzine causes QT prolongation and torsade de pointes (TdP).

Glycopyrrolate: (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and glycopyrrolate use. Concomitant use may result in additive anticholinergic adverse effects.

Glycopyrrolate; Formoterol: (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and glycopyrrolate use. Concomitant use may result in additive anticholinergic adverse effects.

Goserelin: (Moderate) Concomitant use of hydroxyzine and androgen deprivation therapy (i.e., goserelin) may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Granisetron: (Moderate) Concomitant use of hydroxyzine and granisetron may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Halogenated Anesthetics: (Major) Caution is recommended if hydroxyzine is administered with halogenated anesthetics due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, because hydroxyzine causes pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including halogenated anesthetics.

Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP.

Halogenated anesthetics can prolong the QT interval.

Haloperidol: (Moderate) Concomitant use of hydroxyzine and haloperidol may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP. The intravenous route may carry a higher risk for haloperidol-induced QT/QTc prolongation than other routes of administration.

Heparin: (Minor) Antihistamines may partially counteract the anticoagulant actions of heparin, according to the product labels. However, this interaction is not likely of clinical significance since heparin therapy is adjusted to the partial thromboplastin time (aPTT) and other clinical parameters of the patient.

Histrelin: (Moderate) Concomitant use of hydroxyzine and androgen deprivation therapy (i.e., histrelin) may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Homatropine; HYDROcodone: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Avoid prescribing opioid cough medications in patients taking hydroxyzine. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression. (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and homatropine use. Concomitant use may result in additive anticholinergic adverse effects.

Hyaluronidase, Recombinant; Immune Globulin: (Minor) H1-blockers (antihistamines), when given in large systemic doses, may render tissues partially resistant to the action of hyaluronidase. Patients receiving these medications may require larger amounts of hyaluronidase for equivalent dispersing effect.

Hyaluronidase: (Minor) H1-blockers (antihistamines), when given in large systemic doses, may render tissues partially resistant to the action of hyaluronidase. Patients receiving these medications may require larger amounts of hyaluronidase for equivalent dispersing effect.

HYDROcodone: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Avoid prescribing opioid cough medications in patients taking hydroxyzine. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations

needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

HYDROcodone; Ibuprofen: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Avoid prescribing opioid cough medications in patients taking hydroxyzine. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

HYDROmorphine: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Hydroxychloroquine: (Major) Concomitant use of hydroxychloroquine and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Hyoscyamine: (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and hyoscyamine use. Concomitant use may result in additive anticholinergic adverse effects.

Hyoscyamine; Methenamine; Methylene Blue; Phenyl Salicylate; Sodium Biphosphate: (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and hyoscyamine use. Concomitant use may result in additive anticholinergic adverse effects.

Ibutilide: (Major) Caution is recommended if hydroxyzine is administered with ibutilide due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Ibutilide administration can cause QT prolongation and TdP; proarrhythmic events should be anticipated. The potential for proarrhythmic events with ibutilide increases with the coadministration of other drugs that prolong the QT interval.

Iloperidone: (Major) Avoid coadministration of iloperidone with hydroxyzine due to the potential for additive QT prolongation and torsade de pointes (TdP). In addition, because hydroxyzine causes pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including iloperidone. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Iloperidone has also been associated with QT prolongation.

Imipramine: (Moderate) Monitor for unusual drowsiness and sedation, urinary retention, and reduced gastric motility during coadministration of hydroxyzine and tricyclic antidepressants. Concomitant use may result in additive CNS depression or anticholinergic effects.

Indacaterol; Glycopyrrolate: (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and glycopyrrolate use. Concomitant use may result in additive anticholinergic adverse effects.

Inotuzumab Ozogamicin: (Major) Concomitant use of inotuzumab and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Isocarboxazid: (Contraindicated) Concomitant use of monoamine oxidase inhibitors and sedating H1-blockers is contraindicated due to increased anticholinergic effects.

Isoflurane: (Major) Caution is recommended if hydroxyzine is administered with halogenated anesthetics due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, because hydroxyzine causes pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including halogenated anesthetics. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Halogenated anesthetics can prolong the QT interval.

Itraconazole: (Moderate) Concomitant use of hydroxyzine and itraconazole may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Ivosidenib: (Major) Avoid coadministration of ivosidenib with hydroxyzine due to an increased risk of QT prolongation. If concomitant use is unavoidable, monitor ECGs for QTc prolongation and monitor electrolytes; correct any electrolyte abnormalities as clinically appropriate. An interruption of therapy and dose reduction of ivosidenib may be necessary if QT prolongation occurs. Prolongation of the QTc interval and ventricular arrhythmias have been reported in patients treated with ivosidenib. Postmarketing data indicate that hydroxyzine causes QT prolongation and torsade de pointes (TdP).

Ketamine: (Minor) Because sedating H1-blockers cause sedation, an enhanced CNS depressant effect may occur when they are combined with general anesthetics.

Ketoconazole: (Contraindicated) Avoid concomitant use of ketoconazole and hydroxyzine due to an increased risk for torsade de pointes (TdP) and QT/QTc prolongation. Ketoconazole has been associated with QT prolongation and TdP; cases of QT prolongation and TdP have been reported during postmarketing use of hydroxyzine,

particularly in patients with other risk factors for QT prolongation/TdP.

Lansoprazole; Amoxicillin; Clarithromycin: (Major) Concomitant use of hydroxyzine and clarithromycin increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Lapatinib: (Moderate) Concomitant use of hydroxyzine and lapatinib may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Lasmiditan: (Moderate) Monitor for excessive sedation and somnolence during coadministration of lasmiditan and sedating H1-blockers. Concurrent use may result in additive CNS depression.

Lefamulin: (Major) Avoid coadministration of lefamulin with hydroxyzine as concurrent use may increase the risk of QT prolongation. If coadministration cannot be avoided, monitor ECG during treatment. Lefamulin has a concentration dependent QTc prolongation effect. The pharmacodynamic interaction potential to prolong the QT interval of the electrocardiogram between lefamulin and other drugs that effect cardiac conduction is unknown. Postmarketing data indicate that hydroxyzine causes QT prolongation and torsade de pointes (TdP).

Lemborexant: (Moderate) Monitor for excessive sedation and somnolence during coadministration of lemborexant and sedating antihistamines (H1-blockers). Dosage adjustments of lemborexant and sedating H1-blockers may be necessary when administered together because of potentially additive CNS effects. The risk of next-day impairment, including impaired driving, is increased if lemborexant is taken with other CNS depressants. Patients should generally avoid nonprescription antihistamine products that are marketed as sleep-aids concurrently with lemborexant.

Lenvatinib: (Major) Concomitant use of lenvatinib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Leuprorelin: (Moderate) Concomitant use of hydroxyzine and androgen deprivation therapy (i.e., leuprorelin) may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Leuprorelin; Norethindrone: (Moderate) Concomitant use of hydroxyzine and androgen

deprivation therapy (i.e., leuprolide) may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Levocetirizine: (Moderate) Monitor for unusual drowsiness and sedation, urinary retention, and reduced gastric motility during coadministration of cetirizine and sedating H1-blockers. Concomitant use may result in additive CNS depression or anticholinergic effects.

levoFLOXacin: (Moderate) Concomitant use of levofloxacin and hydroxyzine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Levketoconazole: (Contraindicated) Avoid concomitant use of ketoconazole and hydroxyzine due to an increased risk for torsade de pointes (TdP) and QT/QTc prolongation. Ketoconazole has been associated with QT prolongation and TdP; cases of QT prolongation and TdP have been reported during postmarketing use of hydroxyzine, particularly in patients with other risk factors for QT prolongation/TdP.

