COST-EFFECTIVE ANALYSIS OF ALLERGEN IMMUNOTHERAPY IN PATIENTS WITH GRASS POLLEN-INDUCED ALLERGIC RHINITIS IN SPAIN

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BACKGROUND

- Allergic rhinoconjunctivitis (AR) is defined as inflammation of the nasal membranes, and is characterized by a combination of the following symptoms: sneezing, nasal congestion, nasal itching, rhinorrea, sneezy and scratchy itching. 1
- Surveys of individuals with AR conducted in Europe2 indicate that poorly controlled AR has a substantial detrimental impact on quality of life (QoL), as well as the additional burden imposed by the development and exacerbation of comorbid conditions.3
- Onalair® is an allergen extract tabled included as sublingual immunotherapy (SLIT) for the treatment of moderate-to-severe seasonal, grass pollen-induced AR.4 In Spain, alternative allergy immunotherapy (AIT) treatments include Grazax®, Parapring, and Pollino®.

OBJECTIVE

A health economic assessment, reflective of Spanish clinical practice, was conducted to determine the relative impact of treatment with Onalair®, Grazax®, Parapring, Pollino® and symptomatic drug treatment (SDT) on clinical effects and healthcare costs in patients with moderate-to-severe grass pollen-induced AR.

METHODS

Literature review & meta-analysis

- The following steps and accompanying data are presented in Table 1.
- A literature review was conducted in the PubMed database to identify randomized controlled trials (RCT) of immunotherapy compounds in seasonal grass pollen-induced AR during the period of March 2012-May 2013. Studies on allergen and allergoid compounds published prior to March 2012 were identified in a meta-analysis by Di Bona et al. 2012. Meanwhile, trials for the relevant comparators were included in the current analysis. The literature review yielded one additional study of Onalair®, Cox et al. 2012.5
- Neither DiBona, nor the current literature search, identified RCTs for Parapring. Hence, data from Alfacair, a sublingual allergen compound, has been used as a proxy to estimate the efficacy of Parapring.6

RESULTS

- Table 2 presents the distribution of the total costs over the separate cost components for each comparator. Results indicated that the major cost drivers are AIT treatment costs and costs for specialist visits. Subcutaneously-administered compounds are associated with higher AIT assistance costs, as a healthcare professional is required to administer the injections. Treatment with Onalair® generates the highest number of total quality-adjusted life years (QALYs). This may be explained by the higher efficacy estimates relative to Grazax®, Pollino® and SDT, and higher persistence rates relative to Parapring. 

Table 1: Overview of clinical data inputs and results of the meta-analysis

Table 2: Distribution of total costs over individual cost components and total QALYs

Table 3: Incremental costs and QALYs and ICERs

Study year 1

Statistical analysis

- Table 3 indicates that the higher incremental costs and effects of Onalair® versus Parapring, Pollino® and SDT result in cost-effectiveness ratios of €6,931, €9,703, and €3,157 per QALY, respectively. Onalair® was predicted to be the dominant treatment strategy in comparison to Grazax® due to higher incremental QALYs and cost savings.
- Sensitivity analyses indicated that in 62% and 73% of the simulations, positive incremental effects are estimated for Onalair® compared to Grazax® and Parapring®, respectively.

STUDY LIMITATIONS

- Efficacy was estimated using an indirect comparison of available published clinical trials, as head-to-head comparative data is not currently available.
- Data from Alfacair, a sublingual allergen compound, has been used as a proxy to estimate the efficacy of Parapring.
- Differences observed in symptom scores between drugs observed after 3 years were assumed to remain constant until 9 years.
- The impact of adverse events were not considered in the analysis.

CONCLUSION

The analysis suggests Onalair® to be a cost-effective treatment option relative to Grazax®, Pollino® and SDT in patients with moderate-to-severe grass pollen-induced AR in Spanish clinical practice. Findings are confirmed by extensive sensitivity analyses.

REFERENCES

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