Reviewer's report

Title: Differences in permeation assessed in vivo by skin surface biopsy

Authors:
Dr Catarina C Rosado (rosadocb@iol.pt)
Luis LM Rodrigues (rodrigues@ff.ul.pt)

Version: 1 Date: 25 Jul 2003

Reviewer: Narayanasamy Kanikkannan

Level of interest: A paper whose findings are important to those with closely related research interests

Advice on publication: Unable to decide on acceptance or rejection until the authors have responded to the compulsory revisions

Discretionary Revisions:

1. The title of the article does not accurately reflect the study performed. The authors could change the title of the article.

Compulsory Revisions:

1. Abstract, line 14 & Conclusions, line 7

It is mentioned that the permeation of Sudan III was not significantly affected by solvent pre-treatment. However, Figure 1 shows that many of the solvents had statistically significant effect on the absorption of Sudan III into stratum corneum. Appropriate corrections should be made in the abstract and conclusions sections.

2. Materials and Methods

a) The solvents used for the preparation of methylene blue and Sudan III solutions and the concentrations of these chemicals in the solutions should be provided.

b). Did washing with warm water adequately remove the dyes, especially the lipophilic Sudan III? Inadequate removal of dye on the skin surface can cause artificially high amount attributed to permeation into the stratum corneum.

3. There is no discussion section in this article. A discussion section should be included to discuss the results obtained in the present study. This section should also discuss the previously published articles using these solvents.

4. Since this article deals with only absorption of chemicals into stratum corneum, it could be published as a short communication rather than a full paper.

5. Skin surface biopsy is useful for the estimation of the chemical deposited in the stratum corneum. The amount of chemical permeated through the epidermis and dermis into systemic circulation
cannot be measured using this technique unless some other techniques are used in conjunction with skin surface biopsy. The limitations of skin surface biopsy for the studies of transdermal drug delivery should be discussed in the article.

6. Tables -1 and 2

The significance of the data presented in Tablets 1 and 2 should be discussed in the text.

**Competing interests:**

None declared.