Levorphanol: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Reduce the initial dose of levorphanol by approximately 50% or more. Educate patients about the risks and symptoms of excessive CNS depression.

Lithium: (Moderate) Concomitant use of hydroxyzine and lithium may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Lofexidine: (Major) Monitor ECG if lofexidine is coadministered with hydroxyzine due to the potential for additive QT prolongation and torsade de pointes (TdP). Additionally, monitor for excessive hypotension and sedation during coadministration as lofexidine can potentiate the effects of CNS depressants. Lofexidine prolongs the QT interval. In addition, there are postmarketing reports of TdP. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP.

Loperamide: (Moderate) Concomitant use of hydroxyzine and loperamide may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in

patients with additional risk factors for TdP.

Loperamide; Simethicone: (Moderate) Concomitant use of hydroxyzine and loperamide may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Lopinavir; Ritonavir: (Major) Concomitant use of lopinavir and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Loratadine: (Minor) Although loratadine is considered a 'non-sedating' antihistamine, dose-related sedation has been noted. For this reason, it would be prudent to monitor for drowsiness during concurrent use of loratadine with CNS depressants such as other H1-blockers.

Loratadine; Pseudoephedrine: (Minor) Although loratadine is considered a 'non-sedating' antihistamine, dose-related sedation has been noted. For this reason, it would be prudent to monitor for drowsiness during concurrent use of loratadine with CNS depressants such as other H1-blockers.

LORazepam: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased sedation or respiratory depression) of either agent. Use caution with this combination.

Loxapine: (Moderate) Sedating H1-blockers are associated with anticholinergic effects and sedation; therefore, additive effects may be seen during concurrent use with other drugs having anticholinergic activity and CNS depressant properties such as traditional antipsychotic agents, including loxapine. Clinicians should note that antimuscarinic effects may be seen not only on GI smooth muscle, but also on bladder function, the eye, and temperature regulation. Additive drowsiness or other CNS effects may also occur.

Lumateperone: (Moderate) Monitor for excessive sedation and somnolence during coadministration of lumateperone and hydroxyzine. Concurrent use may result in additive CNS depression.

Lurasidone: (Moderate) Due to the CNS effects of lurasidone, caution should be used when lurasidone is given in combination with other centrally acting medications.

Sedating H1-blockers are associated with sedation; therefore, additive effects may be seen during concurrent use with other drugs having CNS depressant properties such as antipsychotics. Additive drowsiness or other CNS effects may occur.

Macimorelin: (Major) Avoid concurrent administration of macimorelin with drugs that prolong the QT interval, such as hydroxyzine. Use of these drugs together may increase the risk of developing torsade de pointes-type ventricular tachycardia. Sufficient washout time of drugs that are known to prolong the QT interval prior to administration

of macimorelin is recommended. Treatment with macimorelin has been associated with an increase in the corrected QT (QTc) interval. Postmarketing data indicate that hydroxyzine causes QT prolongation and torsade de pointes (TdP).

Maprotiline: (Moderate) Caution is recommended if hydroxyzine is administered with maprotiline due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, additive anticholinergic effects and CNS depression may also occur. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Maprotiline has been reported to prolong the QT interval, particularly in overdose or with higher-dose prescription therapy (elevated serum concentrations). Cases of long QT syndrome and TdP tachycardia have been described with maprotiline use, but rarely occur when the drug is used alone in normal prescribed doses and in the absence of other known risk factors for QT prolongation. Limited data are available regarding the safety of maprotiline in combination with other QT-prolonging drugs.

Mavorixafor: (Moderate) Concomitant use of mavorixafor and hydroxyzine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP. The degree of QT prolongation associated with mavorixafor is not clinically significant when administered within the recommended dosage range; QT prolongation has been described at 2 times the maximum recommended dose.

Meclizine: (Major) Meclizine is an H1-blocker which exhibits significant anticholinergic effects. The anticholinergic effects of meclizine may be enhanced when combined with other drugs with antimuscarinic activity, including other sedating H1-blockers. Clinicians should note that antimuscarinic effects might be seen not only on GI smooth muscle, but also on bladder function, the eye, and temperature regulation. Additive sedation may also occur.

Mefloquine: (Moderate) Concomitant use of hydroxyzine and mefloquine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Melatonin: (Moderate) Monitor for unusual drowsiness and sedation during coadministration of melatonin and sedating H1-blockers due to the risk for additive CNS depression.

Meperidine: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks

and symptoms of excessive CNS depression.

Meprobamate: (Moderate) The CNS-depressant effects of meprobamate can be potentiated with concomitant administration of other drugs known to cause CNS depression including sedating H1-blockers.

Metaxalone: (Moderate) Concomitant administration of metaxalone with other CNS depressants can potentiate the sedative effects of either agent.

Methadone: (Major) Hydroxyzine should be used cautiously and with close monitoring with methadone due to the potential for increased risk of QT prolongation, torsade de pointes (TdP), and additive CNS depressant effects. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression and QT prolongation. Post-marketing data indicate that hydroxyzine causes QT prolongation and TdP. Methadone is considered to be associated with an increased risk for QT prolongation and torsades de pointes (TdP), especially at higher doses (> 200 mg/day but averaging approximately 400 mg/day in adult patients). Laboratory studies, both in vivo and in vitro, have demonstrated that methadone inhibits cardiac potassium channels and prolongs the QT interval. Most cases involve patients being treated for pain with large, multiple daily doses of methadone, although cases have been reported in patients receiving doses commonly used for maintenance treatment of opioid addiction.

Methamphetamine: (Moderate) Amphetamines may pharmacodynamically counteract the sedative properties of sedating H1-blockers. This effect may be clinically important if a patient is receiving an antihistamine agent for treatment of insomnia. Alternatively, if a patient is receiving an amphetamine for treatment of narcolepsy, the combination with a sedating antihistamine may reverse the action of the amphetamine. Coadminister with caution and monitor for altered response to drug therapy.

Methenamine; Sodium Acid Phosphate; Methylene Blue; Hyoscyamine: (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and hyoscyamine use. Concomitant use may result in additive anticholinergic adverse effects.

Methocarbamol: (Moderate) Methocarbamol may cause additive CNS depression if used concomitantly with other CNS depressants such as sedating H1-blockers. Combination therapy can cause additive effects of sedation and dizziness, which can impair the patient's ability to undertake tasks requiring mental alertness. Dosage adjustments of either or both medications may be necessary.

Methohexital: (Major) Because hydroxyzine can cause pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including barbiturates.

Methscopolamine: (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and methscopolamine use. Concomitant use

may result in additive anticholinergic adverse effects.

Metoclopramide: (Minor) Combined use of metoclopramide and other CNS depressants, such as anxiolytics, sedatives, and hypnotics, can increase possible sedation.

metronIDAZOLE: (Moderate) Concomitant use of metronidazole and hydroxyzine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

metyrapONE: (Moderate) Metyrapone may cause dizziness and/or drowsiness. Other drugs that may also cause drowsiness, such as sedating H1-blockers, should be used with caution. Additive drowsiness and/or dizziness is possible.

metyrosINE: (Moderate) The concomitant administration of metyrosine with sedating H1-blockers can result in additive sedative effects.

