How to Measure the Effectiveness of the Dermal Sensitization QRA For Fragrance Ingredients

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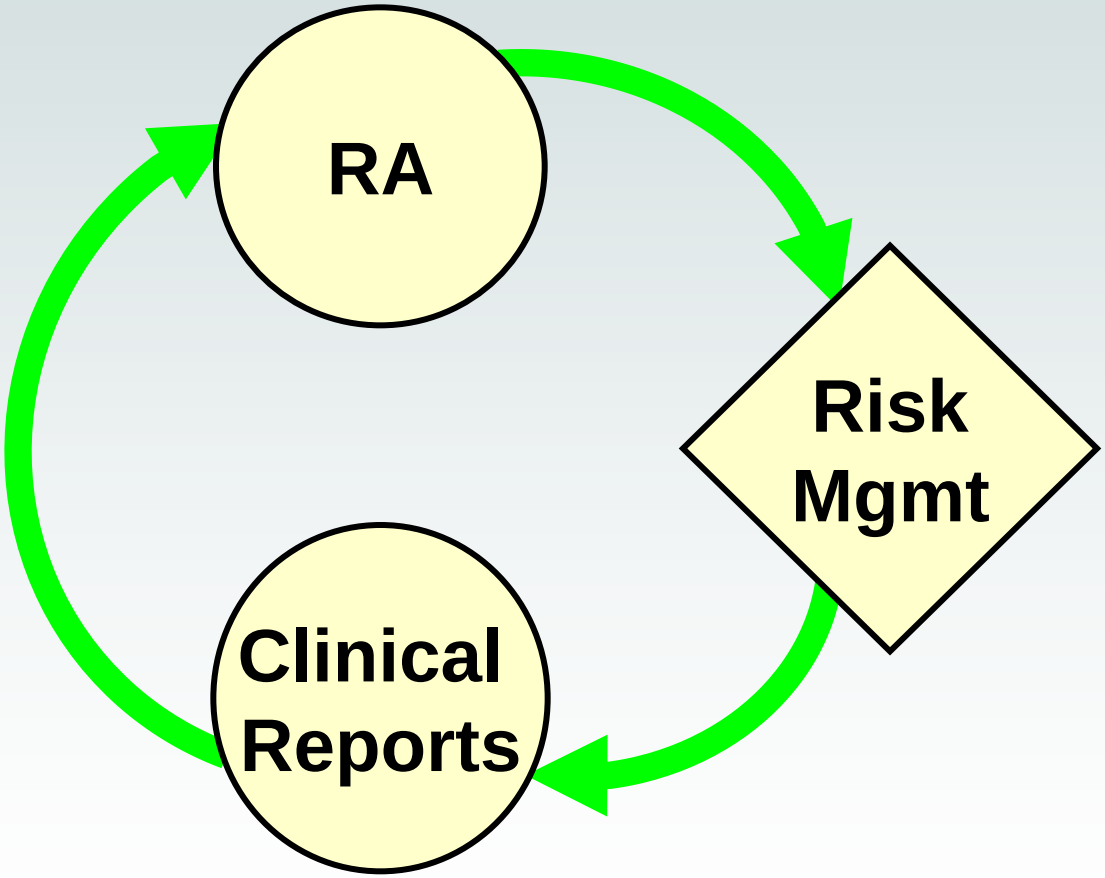
QRA Dermal Sensitization: Does It Work?

- Evidence of proven effectiveness for other materials
- Need to build evidence in fragrance ingredients



Patch Test Database
U. Hospital Leuven

- Api et al, Dermatitis, 21(4): 207-213, 2010
  - RIFM sponsored surveys 2000-2007
  - Identify product types containing specific fragrance ingredients
  - Of total patients, select those positive to Fragrance Mix and their own cosmetic products with fragrance-related contact allergic reactions
  - About 500 positive patch test to their own cosmetic products per year
  - About 250 have reactions related to specific fragrance ingredients

