Health Technology Briefing
May 2024

Acarizax for treating allergic rhinitis or allergic rhinoconjunctivitis in children aged 5 to 11 years old

Company/Developer	ALK-Abello Ltd

☐ New Active Substance ☒ Significant Licence Extension (SLE)

NIHRIO ID: 28460	NICE ID: Not available	UKPS ID: Not available

Licensing and Market Availability Plans

Currently in phase III clinical trials.

Summary

Acarizax is in development for the treatment of house dust mite (HDM) allergic rhinitis or rhinoconjunctivitis in children aged 5 to 11 years old with or without asthma. HDM allergic rhinitis is caused by an allergic reaction to HDM and leads to symptoms similar to a cold, including sneezing, a runny or blocked nose and a cough. Allergic rhinitis is often associated with the eye condition conjunctivitis. Allergic rhinoconjunctivitis is an allergic disorder of the nose and eyes. Symptoms include itching, sneezing, watery nasal discharge, nasal congestion and watery, red and/or itchy eyes. Of the three primary treatments used to manage allergic rhinitis – allergen avoidance, pharmacotherapy, and allergen immunotherapy – immunotherapy is the only treatment that that has a disease-modifying effect.

Acarizax is allergen immunotherapy (AIT). AIT involves the repeated administration of allergens to allergic individuals with the purpose of inducing long-term tolerance against allergens, which in turn leads to reduction in symptoms, improved quality of life, and decreased use of medications. Acarizax is administered as a sublingual tablet. If licensed, Acarizax will offer an additional treatment option for HDM allergic rhinitis or rhinoconjunctivitis in children aged 5 to 11 years old with or without asthma who currently have few effective therapies available.

Proposed Indication

The treatment of house dust mite (HDM) allergic rhinitis or rhinoconjunctivitis in children aged 5 to 11 years old with or without asthma.[1]

Technology

Description

Acarizax (sublingual allergy immunotherapy tablet (SLIT-T) or Odactra) is allergy immunotherapy. Allergy immunotherapy with allergen products is the repeated administration of allergens to allergic individuals with the purpose of modifying the immunological response to the allergen. The immune system is the target for the pharmacodynamic effect of allergy immunotherapy, but the complete and exact mechanism of action regarding the clinical effect is not fully understood. Treatment with Acarizax has been demonstrated to induce an increase in HDM specific IgG_4 and to induce a systemic antibody response that can compete with IgE in the binding of house dust mite allergens. This effect is observed already after 4 weeks of treatment. Acarizax works by addressing the cause of HDM respiratory allergic disease, and clinical effect during treatment has been demonstrated for both upper and lower airways. The underlying protection provided by Acarizax leads to improvement in disease control and improved quality of life demonstrated through symptom relief, reduced need for other medications and a reduced risk for exacerbation.[2]

Acarizax is in development for the treatment of house dust mite (HDM) allergic rhinitis or rhinoconjunctivitis in children aged 5 to 11 years old with or without asthma. In the phase III trial (NCT04145219), acarizax is administered as one sublingual tablet per day over a treatment period of approximately 1 year.[1]

Key Innovation

The goal of allergen immunotherapy (AIT) is to induce long-term tolerance against allergens, which in turn leads to reduction in symptoms, improved quality of life, and decreased use of medications. Of the three primary modalities used to manage AR – allergen avoidance, pharmacotherapy, and AIT – immunotherapy is the only treatment that that has a disease-modifying effect through induction of immunologic tolerance.[3] Studies of SLIT-T in paediatric populations treated with HDM SLIT-T have found improvement in symptom and medication scores. In general, SLIT therapy is considered safer than subcutaneous immunotherapy (SCIT) as there have been no reported fatalities from SLIT and severe systemic reactions are very rare.[4]

If licensed, acarizax will offer an additional treatment option for HDM allergic rhinitis or rhinoconjunctivitis in children aged 5 to 11 years old with or without asthma who currently have few effective therapies available.

Regulatory & Development Status

Acarizax currently has Marketing Authorisation in the EU/UK for:[2,5]

- persistent moderate to severe HDM allergic rhinitis despite use of symptom-relieving medication in adults aged 18 to 65 years
- HDM allergic asthma not well controlled by inhaled corticosteroids and associated with mild to severe HDM allergic rhinitis in adults aged 18 to 65 years
- persistent moderate to severe HDM allergic rhinitis despite use of symptom-relieving medication in adolescents aged 12 to 17 years

Patient Group

Disease Area and Clinical Need

HDM allergy is very common and is associated with triggering or worsening symptoms of asthma, eczema, and perennial or chronic allergic rhinitis. In people allergic to dust mite, it is often not the mite itself but proteins in their droppings which cause the allergy symptoms.[6] Those with a family history of allergies, eczema or asthma are more likely to get an allergy.[7] Allergic rhinitis is defined as a symptomatic disorder of the nose characterised by: itching, nasal discharge, sneezing, nasal airway obstruction induced by an immunoglobulin E (IgE)-mediated immune reaction after allergen exposure.[8] Allergic rhinitis is often associated with conjunctivitis. Allergic rhinoconjunctivitis is the result of IgE-mediated allergy and nasal mucosa inflammation. IgE is produced in the lymphoid tissues and locally in response to common environmental allergens. When allergens bind to mast-cell-bound IgE, mast-cell degranulation occurs and release of a myriad of biochemical mediators. Histamine is the key player in the acute allergic response.[8]