Midazolam: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased sedation or respiratory depression) of either agent. Use caution with this combination.

Midostaurin: (Major) Concomitant use of hydroxyzine and midostaurin increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

miFEPRIStone: (Major) Concomitant use of hydroxyzine and mifepristone increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Minocycline: (Minor) Injectable minocycline contains magnesium sulfate heptahydrate. Because of the CNS-depressant effects of magnesium sulfate, additive central-depressant effects can occur following concurrent administration with CNS depressants, such as sedating H1-blockers. Caution should be exercised when using these agents concurrently.

Mirtazapine: (Moderate) Concomitant use of hydroxyzine and mirtazapine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Mitotane: (Moderate) Mitotane can cause sedation, lethargy, vertigo, and other CNS side effects. Concomitant administration of mitotane and CNS depressants, including sedating H1-blockers, may cause additive CNS effects.

Mobocertinib: (Major) Concomitant use of mobocertinib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if

possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Molindone: (Moderate) An enhanced CNS depressant effect may occur when sedating H1-blockers are combined with other CNS depressants including molindone.

Monoamine oxidase inhibitors: (Contraindicated) Concomitant use of monoamine oxidase inhibitors and sedating H1-blockers is contraindicated due to increased anticholinergic effects.

Morphine: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. For extended-release morphine tablets, start with 15 mg every 12 hours. Morphine; naltrexone should be initiated at 1/3 to 1/2 the recommended starting dosage. Educate patients about the risks and symptoms of excessive CNS depression.

Moxifloxacin: (Major) Concomitant use of hydroxyzine and moxifloxacin increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Nalbuphine: (Moderate) Concomitant use of nalbuphine with other CNS depressants, such as sedating H1-blockers, can potentiate the effects of nalbuphine on respiratory depression, CNS depression, and sedation.

Nefazodone: (Moderate) An enhanced CNS depressant effect may occur when sedating H1-blockers are combined with other CNS depressants including nefazodone.

Neostigmine; Glycopyrrolate: (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and glycopyrrolate use. Concomitant use may result in additive anticholinergic adverse effects.

Nilotinib: (Major) Concomitant use of nilotinib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Nivolumab; Hyaluronidase: (Minor) H1-blockers (antihistamines), when given in large systemic doses, may render tissues partially resistant to the action of hyaluronidase. Patients receiving these medications may require larger amounts of hyaluronidase for equivalent dispersing effect.

Nortriptyline: (Moderate) Monitor for unusual drowsiness and sedation, urinary retention, and reduced gastric motility during coadministration of hydroxyzine and

tricyclic antidepressants. Concomitant use may result in additive CNS depression or anticholinergic effects.

Ocrelizumab; Hyaluronidase: (Minor) H1-blockers (antihistamines), when given in large systemic doses, may render tissues partially resistant to the action of hyaluronidase. Patients receiving these medications may require larger amounts of hyaluronidase for equivalent dispersing effect.

Ofloxacin: (Moderate) Concomitant use of ofloxacin and hydroxyzine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

OLANZapine: (Moderate) Caution is recommended if hydroxyzine is administered with olanzapine due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, because hydroxyzine causes pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including olanzapine. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Limited data, including some case reports, suggest that olanzapine may be associated with a significant prolongation of the QTc interval.

OLANZapine; FLUoxetine: (Moderate) Caution is recommended if hydroxyzine is administered with olanzapine due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, because hydroxyzine causes pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including olanzapine. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Limited data, including some case reports, suggest that olanzapine may be associated with a significant prolongation of the QTc interval. (Moderate) Concomitant use of hydroxyzine and fluoxetine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

OLANZapine; Samidorphan: (Moderate) Caution is recommended if hydroxyzine is administered with olanzapine due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, because hydroxyzine causes pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including olanzapine. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Limited data, including some case reports, suggest that olanzapine may be associated with a significant prolongation of the QTc interval.

Oliceridine: (Major) Concomitant use of oliceridine with hydroxyzine may cause excessive sedation and somnolence. Limit the use of oliceridine with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is

necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect.

Ondansetron: (Major) Concomitant use of ondansetron and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Opicapone: (Moderate) COMT inhibitors should be given cautiously with other agents that cause CNS depression, including sedating H1-blockers, due to the possibility of additive sedation. COMT inhibitors have also been associated with sudden sleep onset during activities of daily living such as driving, which has resulted in accidents in some cases. Prescribers should re-assess patients for drowsiness or sleepiness regularly throughout treatment, especially since events may occur well after the start of treatment. Patients should be advised to avoid driving or other tasks requiring mental alertness until they know how the combination affects them.

Orphenadrine: (Moderate) Additive anticholinergic effects may be seen when drugs with anticholinergic properties, like sedating H1-blockers and orphenadrine, are used concomitantly. Adverse effects may be seen not only on GI smooth muscle, but also on bladder function, the CNS, the eye, and temperature regulation. Additive drowsiness may also occur.

Osilodrostat: (Moderate) Concomitant use of hydroxyzine and osilodrostat may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Osimertinib: (Major) Concomitant use of osimertinib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Oxaliplatin: (Major) Concomitant use of oxaliplatin and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Oxazepam: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased sedation or respiratory depression) of either agent. Use caution with this combination.

oxyBUTYNIN: (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and oxybutynin use. Concomitant use may result in additive anticholinergic adverse effects.

oxyCODONE: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

oxyMORphone: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Reduce the initial oxymorphone dosage by 1/3 to 1/2. Educate patients about the risks and symptoms of excessive CNS depression.

Ozanimod: (Major) In general, do not initiate ozanimod in patients taking hydroxyzine due to the risk of additive bradycardia, QT prolongation, and torsade de pointes (TdP). If treatment initiation is considered, seek advice from a cardiologist. Ozanimod initiation may result in a transient decrease in heart rate and atrioventricular conduction delays. Ozanimod has not been studied in patients taking concurrent QT prolonging drugs; however, QT prolonging drugs have been associated with TdP in patients with bradycardia. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP.

Pacritinib: (Major) Concomitant use of pacritinib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Paliperidone: (Major) Avoid coadministration of hydroxyzine and paliperidone due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, because hydroxyzine causes pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including paliperidone. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP.

Paliperidone has been associated with QT prolongation; TdP and ventricular fibrillation have been reported in the setting of overdose.

Panobinostat: (Major) Concomitant use of panobinostat and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Papaverine: (Moderate) Concurrent use of papaverine with potent CNS depressants such as hydroxyzine could lead to enhanced sedation.

Pasireotide: (Moderate) Concomitant use of hydroxyzine and pasireotide may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

PAZOPanib: (Major) Concomitant use of pazopanib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Pembrolizumab; berahyaluronidase alfa: (Minor) H1-blockers (antihistamines), when given in large systemic doses, may render tissues partially resistant to the action of hyaluronidase. Patients receiving these medications may require larger amounts of hyaluronidase for equivalent dispersing effect.

Pentamidine: (Major) Concomitant use of pentamidine and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Pentazocine; Naloxone: (Moderate) Use pentazocine with caution in any patient receiving medication with CNS depressant and/or anticholinergic activity.

