PHARMACEUTICAL COMPOUNDING IN PAEDIATRIC PATCH TESTING: ARE WE SURE ABOUT THE ACTUAL ACTIVE INGREDIENT CONCENTRATION?

AIMS AND OBJECTIVES

To analyze the variability of the resulting AI concentrations in paediatric patch tests, according to the commercialized forms (CF) used.

MATERIALS AND METHODS

A review of the recommendations of drug patch tests preparation was carried out in PubMed.

For the Allergy Department requested compounds, when no pure drug was commercially available, the CF were used instead. In the latter case, following the Spanish Society of Allergy and Clinical Immunology (SEAIC) recommendations, the CF weight's were used, rather than their AI content, to obtain the prescribed drug concentration in the compounds. Finally, the actual AI concentration in each compound was calculated.

RESULTS

The SEAIC and the European Society of Contact Dermatitis (ESCD) recommend for drug patch tests preparation:

1. Whenever possible, use the pure drug.
2. When the pure drug is not available, resort to the CF weight's to obtain the prescribed drug concentration in the compounds.

8 drugs were diluted at different concentrations in petrolatum

Distribution of the requested drugs depending on the source available.

- 25% PURE DRUG
- 75% COMMERCIALIZED FORMS

Actual AI concentration reached when diluting in petrolatum four drugs with a single CF, following the SEAIC and ESCD recommendations.

<table>
<thead>
<tr>
<th>DRUG</th>
<th>COMMERCIALIZED FORM</th>
<th>DILUTION IN PETROLATUM</th>
<th>ACTUAL AI CONCENTRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUFINAMIDE</td>
<td>TABLETS</td>
<td>3%</td>
<td>1.63%</td>
</tr>
<tr>
<td>AMPICILLIN</td>
<td>CAPSULES</td>
<td>5%</td>
<td>4.25%</td>
</tr>
<tr>
<td>ETHOSUXIMIDE</td>
<td>CAPSULES</td>
<td>20%</td>
<td>15.8%</td>
</tr>
<tr>
<td>BRIVARACETAM</td>
<td>TABLETS</td>
<td>30%</td>
<td>5.34%</td>
</tr>
</tbody>
</table>

Actual AI concentration reached when diluting in petrolatum drugs with more than one CF, following the SEAIC and ESCD recommendations.

- Actual AI concentration reached depending on the commercialized form chosen when diluting phenoxymethylpenicillin potassium at 10% in petrolatum.
- Actual AI concentration reached depending on the commercialized form chosen when diluting cefuroxime at 20% in petrolatum.

CONCLUSIONS

- The actual AI concentrations in the compound vary depending on the CF used.
- Using the CF with the lowest amount of excipients allow obtaining AI concentrations closer to those usually proposed by scientific societies.
- The results obtained show the need to establish protocols with the Allergy Department in order to standardize the preparation and thereby assure quality and security in paediatric patch testing.

REFERENCES