Allergic rhinitis is the most common form of non-infectious rhinitis, affecting between 10-15% of children.[9] The international study of asthma and allergy in childhood found that allergic conjunctivitis affects 1.4–39.7% of children and adolescents. Between 30–71% of patients with allergic rhinitis also have allergic conjunctivitis or conjunctival symptoms.[10] In England 2022-23, there were 774 finished consultant episodes (FCE) and 768 admissions for other allergic rhinitis (ICD-10 code J30.3) which resulted in 33 FCE bed days and 713 day cases. There were 89 FCEs for children aged 5 to 9 years old and 135 FCEs for children aged 10-14 years old.[11]

Recommended Treatment Options

There is no treatment option recommended by NICE for HDM allergic rhinitis or rhinoconjunctivitis with or without asthma in children. The typical treatment approach consists of avoidance measures to limit exposure to allergens that trigger symptoms and medications such as intranasal corticosteroids and oral antihistamines to relieve symptoms.[4] Desensitisation (immunotherapy) to HDM allergens is a possible treatment for those severely affected.[6] Presently, immunotherapy is the only modality that may lead to tolerance to HDM allergens causing the patient's allergic rhinitis.[4]

Clinical Trial Information

Trial	**MATIC**, NCT04145219, **EudraCT** 2019-000560-22; A One-year Placebo-controlled Phase III Trial Evaluating the Efficacy and Safety of the House Dust Mite (HDM) SLIT-tablet in Children (5-11 Years of Age) With HDM Allergic Rhinitis/Rhinoconjunctivitis With or Without Asthma **Phase III** – Active, not recruiting **Locations:** Seven EU countries, USA, Canada and Russia **Primary completion date:** April 2023
Trial Design	Placebo-controlled, randomised, parallel assignment, double-blind
Population	N=1,459 (actual); children with HDM allergic rhinitis or rhinoconjunctivitis with or without asthma; aged 5 to 11 years old
Intervention(s)	Acarizax tablets (1 tablet per day)
Comparator(s)	Placebo tablet (1 tablet per day)
Outcome(s)	Primary outcome:

	• The average daily sum of a rhinitis symptoms score and rhinitis medication score measured on a common scale [Time frame: The last 8 weeks of approximately 12 months of treatment] See trial record for full list of other outcomes
Results (efficacy)	See trial record
Results (safety)	See trial record

Estimated Cost

Acarizax is already marketed in the UK for the treatment of moderate to severe HDM allergic rhinitis or HDM allergic asthma not controlled by inhaled corticosteroids in adults aged 18 to 65 years old; the NHS indicative cost of 30 tablets is £80.12.[5,12]

Relevant Guidance

NICE Guidance

- NICE technology appraisal in development. STG320 for treating allergic rhinitis or rhinoconjunctivitis caused by house dust mites (GID-TA10279). Expected publication date to be confirmed.
- NICE technology appraisal in development. SQ HDM SLIT for treating allergic rhinitis and allergic asthma caused by house dust mites (GID-TA11355). July 2024.
- NICE interventional procedure guidance. Intranasal phototherapy for allergic rhinitis (IPG616). June 2018.
- NICE diagnostic guidance. ImmunoCAP ISAC 112 for multiplex allergen testing (DG24). May 2016.

NHS England (Policy/Commissioning) Guidance

- NHS England 2013/14 NHS Standard Contract for Paediatric Medicine: Specialised Allergy Services. E03/S/j.

Other Guidance

- The British Society of Allergy and Clinical Immunology. BSACI guideline for the diagnosis and management of allergic and non-allergic rhinitis. Revised Edition 2017.[9]
- The European Academy of Allergy and Clinical Immunology. EAACI Guidelines on Allergen Immunotherapy: Allergic rhinoconjunctivitis. 2017.[13]

Additional Information

ALK-Abello Ltd did not enter information about this technology onto the UK PharmaScan database; the primary source of information for UK horizon scanning organisations on new medicines in development.

As a result, the NIHR Innovation Observatory has had to obtain data from other sources.

UK PharmaScan is an essential tool to support effective NHS forward planning; allowing more effective decision making and faster uptake of innovative new medicines for patients who could benefit.

We urge pharmaceutical companies to use UK PharmaScan so that we can be assured of up-to-date, accurate and comprehensive information on new medicines.

References

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NB: This briefing presents independent research funded by the National Institute for Health and Care Research (NIHR). The views expressed are those of the author and not necessarily those of the NHS, the NIHR or the Department of Health.