Coadministration of pentazocine with sedating H1-blockers may result in additive respiratory and CNS depression and anticholinergic effects, such as urinary retention and constipation.

PENTobarbital: (Major) Because hydroxyzine can cause pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including barbiturates.

Perampanel: (Moderate) Co-administration of perampanel with CNS depressants, including ethanol, may increase CNS depression. The combination of perampanel (particularly at high doses) with ethanol has led to decreased mental alertness and ability to perform complex tasks (such as driving), as well as increased levels of anger, confusion, and depression; similar reactions should be expected with concomitant use of other CNS depressants, such as sedating H1-blockers.

Perphenazine: (Moderate) Caution is recommended if hydroxyzine is administered with perphenazine due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, additive anticholinergic effects and CNS depression may also occur. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Perphenazine is associated with a possible risk for QT prolongation.

Perphenazine; Amitriptyline: (Moderate) Caution is recommended if hydroxyzine is administered with perphenazine due to the potential for additive QT prolongation and

risk of torsade de pointes (TdP). In addition, additive anticholinergic effects and CNS depression may also occur. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Perphenazine is associated with a possible risk for QT prolongation. (Moderate) Monitor for unusual drowsiness and sedation, urinary retention, and reduced gastric motility during coadministration of hydroxyzine and tricyclic antidepressants. Concomitant use may result in additive CNS depression or anticholinergic effects.

Pertuzumab; Trastuzumab; Hyaluronidase: (Minor) H1-blockers (antihistamines), when given in large systemic doses, may render tissues partially resistant to the action of hyaluronidase. Patients receiving these medications may require larger amounts of hyaluronidase for equivalent dispersing effect.

Phenelzine: (Contraindicated) Concomitant use of monoamine oxidase inhibitors and sedating H1-blockers is contraindicated due to increased anticholinergic effects.

PHENobarbital: (Major) Because hydroxyzine can cause pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including barbiturates.

PHENobarbital; Hyoscyamine; Atropine; Scopolamine: (Major) Because hydroxyzine can cause pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including barbiturates. (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and hyoscyamine use. Concomitant use may result in additive anticholinergic adverse effects. (Moderate) Monitor for unusual drowsiness or excess sedation and for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and atropine use. Concomitant use may result in additive CNS depression or anticholinergic adverse effects. (Moderate) Monitor for unusual drowsiness or excess sedation and for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and scopolamine use. Concomitant use may result in additive CNS depression or anticholinergic adverse effects.

Phentermine; Topiramate: (Moderate) Monitor for increased CNS effects if topiramate is coadministered with hydroxyzine. Although not specifically studied, coadministration of CNS depressant drugs with topiramate may potentiate CNS depression, such as dizziness or cognitive adverse reactions, or other centrally mediated effects of these agents.

Pimavanserin: (Major) Concomitant use of pimavanserin and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Pimozide: (Contraindicated) Avoid concomitant use of pimozide and hydroxyzine due to an increased risk for torsade de pointes (TdP) and QT/QTc prolongation.

Pitolisant: (Major) Avoid coadministration of pitolisant with hydroxyzine as the effect of pitolisant may be decreased; concurrent use may also increase the risk of QT prolongation. Pitolisant increases histamine concentrations in the brain; therefore, H1-receptor antagonists like hydroxyzine, may reduce pitolisant efficacy. Pitolisant prolongs the QT interval. Postmarketing data indicate that hydroxyzine causes QT prolongation and torsade de pointes (TdP).

Ponesimod: (Major) In general, do not initiate ponesimod in patients taking hydroxyzine due to the risk of additive bradycardia, QT prolongation, and torsade de pointes (TdP). If treatment initiation is considered, seek advice from a cardiologist. Ponesimod initiation may result in a transient decrease in heart rate and atrioventricular conduction delays. Ponesimod has not been studied in patients taking concurrent QT prolonging drugs; however, QT prolonging drugs have been associated with TdP in patients with bradycardia. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP.

Posaconazole: (Moderate) Concomitant use of hydroxyzine and posaconazole may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Pramipexole: (Moderate) Concomitant use of pramipexole with other CNS depressants, such as sedating H1-blockers, can potentiate the sedation effects of pramipexole.

Pregabalin: (Major) Initiate pregabalin at the lowest recommended dose and monitor patients for symptoms of sedation and somnolence during coadministration of pregabalin and hydroxyzine. Reduce the pregabalin dose by 50% or more when used with hydroxyzine intramuscular injection. Concomitant use of pregabalin with hydroxyzine may cause additive CNS depression. Educate patients about the risks and symptoms of excessive CNS depression.

Primaquine: (Moderate) Concomitant use of hydroxyzine and primaquine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Primidone: (Major) Because hydroxyzine can cause pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including barbiturates.

Procainamide: (Major) Concomitant use of procainamide and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Procarbazine: (Moderate) Use procarbazine and sedating H1-blockers together with caution; additive central nervous system depression may occur.

Prochlorperazine: (Moderate) Caution is recommended if hydroxyzine is administered with prochlorperazine due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, additive anticholinergic effects and CNS depression may also occur. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Prochlorperazine is associated with a possible risk for QT prolongation.

Promethazine: (Moderate) Concomitant use of hydroxyzine and promethazine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients as well as additive anticholinergic adverse effects and CNS depression. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP, and monitor for signs and symptoms of anticholinergic toxicity and unusual drowsiness and sedation.

Promethazine; Dextromethorphan: (Moderate) Concomitant use of hydroxyzine and promethazine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients as well as additive anticholinergic adverse effects and CNS depression. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP, and monitor for signs and symptoms of anticholinergic toxicity and unusual drowsiness and sedation.

Promethazine; Phenylephrine: (Moderate) Concomitant use of hydroxyzine and promethazine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients as well as additive anticholinergic adverse effects and CNS depression. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP, and monitor for signs and symptoms of anticholinergic toxicity and unusual drowsiness and sedation.

Propafenone: (Major) Concomitant use of hydroxyzine and propafenone increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Propantheline: (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and propantheline use. Concomitant use may result in additive anticholinergic adverse effects.

Propofol: (Minor) Because sedating H1-blockers cause sedation, an enhanced CNS depressant effect may occur when they are combined with general anesthetics.

Protriptyline: (Moderate) Monitor for unusual drowsiness and sedation, urinary retention, and reduced gastric motility during coadministration of hydroxyzine and

tricyclic antidepressants. Concomitant use may result in additive CNS depression or anticholinergic effects.

Quazepam: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased sedation or respiratory depression) of either agent. Use caution with this combination.

QUEtiapine: (Major) Concomitant use of hydroxyzine and quetiapine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). In addition, because hydroxyzine causes pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including quetiapine. Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

quiNIDine: (Major) Concomitant use of quinidine and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

quiNINE: (Major) Concomitant use of quinine and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Quizartinib: (Major) Concomitant use of quizartinib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Ramelteon: (Moderate) Because sedating H1-blockers cause sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including anxiolytics, sedatives, and hypnotics, such as ramelteon.

