Systematic review of eczema treatments

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Why do we need an overarching systematic review?
Scope of the review

- Randomised controlled trials of eczema treatments
- Primary outcomes – Patient rated outcomes or if not, global severity of eczema
- Prevention of eczema excluded
- Aimed at clinicians, systematic reviewers, guideline writers, healthcare decision makers, patients
The **Global Resource of EczemA Trials**

A comprehensive collection of detailed information on systematic reviews and randomised controlled trials of eczema treatments.

**GREAT database last updated: Wednesday 2nd of April 2014**

- **Background**
  - Eczema is a complex, chronic and relapsing inflammatory skin disease affecting children and adults worldwide...

- **Aims**
  - To provide a comprehensive, easy to use and access resource...

- **Collaboration**
  - This data contained within this database is just part of a much larger data set being collected...

- **Latest news**
  - 23/08/2012
    - Re-launch of the GREAT website – the new website is now live.
  - 12/07/2012
    - Top research question for eczema treatments revealed

[www.greatdatabase.org.uk](http://www.greatdatabase.org.uk)
Quality of trial reporting

Much improvement in quality in the last decade:
  • Easier to find
  • Clarity of reporting

Still room for improvement in the future:
  • Longer, larger trials
  • Patient reported outcomes
  • Clinically relevant treatment comparisons
  • Primary care population and setting
Summary of results

287 new included RCTs (Over 500 trials in total)
Which treatments have sufficient evidence of benefit?

- Proactive use of topical corticosteroids, tacrolimus, pimecrolimus to prevent flares
- Systemic treatments in adults
- Phototherapy
- Education
Which treatments have sufficient evidence of NO benefit?

- Twice daily versus once daily application of topical corticosteroids
- Supplements containing linoleic acid (Evening primrose oil and borage oil) versus placebo
- Ion exchange water softeners
- Antibiotic/steroid combinations in non-infected eczema
Which treatments need more high quality research?

- Emollients to reduce the severity of eczema/prevent flares/reduce the need for other eczema treatments

- Topical corticosteroids in combination with antibiotics for infected eczema

- Systemic treatments (methotrexate, montelukast)

- Large number of other treatments fall into this category
**Topical Vitamin B12**

Studies
No trials looking at topical vitamin B12 were reported before 2000.

Two new trials were reported after 2000.

Two within person trials, both industry funded, compared the same concentration of cyanocobalamin (0.07%) in a cream compared to the base cream only. In the trial by Stucker and colleagues, 48 adults aged 18 to 70 years applied the treatments twice a day for 8 weeks. In the trial by Januchowski and colleagues, 22 children aged 6 months to 18 years and no severity inclusion criteria stated were randomised to treatment for 4 weeks, but it was not clear how often they were instructed to use the treatment.
### Table 29: Topical vitamin B12 - risk of bias of included studies

<table>
<thead>
<tr>
<th>Trial</th>
<th>Sequence Generation</th>
<th>Allocation Concealment</th>
<th>Blinding</th>
<th>Other potential sources of bias</th>
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<tr>
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<td>Low risk</td>
<td>Unclear risk</td>
<td>Unclear risk</td>
<td></td>
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<tr>
<td>Januchowski 2009</td>
<td>Low risk</td>
<td>Low risk</td>
<td>Unclear risk</td>
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</tbody>
</table>
Benefits

The trial by Stucker and colleagues found that there was significant decrease in severity after 8 weeks treatment, measured using a modified SASSAD score with a maximum for each side of the body of 240 points, for the topical vitamin B12 treatment compared to the base cream.

The trial by Januchowski and colleagues also reported significant decreases in severity, measured using modified SCORAD scores, with a maximum of 27, for topical vitamin B12 cream compared to the base cream after 4 weeks of treatment.
Overall implications for research and practice

Two reasonably well reported trials appear to show a significant beneficial effect on severity of eczema for topical vitamin B12 cream, however, the clinical relevance of a change in modified SASSAD scores of around an additional 25 points compared to the base cream or just under three additional modified SCORAD points remains debatable. The lack of CI for all results in both trials published reports means that there is no way to judge the statistical robustness of the trial’s claims. Taking into account that there were a number of adverse events relating to skin irritation probably caused by topical vitamin B12, it seems unlikely to be worth ploughing more research time and money in. Whether or not to try this topical treatment will probably remain a decision based on individual circumstance and preference.
Harms
Thirty three cutaneous events were reported, all mild except one, which involved a moderate reaction of weeping, itching and limited neck mobility after applying the placebo cream. There were four cases of irritation only in the topical vitamin B12 group that were considered ‘probably related’, and two cases were ‘possibly related’. These were two cases of burning, two cases of itching, one case of redness and one case of hyperthermia and formication.
Points the way for more specific, detailed systematic reviews and randomised controlled trials

Provides a map of the evidence about eczema treatments
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