A new barrier glove is as efficient as a potent topical steroid in the treatment of mild to moderate severe chronic hand eczema

XXI WAC, 6th–10th December, 2009, Buenos Aires

Tamar Kinaciyan

Div. of Immunology, Allergy & Infectious Diseases
Dept. of Dermatology
Medical University of Vienna
Aims of the study

- Evaluation of the efficacy of a new barrier glove made of Uretex (MICROAIR BARRIER FABRIC®) in the treatment of mild to moderate severe hand eczema (HE) in comparison to standard therapy with the potent corticosteroid ointment diflucortolone valerate (Nerisona® Ointment)

- In the glove group: Evaluation of the benefit due to additionally worn Dermasilk® glove under the barrier glove on one hand.

- Evaluation of DQoL, comfort of and problems with the barrier glove
Study design & methods

- prospective, controlled, standardised,
- randomised: - corticosteroid vs barrier glove 8 h a day
  - in glove group: Dermasilk® on R / L hand
  - emollient for both groups: Locobase® Repair
- stratified: gender, handedness, type and severity of HE
- evaluator-blinded, non-inferiority study
- Study duration: 3 wks
- Controls: weekly

- General severity assessment: modified SCORAD
- Comparat. severity assessm. right and left hands: HECSI
- Bacterial cultures taken with cotton swabs: at baseline, if positive at all visits
- DQoL

SCORAD, Dermatology. 1993;186(1):23
HECSI, Held E, Contact Dermatitis 2005, 152; 302
T. Kinaciyan
Classifications of HE

- HE Severity
  - Mild: SCORAD between 21 – 50
  - Moderate: SCORAD between 51 - 80

- HE type
  - toxic-irritative
  - atopic
  - contact-allergic
  
  - according to the case history, clinical presentation
  - Results of SPT, APT and patch testing with European Standard Series and additional series as needed
  - total IgE- and specific IgE levels to prick test positive allergens.
Equally distribution of patients in both treatment groups

<table>
<thead>
<tr>
<th>n total = 67</th>
<th>Treatment group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nerisona® Ointment</td>
</tr>
<tr>
<td></td>
<td>Count</td>
</tr>
<tr>
<td>Gender</td>
<td>Male</td>
</tr>
<tr>
<td></td>
<td>Female</td>
</tr>
<tr>
<td>Handedness</td>
<td>Left-handed</td>
</tr>
<tr>
<td></td>
<td>Right hander</td>
</tr>
<tr>
<td>Type of hand eczema</td>
<td>Irritative</td>
</tr>
<tr>
<td></td>
<td>Atopic</td>
</tr>
<tr>
<td></td>
<td>Contact-allergic</td>
</tr>
<tr>
<td>Severity</td>
<td>Mild HE</td>
</tr>
<tr>
<td></td>
<td>Moderate HE</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Scores in both groups at all visits

- n corticosteroid = 33
- n barrier glove = 32

Mean rel. difference in SCORAD
- Corticosteroid: - 34.08 %
- Microair Barrier® Glove: - 43.24 %

p = 0.255
Correlation of both scores

\[ r = 0.83 \]
\[ p < 0.001 \]
Scores according severity of HE

mild  ↔  moderate

n total = 43
n corticosteroid = 20
n barrier glove = 23

n total = 22
n corticosteroid = 13
n barrier glove = 9

Mild HE

Visit

Moderate HE

Visit
Scores according HE type

**Irritative**
- n total = 34
- n corticosteroid = 17
- n barrier glove = 17

**Atopic**
- total = 26
- n corticosteroid = 13
- n barrier glove = 13

---

**Irritative HE**
- Mean Hecsi
- Visit: 1, 2, 3, 4
- Cortisone vs Microair Barrier Glove

**Atopic HE**
- Mean Hecsi
- Visit: 1, 2, 3, 4
- Cortisone vs Microair Barrier Glove
Scores according type of HE
HE due to ACD

n total = 7  n corticosteroid = 4  n barrier glove = 3
# Staphylococcus aureus (SA) data

<table>
<thead>
<tr>
<th>n total pat.</th>
<th>SA neg</th>
<th>Cor.</th>
<th>Glove</th>
</tr>
</thead>
<tbody>
<tr>
<td>65</td>
<td>44</td>
<td>22</td>
<td>22</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Both H SA +</th>
<th>One H SA +</th>
<th>All SA positive hands</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>6</td>
<td>36</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ds=Dermasilk</th>
<th>WH=working hand</th>
<th>NWH=not working hand</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total pat.</td>
<td>Both H SA +</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Nerisona® Ointment</td>
<td>33</td>
<td>8</td>
</tr>
<tr>
<td>Microair Barrier® G</td>
<td>32</td>
<td>7</td>
</tr>
</tbody>
</table>

Total patients = 65
SA negative = 44
Cor. = 22
Glove = 22
All SA positive hands = 36

65 15 6 36

T. Kinaciyan
WH ↔ NWH in Ds-SA (+) hands

Barrier glove treated pat= 32
All SA (+) hands = 17 (10 pat.) 19(12)

All SA (-) hands=47 (25 pat.) 45(25)

All Ds-WH= 19  Ds-WH-SA (+) =10
All Ds-NWH= 14  Ds-NWH-SA (+)= 7

Staph.aureus WH positive

Staph.aureus NWH positive
Comfort and problems with Microair® Barrier glove

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Comfort Visit</th>
<th>Problems Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 3 4 Total</td>
<td>2 3 4 Total</td>
</tr>
<tr>
<td>1+2 / no</td>
<td>26 26 25 77</td>
<td>20 23 27 70</td>
</tr>
<tr>
<td>3+4 / yes</td>
<td>5 5 6 16</td>
<td>11 8 4 23</td>
</tr>
<tr>
<td>Total</td>
<td>31 31 31 93</td>
<td>31 31 31 93</td>
</tr>
</tbody>
</table>
Summary

- The Microair® Barrier glove is as effective as Nerisona® Ointment in the treatment of mild to moderate HE.
- It is effective in all 3 types of HE.
- The effect is best for ACD type > atopic > irritative.
- Additionally wearing of Dermasilk® gloves may fasten the recovery of HE in SA (+) cases:
  - in SA (+) NWH >> in SA (+) WH
- In 80% of the patients, barrier glove was well accepted.
- Problems with the glove decrease with the study duration.
- It might be combined with steroid ointment for additive effects.
Thank you for your attention

Aknowledgements

Sabrina Weiss  Amanda Zbyszewski  Lena Stütz  Andreas Gleiss

Astellas

Alpretec  info@alpretec.com
Material

• **Uretex:**
  • consists of 3 layers,
  • two external layers: knitted polyester microfibre,
  • central layer: microporous film (= 3 microns).

• very lightweight, elastic, waterproof and breathable
• sterilisation at 115°C for 45 minutes

Wicking Test on boots

T. Kinaciyan