Ranolazine: (Moderate) Concomitant use of hydroxyzine and ranolazine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Rasagiline: (Moderate) Concurrent use of monoamine oxidase inhibitors (MAOIs) and sedating H1-blockers (sedating antihistamines) may result in additive sedation, anticholinergic effects, or hypotensive reactions. Rasagiline may be less likely to produce these interactions than other MAOIs, due to MAO-B selectivity. However, consider alternatives therapy to antihistamines where possible. If alternative combinations are not available, these medications may be used together with close monitoring. Many

non-prescription products for coughs, colds, allergy, hay fever or insomnia contain sedating antihistamines. Patients receiving rasagiline should be counseled that it is essential to consult their healthcare provider or pharmacist prior to the use of any non-prescription products. Patients should also be advised against driving or engaging in other activities requiring mental alertness until they know how this combination affects them.

Relugolix: (Moderate) Concomitant use of hydroxyzine and androgen deprivation therapy (i.e., relugolix) may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Relugolix; Estradiol; Norethindrone acetate: (Moderate) Concomitant use of hydroxyzine and androgen deprivation therapy (i.e., relugolix) may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Remifentanil: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Remimazolam: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased sedation or respiratory depression) of either agent. Use caution with this combination.

Revumenib: (Major) Concomitant use of revumenib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Ribociclib: (Major) Concomitant use of ribociclib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Ribociclib; Letrozole: (Major) Concomitant use of ribociclib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte

monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Rilpivirine: (Moderate) Concomitant use of hydroxyzine and rilpivirine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP. The degree of QT prolongation associated with rilpivirine is not clinically significant when administered within the recommended dosage range; QT prolongation has been described at 3 times the maximum recommended dose.

risperiDONE: (Moderate) Use risperidone and hydroxyzine together with caution due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, because hydroxyzine causes pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including risperidone. Risperidone has been associated with a possible risk for QT prolongation and/or TdP, primarily in the overdose setting. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP.

riTUXimab; Hyaluronidase: (Minor) H1-blockers (antihistamines), when given in large systemic doses, may render tissues partially resistant to the action of hyaluronidase. Patients receiving these medications may require larger amounts of hyaluronidase for equivalent dispersing effect.

Rivastigmine: (Moderate) Concurrent use of sedating H1-blockers and rivastigmine should be avoided if possible. Rivastigmine inhibits acetylcholinesterase, the enzyme responsible for the degradation of acetylcholine, and improves the availability of acetylcholine. Sedating H1-blockers may exhibit significant anticholinergic activity, thereby interfering with the therapeutic effect of rivastigmine.

romiDEPsin: (Moderate) Concomitant use of hydroxyzine and romidepsin may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

rOPINIRole: (Moderate) Concomitant use of ropinirole with other CNS depressants, such as sedating H1-blockers, can potentiate the sedation effects of ropinirole.

Rotigotine: (Major) Concomitant use of rotigotine with other CNS depressants, such as hydroxyzine, can potentiate the sedation effects of rotigotine.

Safinamide: (Moderate) Dopaminergic medications, including safinamide, may cause a sudden onset of somnolence which sometimes has resulted in motor vehicle accidents. Patients may not perceive warning signs, such as excessive drowsiness, or they may report feeling alert immediately prior to the event. Because of possible additive effects, advise patients about the potential for increased somnolence during concurrent use of other sedating medications, such as sedating H1-blockers.

Saquinavir: (Major) Avoid coadministration of saquinavir boosted with ritonavir and hydroxyzine due to the risk of QT prolongation or torsade de pointes (TdP). Monitor ECG at baseline and during therapy if coadministration cannot be avoided. Saquinavir boosted with ritonavir increases the QT interval in a dose-dependent fashion, which may increase the risk for serious arrhythmias such as TdP. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP.

Scopolamine: (Moderate) Monitor for unusual drowsiness or excess sedation and for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and scopolamine use. Concomitant use may result in additive CNS depression or anticholinergic adverse effects.

Secobarbital: (Major) Because hydroxyzine can cause pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including barbiturates.

Selegiline: (Moderate) Monitor for unusual drowsiness and sedation during coadministration of hydroxyzine and selegiline due to the risk for additive CNS depression.

Selpercatinib: (Major) Concomitant use of selpercatinib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Sertraline: (Moderate) Concomitant use of hydroxyzine and sertraline may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP. The degree of QT prolongation associated with sertraline is not clinically significant when administered within the recommended dosage range; QT prolongation has been described at 2 times the maximum recommended dose.

Sevoflurane: (Major) Caution is recommended if hydroxyzine is administered with halogenated anesthetics due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, because hydroxyzine causes pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including halogenated anesthetics. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Halogenated anesthetics can prolong the QT interval.

Sincalide: (Moderate) Sincalide-induced gallbladder ejection fraction may be affected by concurrent medications, including H1-blockers. False study results are possible; thorough patient history is important in the interpretation of procedure results.

Siponimod: (Major) Concomitant use of siponimod and hydroxyzine increases the risk of

QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Sodium Oxybate: (Contraindicated) Sodium oxybate should not be used in combination with CNS depressant anxiolytics, sedatives, and hypnotics or other sedative CNS depressant drugs.

Solifenacin: (Moderate) Caution is recommended if hydroxyzine is administered with solifenacin due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, additive anticholinergic effects may also occur. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Solifenacin has been associated with dose-dependent prolongation of the QT interval. TdP has been reported with postmarketing use, although causality was not determined. This should be taken into consideration when prescribing solifenacin to patients taking other drugs that are associated with QT prolongation.

SORAfenib: (Major) Concomitant use of sorafenib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Sotalol: (Major) Concomitant use of hydroxyzine and sotalol increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Stiripentol: (Moderate) Monitor for excessive sedation and somnolence during coadministration of stiripentol and hydroxyzine. CNS depressants can potentiate the effects of stiripentol.

SUFentanil: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

SUNItinib: (Moderate) Concomitant use of hydroxyzine and sunitinib may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Suvorexant: (Moderate) Monitor for excessive sedation and somnolence during

coadministration of suvorexant and sedating antihistamines (H1-blockers). Dosage adjustments of suvorexant and sedating H1-blockers may be necessary when administered together because of potentially additive CNS effects. The risk of next-day impairment, including impaired driving, is increased if suvorexant is taken with other CNS depressants. Patients should generally avoid nonprescription antihistamine products that are marketed as sleep-aids concurrently with suvorexant.

Tacrolimus: (Moderate) Concomitant use of hydroxyzine and tacrolimus may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Taletrectinib: (Major) Concomitant use of taletrectinib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Tamoxifen: (Moderate) Concomitant use of tamoxifen and hydroxyzine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Tapentadol: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Tasimelteon: (Moderate) Because sedating H1-blockers cause sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including anxiolytics, sedatives, and hypnotics, such as tasimelteon.

Telavancin: (Moderate) Concomitant use of hydroxyzine and telavancin may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Temazepam: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased sedation or respiratory depression) of either agent. Use caution with this combination.

Tetrabenazine: (Major) Avoid coadministration of hydroxyzine and tetrabenazine due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In

addition, because hydroxyzine causes pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including tetrabenazine. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Tetrabenazine causes a small increase in the corrected QT interval (QTc).

Thalidomide: (Major) Avoid the concomitant use of thalidomide with opiate agonists; antihistamines; antipsychotics; anxiolytics, sedatives, and hypnotics; and other central nervous system depressants due to the potential for additive sedative effects.

Thioridazine: (Contraindicated) Avoid concomitant use of thioridazine and hydroxyzine due to an increased risk for torsade de pointes (TdP) and QT/QTc prolongation.

