The future of ARIA guidelines

Evidence-based medicine
GRADE Recommendations

AND something else?

Fit at work with rhinitis
MACVIA-ARIA 2016

1- New ARIA guidelines

2- Beyond guidelines
MACVIA-ARIA Sentinel NetworK for allergic rhinitis (MASK-rhinitis): the new generation guideline implementation

Develop Integrated Care Pathways for rhinitis/asthma comorbidity

1. ARIA (WHO workshop 1999)
Supplement to

THE JOURNAL OF
Allergy and Clinical Immunology

ALLERGIC RHINITIS AND ITS IMPACT ON ASTHMA

ARIA WORKSHOP REPORT

In collaboration with the World Health Organization

Table of Contents Begins on Page 9A

Official Journal of

American Academy of Allergy Asthma & Immunology

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1245 citations
ISI

3450 citations
Google Scholar
ARIA pocket guide
52 translations
Management of Rhinosinusitis and Allergic Rhinitis

MOH Clinical Practice Guidelines  2/2010
Allergic Rhinitis and its Impact on Asthma (ARIA): Achievements in 10 years and future needs

4.1 Therapeutic indications

ACARIZAX is indicated in adult patients (18-65 years) diagnosed by clinical history and a positive test of house dust mite sensitisation (skin prick test and/or specific IgE) with at least one of the following conditions:

- persistent moderate to severe house dust mite allergic rhinitis despite use of symptom-relieving medication
- house dust mite allergic asthma not well controlled by inhaled corticosteroids and associated with mild to severe house dust mite allergic rhinitis. Patients' asthma status should be carefully evaluated before the initiation of treatment (see section 4.3).
Develop Integrated Care Pathways for rhinitis/asthma comorbidity

1. ARIA (WHO workshop 1999)

2. Revision using GRADE
Allergic Rhinitis and its Impact on Asthma (ARIA) guidelines: 2010 Revision

Jan L. Brožek, MD, PhD, Jean Bousquet, MD, PhD, Carlos E. Baena-Cagnani, MD, Sergio Bonini, MD, G. Walter Canonica, MD, Thomas B. Casale, MD, Roy Gerth van Wijk, MD, PhD, Ken Ohta, MD, PhD, Torsten Zuberbier, MD, and Holger J. Schünemann, MD, PhD, MSc

Background: Allergic rhinitis represents a global health problem affecting 10% to 20% of the population. The Allergic Rhinitis and its Impact on Asthma (ARIA) guidelines have been widely used to treat the approximately 500 million affected patients globally.

Objective: To develop explicit, unambiguous, and transparent clinical recommendations systematically for treatment of allergic rhinitis on the basis of current best evidence.

Methods: The authors updated ARIA clinical recommendations in collaboration with Global Allergy and Asthma European Network following the approach suggested by the Grading of Recommendations Assessment, Development and Evaluation working group.

Results: This article presents recommendations about the prevention of allergic diseases, the use of oral and topical medications, allergen specific immunotherapy, and complementary treatments in patients with allergic rhinitis as well as patients with both allergic rhinitis and asthma. The guideline panel developed evidence profiles for each recommendation and considered health benefits and harms, burden, patient preferences, and resource use, when appropriate, to formulate recommendations for patients, clinicians, and other health care professionals.

Conclusion: These are the most recent and currently the most systematically and transparently developed recommendations about the treatment of allergic rhinitis in adults and children. Patients, clinicians, and policy makers are encouraged to use these recommendations in their daily practice and to support their decisions. (J Allergy Clin Immunol 2010;126:466-76.)

Key words: AR, practice guideline

REVIEW/CONSULTATION GROUP

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Quality of guidelines (AGREE II)

Padjas et al, J Allergy Clin Immunol 2013
Develop Integrated Care Pathways for rhinitis/asthma comorbidity

1. ARIA (WHO workshop 1999)

2. Revision using GRADE

3. From a guideline to an ICP in asthma and rhinitis co-morbidity
ICPs differ from practice guidelines as

- they are utilized by a **multidisciplinary team**
- have a focus on the quality and co-ordination of care
- ICPs need to have a mechanism for recording variations/deviations from planned care
- An ICP is intended to act as a guide to treatment. Clinicians are free to exercise their own professional judgments as appropriate. However, any alteration to the practice identified within this ICP must be noted as a variance
- The resulting analysis can be used to amend the ICP itself if, for the majority of patients, the practice is different to the pathway
Any alteration to the practice identified with the guideline or ICP must be noted as a variance.

