Investigating the Value of Omalizumab in the Treatment of Severe Persistent Allergic Asthma: A Systematic Review of Cost-Effectiveness Studies

INTRODUCTION

- Asthma is a progressive inflammatory disease which is a major cause of disability, health resource utilization and poor quality of life for those who are affected.
- Asthma is the most common chronic disease among children and young adults, particularly because of its early onset.
- It is estimated that more than 50% of asthma has an allergic background.
- About 50% of patients with severe asthma have allergic-atopic asthma.
- Current treatment for asthma suggested by Global Initiative for Asthma (GINA) guidelines includes several reliever and controller drugs, specially inhaled corticosteroids which reduce airway inflammation. Other drugs include β2 agonists and anti-leukotrienes.
- Though drugs are effective for most asthma patients, there is a subset of patients in whom none of the drugs can control asthma.
- IgE antibodies have been viewed as a target for immunological drug development in asthma, and a number of strategies aimed at inhibiting its proinflammatory action have been developed.
- Omalizumab is the first humanized anti-IgE monoclonal antibody approved for use in bronchial asthma.
- Since omalizumab is expensive than other anti-asthma drugs, its introduction has increased the treatment cost of the disease.

OBJECTIVE

- To conduct a systematic review of cost-effectiveness data for omalizumab in the treatment of severe persistent allergic asthma.

MATERIALS AND METHODS

- Literature search was conducted in MEDLINE, EMBASE, and Cochrane Library, without any language restrictions, from inception to the end of December 2016.
- In addition, references of the included studies were screened for additional studies.
- All studies examining cost-effectiveness of omalizumab in the treatment of severe persistent allergic asthma were included.
- An initial search using the keywords “omalizumab, cost-effectiveness, and severe asthma” was followed by a search of related citations.
- Two authors independently selected papers and extracted data; differences adjudicated via consensus discussion.

RESULTS

- Most of the selected studies evaluated add-on omalizumab in patients with allergic asthma that was poorly controlled in spite of high-dose inhaled corticosteroids (ICS), with or without long-acting beta agonists (LABA).
- The cost-effectiveness data of omalizumab varied across studies.
- Some studies were in favor of omalizumab as a cost-effective or dominant strategy, whereas other studies reported that omalizumab was not cost-effective.
- Two of the studies concluded that omalizumab improved health-related quality of life but also substantially increased the cost of treatment.
- Another two studies concluded that omalizumab was cost-effective for patients with severe allergic asthma, suggesting that asthma severity and the risk of asthma exacerbations should be considered when determining the cost-effectiveness of omalizumab.
- On the contrary, two other studies reported that omalizumab was not cost-effective and noted incremental cost-effectiveness ratios (ICERs) of €339,371 and €320,800.

CONCLUSION

- Evidence suggest that there is mark variations in cost-effectiveness data for omalizumab in the treatment of severe persistent allergic asthma.
- However, there is a substantial uncertainty in the underlying evidence, indicating the need for future research towards reducing such uncertainty.

REFERENCES