Thiothixene: (Moderate) Additive anticholinergic effects may be seen when antipsychotics, such as thiothixene, are used concomitantly with other drugs such as sedating H1-blockers. Additive drowsiness or other CNS effects may also occur.

tizANidine: (Major) Use tizanidine and hydroxyzine together with caution due to additive CNS depression. Consider tizanidine dosage reduction and monitor patients for symptoms of excess sedation.

Tolcapone: (Moderate) COMT inhibitors should be given cautiously with other agents that cause CNS depression, including sedating H1-blockers, due to the possibility of additive sedation. COMT inhibitors have also been associated with sudden sleep onset during activities of daily living such as driving, which has resulted in accidents in some cases. Prescribers should re-assess patients for drowsiness or sleepiness regularly throughout treatment, especially since events may occur well after the start of treatment. Patients should be advised to avoid driving or other tasks requiring mental alertness until they know how the combination affects them.

Tolterodine: (Moderate) Caution is recommended if hydroxyzine is administered with tolterodine due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). Additive anticholinergic effects may also occur. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP. Tolterodine has been associated with dose-dependent prolongation of the QT interval, especially in poor CYP2D6 metabolizers.

Topiramate: (Moderate) Monitor for increased CNS effects if topiramate is coadministered with hydroxyzine. Although not specifically studied, coadministration of CNS depressant drugs with topiramate may potentiate CNS depression, such as dizziness or cognitive adverse reactions, or other centrally mediated effects of these agents.

Toremifene: (Major) Concomitant use of toremifene and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

traMADol: (Major) Concomitant use of opioid agonists with hydroxyzine may cause

excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Tramadol; Acetaminophen: (Major) Concomitant use of opioid agonists with hydroxyzine may cause excessive sedation and somnolence. Limit the use of opioid pain medications with hydroxyzine to only patients for whom alternative treatment options are inadequate. If concurrent use is necessary, use the lowest effective doses and minimum treatment durations needed to achieve the desired clinical effect. Educate patients about the risks and symptoms of excessive CNS depression.

Tranylcypromine: (Contraindicated) Concomitant use of monoamine oxidase inhibitors and sedating H1-blockers is contraindicated due to increased anticholinergic effects.

Trastuzumab; Hyaluronidase: (Minor) H1-blockers (antihistamines), when given in large systemic doses, may render tissues partially resistant to the action of hyaluronidase. Patients receiving these medications may require larger amounts of hyaluronidase for equivalent dispersing effect.

traZODone: (Major) Concomitant use of hydroxyzine and trazodone increases the risk of QT/QTc prolongation and torsade de pointes (TdP). In addition, because hydroxyzine is a sedating antihistamine and may cause pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including trazodone. Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Triazolam: (Moderate) Coadministration can potentiate the CNS effects (e.g., increased sedation or respiratory depression) of either agent. Use caution with this combination.

Triclabendazole: (Moderate) Concomitant use of triclabendazole and hydroxyzine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Tricyclic antidepressants: (Moderate) Monitor for unusual drowsiness and sedation, urinary retention, and reduced gastric motility during coadministration of hydroxyzine and tricyclic antidepressants. Concomitant use may result in additive CNS depression or anticholinergic effects.

Trifluoperazine: (Moderate) Caution is recommended if hydroxyzine is administered with trifluoperazine due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, additive anticholinergic effects and CNS depression may also occur. Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP.

Trifluoperazine is associated with a possible risk for QT prolongation.

Trihexyphenidyl: (Moderate) Monitor for signs or symptoms of anticholinergic toxicity during concomitant sedating H1-blocker and trihexyphenidyl use. Concomitant use may result in additive anticholinergic adverse effects.

Trimethobenzamide: (Moderate) The concurrent use of trimethobenzamide with other medications that cause CNS depression, like the sedating h1-blockers, may potentiate the effects of either trimethobenzamide or the sedating h1-blocker.

Trimipramine: (Moderate) Monitor for unusual drowsiness and sedation, urinary retention, and reduced gastric motility during coadministration of hydroxyzine and tricyclic antidepressants. Concomitant use may result in additive CNS depression or anticholinergic effects.

Triptorelin: (Moderate) Concomitant use of hydroxyzine and androgen deprivation therapy (i.e., triptorelin) may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Trospium: (Moderate) Additive anticholinergic effects may be seen when trospium is used concomitantly with drugs that are known to possess relatively significant antimuscarinic properties, including sedating H1-blockers. Clinicians should note that additive antimuscarinic effects may be seen not only on GI smooth muscle, but also on bladder function and temperature regulation. While CNS-related side effects such as drowsiness and blurred vision are not typically noted with trospium, they may occur in some patients.

Vandetanib: (Major) Concomitant use of vandetanib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Vardenafil: (Moderate) Concomitant use of vardenafil and hydroxyzine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Vemurafenib: (Major) Concomitant use of vemurafenib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Venlafaxine: (Moderate) Concomitant use of hydroxyzine and venlafaxine may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider

taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Vigabatrin: (Moderate) Vigabatrin may cause somnolence and fatigue. Drugs that can cause CNS depression, if used concomitantly with vigabatrin, may increase both the frequency and the intensity of adverse effects such as drowsiness, sedation, and dizziness. Caution should be used when vigabatrin is given with sedating H1-blockers.

Vilazodone: (Moderate) Due to the CNS effects of vilazodone, caution should be used when vilazodone is given in combination with other centrally acting medications such as anxiolytics, sedatives, and hypnotics. Also, Cyproheptadine is an antagonist of serotonin in the CNS, a property which may oppose some of the pharmacologic effects of vilazodone. Cyproheptadine has been used for the management of orgasm dysfunction caused by the serotonergic antidepressants and for the adjunctive treatment of serotonin syndrome; however, a reversal of antidepressant effects may occur when cyproheptadine is given in a routine manner along with the antidepressant. Clinically, cyproheptadine reportedly has interfered with the antidepressant and anti-bulimia actions of fluoxetine, but more data are needed to confirm a direct drug-drug interaction.

Voclosporin: (Moderate) Concomitant use of hydroxyzine and voclosporin may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP. The degree of QT prolongation associated with voclosporin is not clinically significant when administered within the recommended dosage range; QT prolongation has been described at 3 times the maximum recommended dose.

Vonoprazan; Amoxicillin; Clarithromycin: (Major) Concomitant use of hydroxyzine and clarithromycin increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Voriconazole: (Moderate) Concomitant use of hydroxyzine and voriconazole may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Vorinostat: (Moderate) Concomitant use of hydroxyzine and vorinostat may increase the risk of QT/QTc prolongation and torsade de pointes (TdP) in some patients. Consider taking steps to minimize the risk of QT/QTc interval prolongation and TdP, such as

avoidance, electrolyte monitoring and repletion, and ECG monitoring, especially in patients with additional risk factors for TdP.

Xanomeline; Trospium: (Moderate) Additive anticholinergic effects may be seen when trospium is used concomitantly with drugs that are known to possess relatively significant antimuscarinic properties, including sedating H1-blockers. Clinicians should note that additive antimuscarinic effects may be seen not only on GI smooth muscle, but also on bladder function and temperature regulation. While CNS-related side effects such as drowsiness and blurred vision are not typically noted with trospium, they may occur in some patients.

Zaleplon: (Moderate) Monitor for unusual drowsiness and sedation during coadministration of sedating H1-blockers and zaleplon due to the risk for additive CNS depression and next-day psychomotor impairment; dose adjustments may be necessary.