• **ARIA classification**: severity (mild vs moderate/severe) is linked with quality of life (RQLQ)

• **ARIA classification**:
  • Persistence is not associated with RQLQ
  • Persistence is associated with prediction of efficacy
  • Persistence is associated with duration of treatment
  • Persistence is associated with asthma comorbidity

• **Most patients consulting in primary or secondary care**
  • Have moderate/severe disease
  • Receive ICS + antihistamines
ICP in allergic rhinitis

Patient with allergic rhinitis symptoms

Pharmacist
- Incorrect diagnosis
- Severity
- OTC medication

Primary care
- Incorrect diagnosis
- Severity
- Treatment

Specialist

Emergency care (asthma)

Self-management

Improvement

Failure

Check For asthma

YES
Airways - ICP launch

Dr Mike Bewick
Deputy Medical Director
NHS England
17 Feb 2014
4- Develop Integrated Care Pathways for rhinitis/asthma comorbidity

1. ARIA (WHO workshop 1999)

2. Revision using GRADE

3. From a guideline to an ICP in asthma and rhinitis co-morbidity

4. Need to rank interventions in stratified patients
Current perspectives

MACVIA clinical decision algorithm in adolescents and adults with allergic rhinitis

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J Allergy Clin Immunol, May 2016
Assessment of control in untreated symptomatic patient

- **VAS < 5**
  - Initiate treatment ANY
  - Re-assess VAS daily up to D3
    - **VAS < 5**
      - If symptomatic: continue treatment
      - If no symptoms: consider step down treatment
    - **VAS ≥ 5**
      - Consider SIT

- **VAS ≥ 5**
  - Initiate treatment
    - Intermittent rhinitis: ANY
    - Persistent rhinitis: INCS or INCS+AZE
    - Step up and Re-assess VAS daily up to D7
    - **VAS < 5**
      - If symptomatic: continue treatment
      - If no symptoms: consider step down treatment
    - **VAS ≥ 5**
      - Consider SIT
Assessment of control in treated symptomatic patient

- **VAS < 5**
  - Intermittent rhinitis
    - No allergen exposure
      - Step-down treatment or STOP
  - Persistent rhinitis
    - With allergen exposure
      - Maintain or step up treatment
  - Re-assess VAS daily up to D3
    - If symptomatic: continue treatment
      - If no symptoms: consider step down treatment
    - If VAS < 5: continue treatment
      - If VAS ≥ 5: step up and re-assess VAS daily

- **VAS ≥ 5**
  - Step-up treatment
    - INCS or INCS+AZE
  - Re-assess VAS daily up to D7
    - If VAS < 5: continue treatment
      - If VAS ≥ 5: step up and re-assess VAS daily
        - Consider SIT
Systematic reviews (sources include SPC-PI from regulators such as EMEA and FDA)
- RCTs (including pragmatic trials)
- Non-randomized studies of interventions

Direct (head-to-head) comparisons

Indirect comparisons

Evidence to Decision Frameworks with ranking of an intervention allowing country (region) adaptation

Guideline panel agreement
Most recommendations are still valid in 2016

- Oral H1-antihistamines in adolescents and adults
- Intra-nasal H1-antihistamines
- Intra-nasal corticosteroids
- Anti-leukotrienes
- Intra-nasal ipratropium
- Intra-nasal or ocular cromoglycate
Comparative effectiveness review of the treatments for seasonal allergic rhinitis
Original Article

Minimal Clinically Important Difference (MCID) in Allergic Rhinitis: Agency for Healthcare Research and Quality or Anchor-Based Thresholds?

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METHODS: Using the same studies as the AHRQ report, anchor- and distribution-based MCID thresholds were determined for 3 clinical comparisons identified by the AHRQ: (1) oral antihistamine + intranasal corticosteroid (INCS) versus INCS, (2) montelukast versus INCS, and (3) intranasal antihistamine + INCS in a single device versus the monotherapies. The outcomes were compared with those reported using the AHRQ threshold.

RESULTS: No treatment comparison met the AHRQ-defined MCID threshold; all treatments were determined to be equivalent for all 3 queries. In contrast, the evidence-based model revealed some differences between treatments: INCS > montelukast; intranasal antihistamine + INCS > either monotherapy. No clinically relevant benefit was observed for adding an oral antihistamine to INCS, but some studies were not optimal choices for quantitative determination of MCIDs. Updating the literature search revealed no additional studies that met the AHRQ inclusion criteria.
**Current controversies and challenges in allergic rhinitis management.**

Price D¹, Smith P², Hellings P³, Papadopoulos N⁴, Fokkens W⁵, Muraro A⁶, Murray R⁷, Chisholm A⁸, Demoly P⁹, Scadding G¹⁰, Mullol J¹¹, Lieberman P¹², Bachert C¹³, Mösges R¹⁴, Ryan D¹⁵, Bousquet J¹⁶,¹⁷,¹⁸.

