

protein-bound testosterone despite the presence of normal total testosterone concentrations. The hair follicles of the patients are therefore most probably exposed to the action of raised circulating metabolically available testosterone. Nevertheless, the question as to whether there is a causal relationship between the raised availability of testosterone at the hair follicles, as found in the present study, and the androgenetic alopecia developed in our patients, cannot be definitely answered at this juncture since in other disorders, which are also associated with a hyperandrogenetic state, such as severe acne and hirsutism (3, 4, 5), androgenetic alopecia is rather rarely observed.

It seems reasonable to suggest that if raised testosterone levels are indeed implicated in the pathogenesis of the latter, additional alterations in the density and/or functional state of androgen receptors in the intracellular binding of androgens, or in the metabolic activity of keratinocytes in the hair follicles of the scalp may be of essential importance.

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## Psoriasiform Napkin Dermatitis

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Boje Rasmussen H, Hagdrup H, Schmidt H. Psoriasiform napkin dermatitis. *Acta Derm Venereol (Stockh)* 1986; 66: 534-536.

A prognostic study of 18 patients with a diagnosis of psoriasiform napkin dermatitis was performed. The observation period had a duration of 7 to 15 years. Two patients developed psoriasis and two developed atopic dermatitis. *Key words: Psoriasiform napkin dermatitis, prognostic evaluation.* (Received May 26, 1986.)

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Psoriasiform napkin dermatitis is a characteristic skin eruption known in the Danish and German literature as dermatitis psoriasiformis Jadassohn. The eruption is characterized by many features of psoriasis and has been interpreted as a manifestation of e.g. psoriasis, seborrheic dermatitis, candida infection of a disease *sui generis* affecting only babies.

The criteria for the establishment of the diagnosis is a psoriasiform rash in the diaper area most often surrounded by satellites of psoriasis-like papules. The rash may spread to the trunk, limbs and very often to the scalp and face.

The following investigation based on patients treated ten years ago, was undertaken to evaluate the course of an early infancy psoriasiform napkin dermatitis later in life.

## MATERIALS AND METHODS

The files of the Department of Dermatology, Odense University Hospital, were searched under the diagnosis: "psoriasisform napkin dermatitis" during the period 1971-1979 and comprised 18 patients. Questionnaires asked for heredity as to atopic or psoriatic dispositions, whether and if the patient at a later time had developed psoriasis, atopic dermatitis, seborrhoeic dermatitis or other skin disorders. Patients at a later time having developed a skin illness were examined in the out-patient clinic. The files were compared with the information given by the patients at their first visit, which might be as long as 15 years ago.

## RESULTS

Three of the patients could not be traced and one did not answer the questionnaire, they are, however, all included in the study solely according to the data in the files. The sex ratio was 11 boys and 7 girls.

### *Heredity*

Out of the 18 patients 5 had a history of psoriasis and 6 had atopic diseases in their family.

### *Age of onset*

The average age of onset was 1.6 months, ranging from 1 week to 4 months.

### *Duration of the primary skin eruption*

The duration averaged 4.2 months with a range of 1 to 6 months.

### *Mycological examinations*

This was done in 14 cases and in 7 patients there were found *Candida albicans* confirmed by microscopy and culture on Sabouraud's glucose agar. The other 7 patients were found negative.

Four patients, three boys and one girl, had developed skin disease. Two of them had developed psoriasis and two atopic dermatitis. The first patient had a family history of atopic dermatitis and had since early infancy suffered from flexural eczema. Clinically a mild atopic dermatitis was found. The second patient had no family history of neither psoriasis nor atopic dermatitis, but he developed at the age of 5 years psoriasis located to the trunk, extremities and scalp. The third patient had a family history both of psoriasis and atopic dermatitis. At the age of 3 years he developed atopic dermatitis. The fourth patient had a family history of atopic disease and furthermore at the age of 5 years he developed psoriasis primarily located to the trunk.

## DISCUSSION

In 1977 Andersen & Thomsen (1) in a Danish study found the average age of psoriasisform napkin dermatitis to be 2 months which is in accordance with our findings of 1.6 months. A duration of the skin eruption of 4.2 months is however not in accordance with the previous study, where it was 1.8 months.

The diagnosis in all our patients was psoriasisform napkin dermatitis and they were found to be rather severely affected, meaning that the more common diagnosis diaper dermatitis caused by e.g. ammonium and occlusion was not included in the present material. Fourteen patients were so severely affected that hospitalization was found necessary.

About 40% had *Candida albicans* on culture in accordance to Dixon (2), who found 41% in all napkin eruptions. In a study of microbial flora of infants' skin, Montes (3) showed *Candida albicans* being the most commonly found organism in patients with

diaper dermatitis, it was isolated from the lesions in 77.1% of the infants. The clinical types of diaper dermatitis in that study included symmetrical intertrigo, dermatitis erosiva, eczematous dermatitis, napkin psoriasis and papular dermatitis. If *Candida albicans* is the primary cause or should be considered a secondary invader was not possible to evaluate in our study.

Around one third of our patients developed skin disorders later on. Two developed psoriasis and two atopic dermatitis. This is not consistent with Andersen & Thomsen's (1) finding, where only 10% developed a skin disease in later life, two out of sixty developed psoriasis, none developed atopic dermatitis.

In a study of HLA-antigens Skoven & Hjortshøj (4) found that a diagnosis of psoriasisiform napkin dermatitis is not associated with the common HLA types B13, B17 and Bw37, which are often associated with psoriasis.

Our results lead to the conclusion that infants, suffering from psoriasisiform napkin dermatitis may run a greater risk of developing skin diseases, not especially psoriasis however, later in life.

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## Diltiazem-Associated Exfoliative Dermatitis in a Patient with Psoriasis

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Lavrijsen APM, Van Dijke CPH, Vermeer BJ. Diltiazem-associated exfoliative dermatitis in a patient with psoriasis. Acta Derm Venereol (Stockh) 1986; 66: 536-538.

We present a patient with psoriasis who developed exfoliative dermatitis with concomitant fever, malaise and liver enzyme elevations, two days after the introduction of the new calcium antagonist diltiazem. The symptoms rapidly resolved after discontinuation of diltiazem and treatment with prednisone. Three years previously, this patient developed a similar reaction after 12 days of treatment with chloroquine. Diltiazem and chloroquine have a structural resemblance, which suggests that cross-reactions between these drugs may occur. *Key words: Calcium antagonist: Chloroquine; Adverse drug reaction.* (Received April 22, 1986.)

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Diltiazem (Tildiem) is a new calcium antagonist, in use for various forms of angina pectoris. The literature on its possible dermatological side effects is still sparse. Several patients with exanthema have been mentioned in clinical reports and the incidence of this side effect has varied in large series between 0.1 and 1.2% of treated patients (1). A patient with a photosensitivity reaction has been reported from Japan (2).