Ziconotide: (Moderate) Sedating H1-blockers are CNS depressant medications that may increase drowsiness, dizziness, and confusion that are associated with ziconotide.

Ziftomenib: (Major) Concomitant use of ziftomenib and hydroxyzine increases the risk of QT/QTc prolongation and torsade de pointes (TdP). Avoid concomitant use if possible, especially in patients with additional risk factors for TdP. Consider taking steps to minimize the risk for QT/QTc interval prolongation and TdP, such as electrolyte monitoring and repletion and ECG monitoring, if concomitant use is necessary.

Ziprasidone: (Major) Concomitant use of ziprasidone and hydroxyzine should be avoided due to the potential for additive QT prolongation and risk of torsade de pointes (TdP). In addition, because hydroxyzine causes pronounced sedation, an enhanced CNS depressant effect may occur when it is combined with other CNS depressants including ziprasidone. Clinical trial data indicate that ziprasidone causes QT prolongation; there are postmarketing reports of TdP in patients with multiple confounding factors.

Postmarketing data indicate that hydroxyzine causes QT prolongation and TdP.

Zolpidem: (Moderate) Monitor for unusual drowsiness and sedation during coadministration of sedating H1-blockers and zolpidem due to the risk for additive CNS depression and next-day psychomotor impairment; dose adjustments may be necessary. Limit the dose of Intermezzo sublingual tablets to 1.75 mg/day.

Zuranolone: (Major) Avoid the use of multiple sedating agents due to the risk for additive CNS depression. If use is necessary, consider a downward dosage adjustment of either or both medications, especially in patients with additional risk factors for sedation-related harm.

Adverse Reaction

abdominal pain, blurred vision, constipation, mydriasis, urinary retention, xerophthalmia, xerostomia

The most frequently reported adverse reaction to hydroxyzine is xerostomia (dry mouth), resulting from the anticholinergic effects of the drug. Peripheral neurologic effects due to cholinergic blockade may include dilated pupils (mydriasis) or blurred vision, xerophthalmia (dry eyes), and urinary retention (especially in males). H1-antagonists may cause adverse GI effects including constipation or abdominal pain. Stomach upset may be relieved by taking the drug with food. Elderly persons usually have the greatest risk of experiencing anticholinergic-related side effects.

agitation, appetite stimulation, asthenia, confusion, dizziness, drowsiness, dysarthria, fatigue, headache, impaired cognition, insomnia, palpitations, restlessness, sinus tachycardia, weakness

Common side effects of hydroxyzine and other sedating antihistamines include drowsiness and decreased alertness. An important consequence of this action may be the impairment of driving ability. With hydroxyzine, drowsiness or fatigue is usually transient, and continued therapy or dosage reduction can diminish this effect. After a bedtime dose of hydroxyzine, most patients feel fully awake the following morning. However, temporarily impaired cognition has been reported in clinical use. A small study showed that hydroxyzine produced less sedation than either azatadine or clemastine. Other less frequently occurring CNS effects of sedating antihistamines include dizziness, asthenia/weakness, dysarthria (slurred speech), confusion, or headache. Elderly persons and pediatric patients taking classic antihistamines have the greatest risk of CNS related side effects. Hydroxyzine, like many antihistamines, can cause CNS stimulation, although, this is more likely to occur in children. Other stimulatory reactions may include appetite stimulation, agitation or muscle spasms. The anticholinergic reactions of insomnia, nervousness or restlessness, irritability, palpitations, and sinus tachycardia may also occur.

acute generalized exanthematous pustulosis (AGEP), contact dermatitis, maculopapular rash, pruritus, rash (unspecified), urticaria

Hydroxyzine may rarely cause acute generalized exanthematous pustulosis (AGEP), a serious skin reaction characterized by fever and numerous small, superficial, non-follicular, sterile pustules, arising within large areas of edematous erythema. Inform patients about the signs of AGEP, and discontinue hydroxyzine at the first appearance of a skin rash, worsening of pre-existing skin reactions which hydroxyzine may be used to treat, or any other sign of hypersensitivity. If signs or symptoms suggest AGEP, do not resume hydroxyzine therapy and consider alternative therapy. In addition, drug allergy has been reported with hydroxyzine, although rare. Cases have included contact dermatitis, fixed drug eruptions of the penis or scrotum, maculopapular rash, rash

(unspecified), pruritus, and urticaria. Avoid cetirizine or levocetirizine in patients who have experienced AGEP or other hypersensitivity reactions with hydroxyzine, due to the risk of cross-sensitivity.

ataxia, dyskinesia, dystonic reaction, hallucinations, psychosis, seizures, tardive dyskinesia, tremor

Antihistamine (e.g., hydroxyzine) overdose has been linked to coma; stimulatory CNS effects such as dyskinesia, dystonic reaction, tardive dyskinesia, tremor and seizures, and neuropsychiatric effects such as hallucinations or psychosis. Rarely, ataxia and delirium are also seen. Fatalities have been reported with overdose.

priapism

Priapism (prolonged penile erections) have been reported very rarely in the literature with hydroxyzine. Norchlorcyclizine (a hydroxyzine metabolite), has structural similarities to a trazodone metabolite, m-chlorophenylpiperazine, suggesting potential mechanistic similarities. It should be noted that causality between priapism and hydroxyzine has not been established.

hemolysis, injection site reaction, thrombosis, tissue necrosis

An injection site reaction is possible after the intramuscular (IM) injection of hydroxyzine and can include erythema, local irritation, and tissue necrosis. Care should be taken to avoid extravasation or inadvertent parenteral administration by other routes.

Hydroxyzine is not recommended for intravenous (IV) administration since it can cause serious adverse effects, including hemolysis. Severe local reactions from inadvertent intravenous or intra-arterial administration have included thrombophlebitis, thrombosis and tissue necrosis (gangrene). Subcutaneous injection may also result in severe local tissue damage.

hypotension, respiratory depression

While oral or intramuscular therapeutic dosages of hydroxyzine (a piperazine derivative) have minimal effects on blood pressure, overdosage or inadvertent routes of administration may magnify the hypotensive and sedative effects. Hypotension and sedation with parenteral hydroxyzine, including intramuscular administration, may be particularly relevant when the drug is administered along with a parenteral opiate or other sedative. Do not give hydroxyzine intravenously or intra-arterially. In one study, intravenous (IV) hydroxyzine doses of 0.75 to 1 mg/pound to young adults resulted in sinus tachycardia and hypotension. Other cases of respiratory depression or cardiovascular instability following intravenous use of hydroxyzine have been reported,

mostly as uncontrolled case reports in the literature. Investigations supporting the side effects of intravenous hydroxyzine were primarily performed in the mid-to-late 1960s and 1970s. At that time, intravenous use of hydroxyzine quickly fell out of favor and IV administration is now contraindicated.

QT prolongation, torsade de pointes

Post-marketing data indicate that hydroxyzine causes QT prolongation and Torsade de Pointes (TdP); therefore, the drug is contraindicated in patients with a known history of QT prolongation. The majority of the post-marketing reports occurred in patients with other risk factors for QT prolongation/TdP (pre-existing cardiac disease, electrolyte imbalances or concomitant arrhythmogenic drug use). Hydroxyzine should be used with caution in patients with risk factors for QT prolongation, including congenital long QT syndrome, a family history of long QT syndrome, other conditions that predispose to QT prolongation and ventricular arrhythmias, as well as recent myocardial infarction, uncompensated heart failure, and bradycardia. Caution is recommended during the concomitant use of drugs known to prolong the QT interval.