**Abstract**

There are many obstacles in the path of effective allergy management, in general, and allergic rhinitis (AR) control, in particular. Chief among them are: insufficient symptom relief in some patients provided by some currently considered first-line AR treatments in real life; an over-reliance on randomized controlled trials to direct AR guideline recommendations; the need for a broader interpretation of the AR evidence base (to include randomized controlled trials and real-life studies); poorly designed and interpreted studies; and lack of an AR control concept and common language of control. These controversies are fully reviewed here and challenging solutions have been presented.
Systematic reviews (sources include SPC-PI from regulators such as EMEA and FDA)
- RCTs (including pragmatic trials)
- Non-randomized studies of interventions

Evidence to Decision Frameworks with ranking of an intervention allowing country (region) adaptation

Direct (head-to-head) comparisons
Indirect comparisons

Guideline panel agreement

Health system
Availability/affordability of interventions
Cost/reimbursement

HCP views
Patients views
Social determinants/barriers

Care pathway based on evidence to decision frameworks specific to
- Country (region)
- Age and sex
- Patient stratification
  - (Social group)
Evidence to Decision Frameworks with ranking of an intervention allowing country (region) adaptation

**Guideline panel agreement**

- Health system
- Availability/affordability of interventions
- Cost/reimbursement
- Social determinants/barriers
- HCP views
- Patients views

**Care pathway based on evidence to decision frameworks** specific to
- Country (region)
- Age and sex
- Patient stratification
  - (Social group)

Systematic reviews (sources include SPC-PI from regulators such as EMEA and FDA)
- RCTs (including pragmatic trials)
- Non-randomized studies of interventions

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Step 1
Step 2
Step 3
MACVIA-ARIA 2016

1- New ARIA guidelines

2- MASK
The future of ARIA guidelines

Evidence-based medicine
GRADE Recommendations

AND something else?

Fit at work with rhinitis
MACVIA-ARIA Sentinel Network for allergic rhinitis (MASK-rhinitis): the new generation guideline implementation

A common language to assess allergic rhinitis control: results from a survey conducted during EAACI 2013 Congress

Peter W. Hellings¹,², Antonella Muraro³, Wytske Fokkens², Joaquim Mullol⁴, Claus Bachert⁵, G. Walter Canonica⁶, David Price⁷, Nikos Papadopoulos⁸, Glenis Scadding⁹, Gerd Rasp¹⁰, Pascal Demoly¹¹, Ruth Murray¹² and Jean Bousquet¹³,¹⁴,¹⁵,¹⁶
Join us for lunch and dialogue at EAACI 2014
Chairman: Prof Jean Bousquet
Integrated care pathways for airway diseases (AIRWAYS-ICPs)

European Innovation Partnership on Active and Healthy Ageing, Action Plan B3
Mechanisms of the Development of Allergy (MeDALL, WP10)
GARD (Global Alliance against Chronic Respiratory Diseases, WHO) research demonstration project
The Allergy Diary was developed in collaboration between MACVIA-LR and ARIA.

MACVIA-LR (Contre les Maladies Chroniques pour un Vieillissement Actif en Languedoc-Roussillon, France) is a reference site of the European Innovation Partnership on Active and Healthy Ageing aimed at fighting chronic disease.

The ARIA (Allergic Rhinitis and its Impact on Asthma) initiative aims to educate and implement evidenced-based management of allergic rhinitis in conjunction with asthma.

First enter your profile
Entering your profile saves you time when using the app daily. To get started just enter your year of birth, gender and country. To continue using the app please complete your profile within 10 days.

OK

My symptoms

How they affect me

Medication

My usual allergy meds
The ERDF aims to strengthen economic and social cohesion in the European Union by correcting imbalances between its regions.

