

## Reslizumab (Cinqair) for Eosinophilic Asthma

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STEPS new drug reviews cover Safety, Tolerability, Effectiveness, Price, and Simplicity. Each independent review is provided by authors who have no financial association with the drug manufacturer.

This series is coordinated by Allen F. Shaughnessy, PharmD, MMedEd, Contributing Editor.

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Reslizumab (Cinqair) is a monoclonal antibody labeled for adjunctive therapy in patients with severe eosinophilic asthma.<sup>1</sup> It antagonizes interleukin-5, blocking the formation and activity of eosinophils to reduce inflammation and remodeling.<sup>2</sup>

Drug	Dosage	Dose form	Cost*
Reslizumab (Cinqair)	3 mg per kg	10-mg/1-mL vial of intravenous solution	\$905

\*—Estimated retail price of one month's treatment based on information obtained at <http://www.drugs.com> (accessed October 12, 2017). Price listed does not include cost of administration by a health care professional.

### SAFETY

Anaphylactic reactions have been reported in up to 0.3% of patients.<sup>1</sup> Reslizumab should be administered in a health care setting, and patients should be monitored after administration for signs of hypersensitivity or anaphylaxis.<sup>1</sup> If asthma worsens in severity or becomes uncontrolled after infusion of reslizumab, therapy should be reassessed and patients should seek further medical treatment.<sup>1</sup> Because use of reslizumab may increase the risk of asthma exacerbation in children and adolescents, it should not be used in this age group. It should also not be used to treat acute asthma exacerbations in patients who have deteriorating disease.

In clinical trials, malignant neoplasm was more common in patients receiving reslizumab (0.6%) compared with placebo (0.3%). The malignancies were diverse in nature and were diagnosed within six months of exposure.<sup>1</sup>

Reslizumab may diminish the immune response against parasitic infections. Patients should be treated for parasitic infections before initiating reslizumab. If a patient develops a parasitic infection while taking reslizumab and does not respond to antiparasitic treatment, reslizumab should

be discontinued.<sup>1</sup> Reslizumab has not been studied in pregnant or breastfeeding women.

### TOLERABILITY

Reslizumab is generally well tolerated, although oropharyngeal pain has been reported.<sup>1-3</sup> Musculoskeletal pain may also occur on the day of infusion, and patients may experience myalgia after infusion.<sup>1</sup>

### EFFECTIVENESS

The impact of reslizumab on the frequency of asthma exacerbations over one year has been evaluated in three randomized, placebo-controlled trials. These trials included 1,268 patients with blood eosinophil counts greater than 400 per mm<sup>3</sup> ( $0.40 \times 10^9$  per L) and asthma that was inadequately controlled despite the use of an inhaled long-acting beta agonist and medium- to high-dose inhaled corticosteroid.<sup>2,3</sup> In these patients, adding reslizumab decreased the frequency of acute asthma exacerbations; 32% experienced one or more clinical asthma exacerbations over one year vs. 50% of those who were not taking reslizumab (number needed to treat = 6).<sup>2</sup> Reslizumab also reduces the rate of exacerbations requiring the use of systemic corticosteroids by about one-

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### STEPS

half (rate ratio = 0.43; 95% confidence interval, 0.33 to 0.55). Surrogate markers of lung function may improve with treatment. Reslizumab may also reduce blood eosinophil counts (i.e., decreases of 576 per mm<sup>3</sup> [0.58 × 10<sup>9</sup> per L] with reslizumab and 101 per mm<sup>3</sup> [0.10 × 10<sup>9</sup> per L] with placebo).<sup>2</sup> Reslizumab has not been compared with omalizumab (Xolair) or other add-on treatments.

### PRICE

A one-month supply of reslizumab costs approximately \$905. It cannot be purchased at a pharmacy but is shipped directly to the administering health care professional. In comparison, omalizumab costs about \$1,078 for a one-month supply. Both products will have additional costs for administration and post-administration monitoring.

### SIMPLICITY

Reslizumab is administered once every four weeks by a medical professional. The recommended dose is 3 mg per kg given via intravenous infusion over 20 to 50 minutes. It should only be administered in a facility with the resources to treat anaphylaxis. Patients should be monitored following completion of the infusion.

### Bottom Line

Reslizumab is an expensive treatment option for decreasing exacerbations in patients with severe asthma and pronounced eosinophilia. Because of the risk of anaphylaxis, it should only be administered in an appropriate facility by a medical professional. Reslizumab is best considered after other treatments have proved ineffective.

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