**Abstract**

Asthma is one of the most common long-term inflammatory disorder of the airways characterized by chronic inflammation, increased responsiveness to airway stimuli, and airway hyperreactivity. The evaluation and management of asthma is complex and requires a multidisciplinary approach. This review aims to assess the relative efficacy and real-world effectiveness of omalizumab in clinical practice.

**Introduction**

Asthma is one of the most common long-term inflammatory disorders of the airways characterized by chronic inflammation, increased responsiveness to airway stimuli, and airway hyperreactivity. This condition affects a significant proportion of the population, with approximately 300 million people suffering from asthma worldwide.

**Objective**

The study aims to compare the relative efficacy and real-world effectiveness of omalizumab in clinical practice.

**Methods**

A systematic literature search was performed after an updated review that was published on December 20, 2013. The search strategy included PubMed, Embase, and Cochrane databases. The search was limited to studies published from January 2005 to January 2014.

**Results**

- **Outcomes**:
  - Reduced lung function (FEV1 < 80%)
  - Multiple documented severe asthma exacerbations despite daily high-dose ICS plus a LABA
  - Reduced hospitalizations
  - Physician GETE
  - Incidence of clinically significant exacerbations
  - Incidence of severe exacerbations

- **Populations**:
  - Observational studies (≥30 patients), RCTs, systematic reviews, and meta-analyses of RCTs

- **Search strategy**:
  - PubMed, Embase, Cochrane databases

- **Study design**:
  - RCTs, systematic reviews, and meta-analyses of RCTs

- **Study duration**:
  - Clinical trials: 1 month to 7.4 months
  - Observational studies: 4 to 24 months

**Conclusion**

Limited variation was observed in the rate of hospitalisations for RCTs in the baseline period (0.12-1.77) and in treatment effect (RR: 0.44-0.79) (95% CI: 0.25-0.80). Across observational data, there is more variation in the rate of hospitalisations for RCTs in the baseline period (0.25, 0.40-0.57) and treatment effect (RR: 0.05-0.39) (95% CI: 0.25-0.80). The study findings are consistent with previous research findings.

**Disclosure**

The authors report no conflicts of interest.

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**Figure 1. Rate ratio of hospitalisations**

- Observation studies: 4 to 24 months
- RCTs: 1 month to 7.4 months

**Figure 2. Study selection flow chart**

- Full-text articles reviewed (1494)
- Abstracts identified by MEDLINE® and EMBASE® (67161)
- Duplicates excluded (58227)
- Abstracts reviewed (894)
- Full-text articles reviewed (334)
- Relevant studies included for analysis (124)
- Final full-text articles included for analysis (8)
- Full-text articles included reporting convenience samples, treatment studies, and case series (23)