The ERDF focuses its investments on several key priority areas. This is known as 'thematic concentration':

- Innovation and research;
- The digital agenda;
- Support for small and medium-sized enterprises (SMEs);
Virtual health: the next frontier for care

MASK-rhinitis, a single tool for integrated care pathways in allergic rhinitis
ICP in allergic rhinitis

- Uses the VAS to assess control
- Integrates with the updated AR guideline
- Improves communication between all stakeholders, from:
  - Guidelines
  - Physicians
  - Pharmacists
  - Patients

Allergy Diary companion for physicians and pharmacists

Now we can all speak the same language of allergic rhinitis control

Allergy Diary for patients

Now available from app store or Google play

VAS: visual analogue score; AR: allergic rhinitis
ICP in allergic rhinitis

Patient with allergic rhinitis symptoms

Pharmacist
- Incorrect diagnosis
- Severity
- OTC medication
- Improvement
- Failure
- Check For asthma
  - YES

Primary care
- Incorrect diagnosis
- Severity
- Treatment
- Improvement
- Failure

Specialist

Emergency care (asthma)
ICP in allergic rhinitis

Patient with allergic rhinitis symptoms

Self-management

Emergency care (asthma)
Transfer of data to HCP
The MACVIA-ARIA future

Electronic decision support system
Allergy Diary by MACVIA-ARIA
Your health is in your hands

Take control of your allergic rhinitis (hay fever)
Don’t let it control you

Available from Google Play and Apple store
Free to download

The Allergy Diary by MACVIA-ARIA enables you to keep a daily record of your allergic rhinitis (also known as hay fever) and asthma symptoms as well as your medication use. The app is simple to use, and combines practicality with good scientific practice, having been developed with a global team of world leading allergy clinicians. The symptom ratings you provide daily are captured using validated measures that can be interpreted as a level of symptom control. These are simple rating scales that just require you to tap a line to indicate your response to three or four (if you have asthma) symptom questions. You can also record the medication you take each day.

Better understand your daily allergic symptoms
Regularly monitor your allergy
Personalize your treatment with your health care provider
Optimize and anticipate your next season treatment

All collected data are kept secure.
The Allergy Diary app is available in the following countries:
Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Lithuania, Netherlands, Poland, Portugal, Spain, Sweden, UK

Regular use of the App allows you to better understand your symptoms, optimize your treatment and anticipate your allergic reactions
MASK: ICP implementation

- Free (Apple stores and Android)
- Provides a simple common language for patients and health care professionals
- A simple and effective tool for precision medicine
- Stratifies rapidly uncontrolled patients despite optimal treatment: reduces time from first symptoms to AIT
- The same tool can be used
  - To stratify patients to be enrolled in RCTs
  - To perform RCTs
  - To study efficacy of interventions in real life
  - To study persistence of the effect when intervention stopped
- Can be used in the elderly
- A tool for **healthy work in rhinitis sufferers** (EIP on AHA)
The future of ARIA guidelines

Evidence-based medicine
GRADE Recommendations

AND something else?

Fit at work with rhinitis
On first use, users see a welcome screen, accept terms and conditions of use and are given the opportunity to register and create an account.
• ? Indicates a response is required
• Users touch the line to indicate response and a ‘marker’ appears in that location
• The marker can be moved with a finger to mark the line where intended.
• Once the mark is placed the user then touches ‘next’ to move on to the next VAS
• Each VAS is completed once daily
MACVIA-ARIA sentinel network

Patients selected by allergists
- History of allergic symptoms
- Positive skin tests (GA²LEN battery)
  - Component resolved IgE

Pollen counts in previous years

2 weeks before expected season
SMS to inform patient to start VAS daily monitoring

Daily VAS level
Increased VAS level
SMS to inform all patients of onset of pollen season

Information to media

Modelling of future pollen seasons

Daily VAS level monitoring

Analysis of clinical and climatologic data and pollen counts
Research
Clinical trials
Policies and Preventive strategies
In case of continued high scores the feedback message will display an appropriate message in red type and a warning icon will mark the graph.

Prompts users to discuss their diary data with their health care provider.

Aim: get to ‘green’ and stay there.
Patient phenotype and stratification

Increased VAS level

Daily VAS level

Integrated care pathways
AIRWAYS-ICP

Clinical decision Support system

Precise patient phenotype

Caracterization of SCUAD patients

ARIA 2015
Assessment of control in treated symptomatic patient

The therapeutic strategy will be defined by the physician according to patient’s preferences and other needs.
From stratified patients to trials

Integrated care pathways
ARIA-ICP

Stratify patients

Randomized control trials

Daily VAS level

Increased VAS level

Clinical decision Support system

Assessment of SCUAD Asthma-conjunctivitis

Applicable to all age groups and the elderly

Symptoms
Medications
QOL

ARIA 2015
Validation of ARIA 2015

Integrated care pathways
ARIA-ICP

Clinical decision Support system

Treat patient up to control or Maximum therapy

Patients treated by physicians "free choice"

Daily VAS level

Compare the 2 strategies

Optimize treatment

Characterize responders