

SILK TUBULAR CLOTHES IN PEDIATRIC ATOPIC DERMATITIS



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INTRODUCTION The etiopathogenesis of AD is still a matter of controversy. AD certainly has an immunologic basis, but the impairment of the skin barrier function probably plays a crucial role in producing eczematous lesions in response to reiterated, although mild, external irritation. It is commonplace experience to observe that the atopic child has “a highly sensitive skin”, with a reduced threshold to various irritants: environmental conditions, aggressive detergents or synthetic or woollen fabrics. Cutaneous xerosis, due to a partial incapability to retain water in the stratum corneum and to an enzymatic alteration in the intracellular lipidic metabolism (particularly ceramide and unsaturated fatty acids) is a cardinal feature of patients with AD. It is probably the major cause for their susceptibility to irritants, also called “cutaneous hypersensitivity”, by analogy to bronchial hypersensitivity in asthmatic patients.

Wool or synthetics can often exacerbate the skin lesions in AD. Therefore, cotton is usually recommended. However, even cotton, when examined microscopically, reveals enough roughness to induce a mechanical friction on the sensitive skin of a patient with AD. As well as other natural fibres (wool, linen), cotton yarns are originally only 2-4 cm long. For this reason they have to be spun to form a unique thread that is nonetheless coarse like tangled straws and therefore potentially irritating. On the contrary, silk is the only natural “thread” that is secreted like a long cylindrical, smooth strand (800-1200 metres), and thank the lack of asperity it offer a more comfortable and less irritant contact.



Cotton x 25

Silk x 25

To evaluate the effect of silk garments in children affected by AD, we enrolled 50 children (26 males and 24 females, age range 8 months to 6 years) suffering from AD of different severity, with lesions symmetrically localized on their limbs and elsewhere. Two corresponding limbs were compared.



MATERIALS AND METHODS All the children had to wear a silk seamless tubular garment on their right limbs, under the normal items of clothing (usually cotton clothing), 24 hours a day for 7 days. Two groups of patients were studied:

Group 1 - 20 patients (9 males and 11 females) did not receive any concomitant local medication on any of the two limbs.

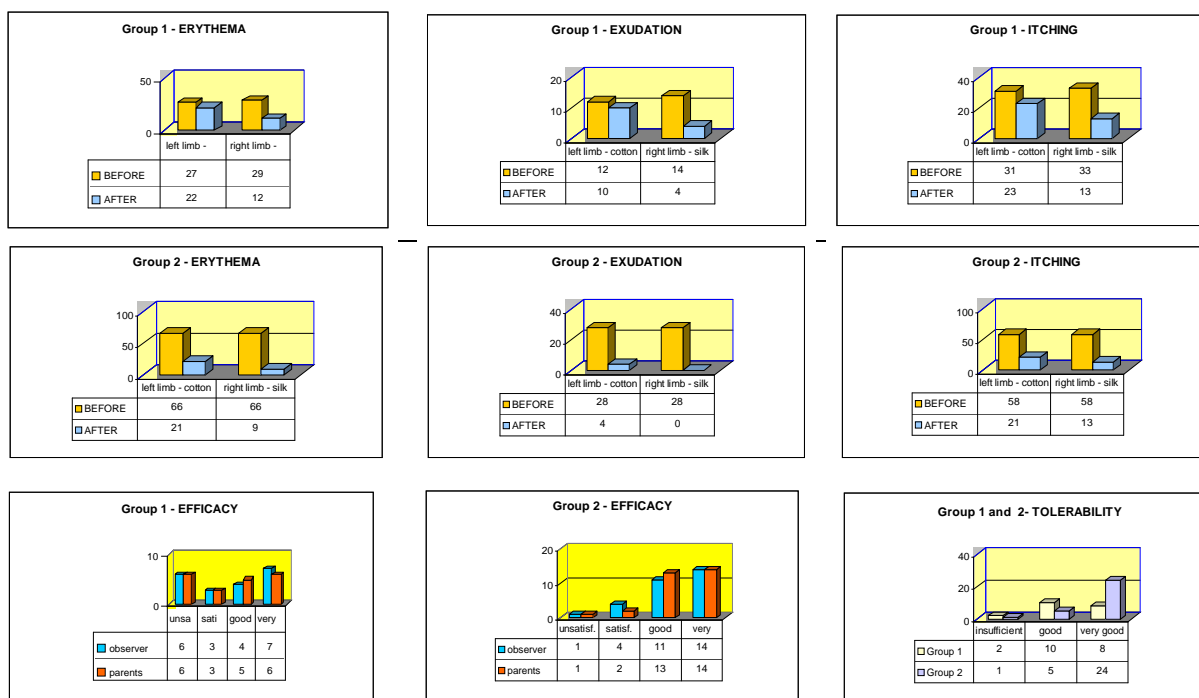
Group 2 - 30 patients (17 males and 13 females), did also receive mometasone furoate 1 % cream once a day on both limbs, in a symmetrical fashion: on the right limbs the lesions treated with the cream were covered by the silk garments while on the left limbs the lesions treated were covered by cotton garments.

A comparison was made by evaluating the following parameters at the end of the treatment: *erythema*, *exudation* and *itching*, measured on a three-point scale (0=absent, 1=mild, 2=moderate, 3=severe).

The total scores in fig. 1-6 represent the sum of the scores of the single cases, in relation to the specific parameter, before and after treatment.

Besides, parents and the observer have been requested to assess *efficacy* (choosing from unsatisfactory, satisfactory, good and very good) and *tolerability* (insufficient, good, very good).

RESULTS The histograms show that all the parameters have significantly improved in the limbs treated with silk garments. Efficacy scored good or very good in 60% of cases treated only with the silk garment and tolerability has been good or very good in most instances.



COMMENT This first experience in the use of silk garments in AD has been encouraging: the skin lesions have improved a great deal more when treated with silk garments, both in the children who received a medication and in those who did not. The application of a steroid cream, which is the most effective local treatment for AD, did not “obscure” the beneficial effect of silk, because the limbs who also wore silk garments did better than those treated only with the steroid.