

Azelastine Nasal Spray Monograph

Brand name: Astelin[®]

Generic name: Azelastine nasal spray

Manufacturer: MedPointe Pharmaceuticals

Year introduced²: November 1996

Mechanisms of action¹:

Azelastine and its metabolite, desmethylazelastine, are H₁-receptor antagonists. Azelastine also inhibits histamine release from mast cells.

FDA approved indications¹:

- For the treatment of the symptoms of seasonal allergic rhinitis such as rhinorrhea, sneezing and nasal pruritus in adults and children 5 years and older
- For the treatment of the symptoms of vasomotor rhinitis, such as rhinorrhea, nasal congestion and postnasal drip in adults and children 12 years and older

Contraindications¹:

Hypersensitivity to azelastine hydrochloride or any of its components

Pharmacokinetics¹:

Bioavailability of nasal administration is about 40%. The half-life of azelastine is 22 hours and the half-life of the active metabolite, desmethylazelastine, is 54 hours. Azelastine metabolizes through the P450 system, but the isoenzyme is not identified. Most of azelastine is excreted in the feces.

Adverse effects¹:

Adverse events	Azelastine nasal spray (N=391)	Placebo (N=353)
Bitter taste	19.7	0.6
Headache	14.8	12.7
Somnolence	11.5	5.4
Nasal burning	4.1	1.7
Pharyngitis	3.8	2.8
Dry mouth	2.8	1.7
Paroxysmal sneezing	3.1	1.1
Nausea	2.8	1.1
Weight increase	2.0	0.0

Drug interactions¹:

Alcohol and CNS depressants: Causes additional reduction of alertness

Cimetidine: Increases azelastine plasma concentration

Erythromycin: No interaction with oral azelastine

Ketoconazole: No effect on QT interval

Precautions¹:

Avoid driving a car or operating potentially dangerous machinery due to the somnolence side effect.

There have been post-marketing reports of palpitations and atrial fibrillation associated with use of Astelin.

Pregnancy category¹: C

Usual dosage¹:

Seasonal Allergic Rhinitis

Adults and children 12 years old and older – one to two sprays per nostril twice daily.

Children 5 years to 11 years of age - one spray per nostril twice daily.

Vasomotor Rhinitis

Adults and children 12 years and older - two sprays per nostril twice daily.

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Patent expiration date³: November 2010

Clinical studies:

Reference	Study Design	Results
Double-blind trials of azelastine nasal spray monotherapy versus combination therapy with loratadine tablets and beclomethasone nasal spray in patients with seasonal allergic rhinitis – Berger W et al. ⁵	In this double-blind study, 1070 patients (12 years or older) with moderate to severe symptoms of seasonal allergic rhinitis were randomized to receive either <u>azelastine nasal spray</u> (2 sprays per nostril twice daily) or <u>loratadine</u> tablets (10mg/day) with <u>beclomethasone</u> (Beconase AQ 2 sprays per nostril twice daily) for 7 days.	Efficacy: azelastine = loratadine + beclomethasone <ul style="list-style-type: none"> The primary efficacy variable was the percentage of patients not requiring additional therapy. Azelastine nasal spray was as effective as loratadine + beclomethasone. Safety: azelastine ≤ loratadine + beclomethasone <ul style="list-style-type: none"> More incidences of transient after taste, rhinitis and somnolence occurred in the azelastine group.
Nasal budesonide offers superior symptom relief in perennial allergic rhinitis in comparison to nasal azelastine – Stern M et al. ⁶	In this single-blind study, 195 patients with a 2-year history of perennial allergic rhinitis were randomized to receive intranasal administration of <u>budesonide</u> (256 mcg/day), <u>azelastine</u> (280mcg twice daily) or <u>placebo</u> for 6 weeks.	Efficacy: budesonide > azelastine = placebo <ul style="list-style-type: none"> Budesonide produced significantly superior symptom control (blocked nose, rhinorrhea and sneezing) compared with azelastine (P=0.013) and placebo (P=0.0003). Azelastine did not produce significant nasal symptom improvement compared with placebo (P=0.13). Safety: budesonide = azelastine < placebo <ul style="list-style-type: none"> Drop-out rate due to adverse reactions was similar in both groups.
Efficacy of azelastine nasal spray in patients with an unsatisfactory response to loratadine – Berger WE et al. ⁷	In this randomized, double-blind, multicenter, placebo-controlled study, 428 patients (12 years or older) with a 2-year history of seasonal allergic rhinitis were randomized to receive either <u>azelastine nasal spray</u> (2 sprays per nostril twice daily) and a <u>placebo capsule</u> once daily or <u>desloratadine 5mg capsules</u> (once daily) and <u>placebo saline nasal spray</u> (2 sprays per nostril twice daily) or <u>azelastine nasal spray</u> (2 sprays per nostril twice daily) and <u>loratadine 10mg capsule</u> (once daily) or <u>placebo saline nasal spray</u> (2 sprays per nostril twice daily) and <u>placebo capsule</u> (once daily) for 2 weeks. Patients received loratadine 10mg daily during the 1-week, open-label, lead-in period.	Efficacy: azelastine monotherapy = azelastine plus loratadine ≈ desloratadine > placebo <ul style="list-style-type: none"> Azelastine nasal spray (21.9%, P < 0.001), azelastine nasal spray plus loratadine (21.5%, P < 0.001), and desloratadine (17.5%, P = 0.039) significantly improved the total nasal symptom score compared to placebo (11%). Safety: azelastine monotherapy = azelastine plus loratadine = desloratadine = placebo <ul style="list-style-type: none"> Bitter taste was the most commonly reported adverse event reported in the azelastine nasal spray monotherapy (11%) and the azelastine nasal spray and loratadine (4%) groups. Headache (3%) and pharyngitis (4%) were the most common adverse events in the desloratadine group.
Histamine skin test reactivity following single and multiple doses of azelastine nasal spray in patients with seasonal allergic	In this randomized, double-blind, parallel-group, placebo-controlled study, 78 patients with seasonal allergic rhinitis received either <u>azelastine nasal</u>	Efficacy: azelastine = placebo <ul style="list-style-type: none"> There were no statistically significant differences between the percentage of patients treated with azelastine nasal

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rhinitis – Pearlman DS et al. ⁸	spray (2 sprays per nostril twice daily) or placebo nasal spray for 14 days.	patients treated with azelastine nasal spray and those treated with placebo nasal spray whose wheal-and-flare responses were within 20% of baseline when measured 5 hours after the first dose of study drugs. <i>Safety was not assessed in this study.</i>
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Conclusion:

Based on the clinical data, azelastine, a nasal antihistamine, does not seem to offer any additional benefits over nasal corticosteroids. The available oral antihistamines and nasal corticosteroids should provide adequate coverage for rhinitis.

References:

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