Description

Hydroxyzine is a piperazine class sedating antihistamine (H1-blocker) that is structurally related to buclizine, cyclizine, and meclizine. Hydroxyzine is effective in treating histamine-mediated pruritus or pruritus due to atopy or other allergic conditions. The drug is considered an effective alternative treatment for anxiety disorders (e.g., generalized anxiety). Hydroxyzine has been used for many years as a perioperative sedative and anxiolytic and is used to alleviate nausea and control emesis perioperatively. Although many clinicians believe that hydroxyzine is one of the most sedating H1-blockers, a small study showed that hydroxyzine produced less sedation than either azatadine or clemastine. The active metabolite of hydroxyzine is cetirizine, which is considered to be a low-sedating antihistamine. Hydroxyzine has been available as a prescription drug since 1956.

Mechanism Of Action

Hydroxyzine competes with histamine for H1-receptor sites on the effector cell surface. Blockade of H1-receptors also suppresses the formation of edema, flare, and pruritus that result from histaminic activity. The sedative properties of hydroxyzine occur at the subcortical level of the CNS, and, as mentioned above, this effect may be dose-related. Hydroxyzine has some antiemetic actions secondary to its central anticholinergic actions. Hydroxyzine also demonstrates antiarrhythmic, analgesic, local anesthetic, and

skeletal muscle relaxant properties as well as bronchodilatory and mild antisecretory effects. Although antihistamines possess intrinsic analgesic properties (perhaps secondary to interfering with nociception), they should not be considered potent analgesics.

Pharmacokinetics

Hydroxyzine is administered orally and intramuscularly. Distribution of hydroxyzine has not been fully described and it is unknown whether it crosses the placenta or is distributed into breast milk. Hydroxyzine, like most first-generation antihistamines, is metabolized in the liver. One active metabolite is cetirizine; cetirizine is mostly excreted renally as unchanged drug. Another hydroxyzine metabolite, norchlorcyclizine, has chemical similarities to a trazodone metabolite, m-chlorophenylpiperazine, but the activity and elimination of this compound are not certain. The elimination half-life of hydroxyzine is variably reported to be between 14 to 25 hours.

Route-Specific Pharmacokinetics

- **Oral Route**

Hydroxyzine is rapidly absorbed following oral administration. The oral dosages of hydroxyzine pamoate and hydroxyzine hydrochloride are considered equivalent. The onset of effect for hydroxyzine occurs between 15 to 60 minutes, with a usual duration of action of 4 to 6 hours. The inflammatory response and pruritus can be suppressed for up to 4 days.

- **Intramuscular Route**

Hydroxyzine is rapidly absorbed following intramuscular administration.

- **Hepatic Impairment**

Hydroxyzine elimination is impaired in patients with primary biliary cirrhosis; other patients with liver disease may have reduced drug elimination.

- **Renal Impairment**

Patients with moderate to severe renal impairment may exhibit decreased rates of drug clearance and dosage adjustment of hydroxyzine is recommended. Hemodialysis does not appreciably remove hydroxyzine or cetirizine from the blood.

Administration

For storage information, see the specific product information within the How Supplied section.

Oral Administration

Oral Solid Formulations

All dosage forms: May administer without regard to meals.

Oral Liquid Formulations

All dosage forms: May administer without regard to meals.

Oral suspension: Shake well prior to each use. Measure with calibrated device for accurate dosage.

Oral syrup: Measure with calibrated device for accurate dosage.

Injectable Administration

Hydroxyzine injection is intended only for intramuscular administration. Do NOT, under any circumstances, inject subcutaneously, intra-arterially or intravenously.

Visually inspect products for particulate matter and discoloration prior to administration, whenever solution and container permit.

Intramuscular Administration

Inject intramuscularly well within the body of a relatively large muscle. Inadvertent subcutaneous injection may result in significant tissue damage.

Adults: The preferred site is the upper outer quadrant of the buttock, (i.e., the gluteus maximus), or the mid-lateral thigh. The deltoid area should be used only if well developed such as in certain adults, and then only with caution to avoid radial nerve injury. Do NOT inject IM into the lower and mid-third of the upper arm.

Children: Preferably administer in the mid-lateral muscles of the thigh. The deltoid area should be used only if well developed such as in certain older children, and then only with caution to avoid radial nerve injury. Do NOT inject IM into the lower and mid-third of the upper arm.

Infants and small children: Preferably administer in the mid-lateral muscles of the thigh. The periphery of the upper outer quadrant of the gluteal region should be used only when necessary, such as in burn patients, to minimize the possibility of damage to the sciatic nerve.

Maximum Dosage Limits

- Adults**

400 mg/day PO; 600 mg/day IM.

- Geriatric**

400 mg/day PO; 600 mg/day IM.

- **Adolescents**

100 mg/day PO for pruritus and anxiety; 0.6 mg/kg (Max: 100 mg) PO once for procedural sedation; 1.1 mg/kg (Max: 100 mg) IM once for nausea, vomiting, or procedural sedation.

- **Children**

6 to 12 years: 100 mg/day PO for pruritus and anxiety; 0.6 mg/kg (Max: 100 mg) PO once for procedural sedation; 1.1 mg/kg (Max: 100 mg) IM once for nausea, vomiting, or procedural sedation.

1 to 5 years: 50 mg/day PO or 2 mg/kg/day PO (in patients weighing 40 kg or less) for pruritus and anxiety; 0.6 mg/kg (Max: 100 mg) PO once for procedural sedation; 1.1 mg/kg (Max: 100 mg) IM once for nausea, vomiting, or procedural sedation.

- **Infants**

Safety and efficacy have not been established.

- **Neonates**

Safety and efficacy have not been established.

Dosage Forms

- Hydroxyzine Hydrochloride 10mg Oral tablet
- Hydroxyzine Hydrochloride 10mg/5mL Oral solution
- Hydroxyzine Hydrochloride 25mg Oral tablet
- Hydroxyzine Hydrochloride 25mg/1mL Solution for injection
- Hydroxyzine Hydrochloride 50mg Oral tablet
- Hydroxyzine Hydrochloride 50mg/1mL Solution for injection
- Hydroxyzine Hydrochloride 50mg/25mL Oral solution
- Hydroxyzine Hydrochloride Bulk powder
- Hydroxyzine Pamoate 100mg Oral capsule
- Hydroxyzine Pamoate 25mg Oral capsule
- Hydroxyzine Pamoate 50mg Oral capsule
- Hydroxyzine Pamoate Bulk powder
- Vistaril 25mg Capsule
- Vistaril 50mg Capsule

Dosage Adjustment Guidelines

Hepatic Impairment

Dosage reduction may be necessary based on clinical response and degree of hepatic impairment; hydroxyzine is primarily metabolized by the liver.

Renal Impairment

CrCl more than 50 mL/minute: No dosage adjustment needed.

CrCl 50 mL/minute or less: Dosage reduction may be necessary; a 50% initial dosage reduction has been recommended.

Intermittent hemodialysis

Follow dosage as above. Cetirizine, the active metabolite of hydroxyzine, may accumulate in people with end-stage renal disease. Supplemental dosage for dialysis is not recommended.

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