Database U. Hospital Leuven 2000-2007

Fragrance Ingredient	Product Type	Positive Patch Test Reactions to Product Confirmed & Not Confirmed
Cinnamic Aldehyde	Deodorant	4
	Intimate Hygiene Wipes	1
	Hair Care	1
Citral	Hydroalcoholic	9
	Skin Care	2
	Deodorant	1
Isoeugenol	Hydroalcoholic	14
	Skin Care	4
	Deodorant	2
	Hair Dye	1

Retrospective Studies

- Difficult to impossible to accomplish in individual clinics
- Numbers of reactions are small
- Number of confirmed reactions are even smaller
- Totals are too small to be meaningful to make conclusions
- As such efforts are focused on prospective studies

Prospective Study

- A prospective study to determine a potential method of monitoring the impact of the QRA method over time.
- What are the practicalities, design and eventual implementation of a prospective study?

Prospective Study

- **Proposal: to develop a network and system of recording and sharing information from dermatology clinics as a potential method of determining the effectiveness of the QRA over a long time period (minimum 5 years and ideally much longer) could be judged against incidence (not prevalence)* of allergy to fragrance under an agreed scheme.**

Prospective Study

- *It will not be feasible – neither using population-based, nor clinic-based studies – to measure incidence, as this would inevitably involve repeated patch testing of a cohort of individuals with the allergen(s) in focus.
- However, regarding new substances (not cross-reacting with existing ones), all prevalent cases can be regarded as incident.
- Moreover, a focus on contact allergy prevalence (=PT results) in younger patients with a shorter cumulative exposure history can approximate incidence to some extent.

Prospective Study

1. Incidence of positive diagnostic patch test reactions to fragrance mixes
2. Incidence of positive diagnostic patch test reactions to a specific fragrance ingredient
3. Recording of body site of allergic contact dermatitis associated with 1 and 2 above
4. Recording of product type presented by patient (including brand and batch number)

Prospective Study

5. **Determination of clinical relevance of product to current or historic allergic contact dermatitis, with details on *how* relevance was examined**

Prospective Study

6. **Provision of product sample for analysis - Try to determine the date at which each subject's allergy to X was discovered. While the date of discovery is not always related to the date of induction/acquisition of allergy, there is still a statistically greater chance that older dates of discovery will relate to pre-QRA induction and dates of discovery after (some years maybe) implementation of QRA restrictions, will reflect the impact of QRA**

Prospective Study

7. **Provision of fragrance ingredients of a product (as far as these are not commercially available as PT allergens) for break-down testing in case of a positive reaction to the product.**

Next Steps

- Draft a 'case record form' and some procedural layout (based on the present collection of ideas)
- Develop a protocol
- Find clinics interested in participating

- New Chemical
- Focus on younger population
- Monitor prevalence
  - Indicate success by no increase in prevalence and some decrease in prevalence
  - Not absolute proof but indication
  - Need quantitative as well as qualitative analysis
- How to segregate subpopulation - those using aromatherapy, massage therapy, occupational exposure, etc in monitoring prevalence
  - Use a questionnaire to segregate this population
  - Product names; types ; ordinary product types
  - Sufficiently large population

- **No change in FM1 in EU; decrease in US**
- **Distinguish fragrances that are synthetic and those found in nature; limit the exposure; more specific in the choice of material**
- **FM vs individual ingredients**
- **Tonnage and which segments of industry it is being used in. Can it be delineated retrospectively?**

- **Baseline study in many countries to determine the current situation**
  - **26 chemicals has some qualitative data**
  - **When want the clinical evidence then need exposure data;**
  - **Not FM but individual fragrance ingredients**
  - **Repeat it and should see if there are any changes**
  - **Data are already available and published for the 26 materials and can be analyzed. What stats do you use and how to measure a change**
  - **Monitor marketing**

- **New chemicals**
  - **Patch test but need an indication that there is a benefit to patient otherwise need ethical review**
  - **Would need product labeling to show that there is use for the material**
  - **Label all ingredients and be transparent – essential for dermatologists**

More Information

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