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## Studies on pityriasis alba in Egypt

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Pityriasis alba is one of the most common skin diseases seen in Egypt, mostly in children. It is completely different from the condition known as pityriasis versicolor alba which is a variant of pityriasis versicolor.

Pityriasis alba appears in the form of round, oval or irregular macules or patches, which varies from few mm. to about 5 cm. in diameter. The lesion may be single but usually multiple, erythematous to skin coloured covered with fine, lamellar or branny scaling. The erythema is more conspicuous in early stages, in later stages hypopigmentation may be apparent especially in heavily pigmented skin. The most common site is the face (Fig. 1, 2, 3), less commonly the neck, forearms (Fig. 4), arms and may be generalized. The condition is symptomless and its course varies from few months to few years periods of remission and exacerbation.

Pityriasis alba has received many names, as its aetiology has never been determined: "Pityriasis simplex of DARIER, pityriasis maculata of UNNA, pityriasis sicca of SABOURAUD and impetigo pityroides".

UNNA (quoted by TAS, 1954) considered it to be a form of seborrhoeic eczema. SABOURAUD, GOUGEROT, MILAN and DARIER (quoted by SCHMIDT, 1953) considered it to be abortive form of impetigo. A similar skin condition was described by ADAMSON in 1908 "as a form of chronic superficial dermatitis in circumscribed patches with symmetrical distribution occurring in children". ADAMSON referred to the circumscribed patchy character of the eruption, its probable streptococcal origin and its resistance to treatment. FOX in 1923, 24

grew no bacteria from similar clinical cases and described the conditions as "Partial depigmentation chiefly of the face in Negro children". PARDO-CASTELLO and DOMINGUEZ (1924) reported 36 cases of peculiar depigmentation, characterised by the occurrence of dirty white spots slightly inflammatory in the beginning but soon lost this aspect and became scaly. They recovered aspergillus from 6 cases only and grew no bacteria. They called the condition "acromia parasitaria". PARDO-CASTELLO (1932) concluded that achromia parasitaria is probably not a definite clinical entity, but a stage in the evolution of a group of epidermomycoses in which the aetiological fungi disturb the normal process of pigmentation in the skin. CASTELLANI (1938) believed that "achromia parasitaria" is not due to fungi. HAZEN in the third edition of his book "Diseases of the skin" written in 1927 listed the disease as "pityriasis

corporis" with an alternate title of "pityriasis alba". HAXTHAUSEN (1927) cultured streptococci from similar clinical cases and described the lesion under the title "streptococcic pityriasis". In 1946 DOBES and JONES proposed the name "erythema streptogenes" as they were able to culture haemolytic streptococci in 5 out of 7 cases, although several attempts were necessary to obtain the organism. CRAWFORD (1949) cultured haemolytic Staphylococcus aureus from the clinical variant previously described and applied the term "chronic symmetric impetigo". BACCARINI and DINIZ in 1951 were unable to demonstrate any cocci or fungi. Nutritional deficiencies as possible factor in causing this skin condition has been suggested by TAS in 1954. O'FARELL (1956) believed the condition to be due to diverse causes as sunlight, the chapping effect of wind and the drying action of soap which irritate the dry fragile skin of childhood. WELLS et al. (1960) reviewed records of 67 patients with pityriasis alba; they considered the condition to originate as a non-specific erythema, with subsequent localized hypopigmentation secondary to mild dermal inflammatory reaction to ultraviolet rays with hyperkeratotic and parakeratotic epidermis. They found no evidence of bacterial or fungal aetiology. BASSALY et al. (1963) also stated that they were not successful in the isolation of an infections agent.



Fig. 1: Multiple patches of pityriasis alba on the face of a girl

In the present work a thorough bacteriological and mycological examination of the patches of pityriasis alba was carried out in order to investigate the role of bacteria and fungi in the aetiology of this disease.

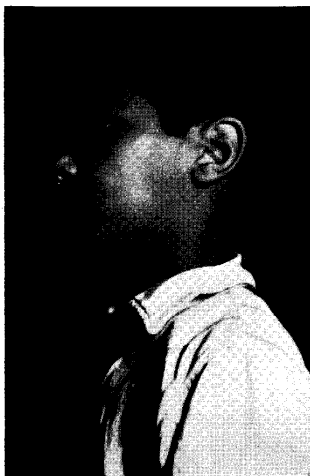


Fig. 2: Multiple patches of pityriasis alba on the face of a boy

#### Material and Methods

100 cases with typical pityriasis alba were selected from the out-patient clinic of Ain-Shams University hospital. Scrapings from the lesions were obtained by a sterile scalpel, after cleaning the areas with 70 % alcohol. Samples from non-affected areas of the skin served as controls. The scrapings were examined both microscopically in wet preparation and by culture on different aerobic and anaerobic bacteriological and mycological media. The final identification of the isolated organisms was carried out by the methods commonly employed in this field.

#### Results

##### Clinically:

The lesions were commonly present on the face mainly on the cheeks and the forehead. The patches were either single or multiple. Only, in 3 cases

pityriasis alba was found on the extensor surface of the forearm.

Both sexes were affected and their age ranged from 3 to 20 years.

In most cases the course of the disease was chronic starting from months to years, with periods of exacerbation in summer and remission in winter, no social class difference was noted.

The lesion is rounded oval or irregular patch, skincoloured or slightly erythematous covered with very fine greyish-white scales. The condition is symptomless.

#### Results of laboratory examinations

##### a) Direct microscopic examination:

Only 75 samples could be examined in wet preparation, the remaining 25 cases presented few scales and were examined only by culture. In 35 samples fungal elements could be seen microscopically, 3 of them presented black, rough rounded cells, in one sample the characteristic spore of *Stemphylium* and the remaining 31 samples contained round transparent cells similar to the spores of *Penicillium* or *Aspergillus*. On re-examination these results were not constant.

##### b) Cultural examination:

Seventy one fungi were only isolated from 59 samples; these were *Penicillium* (28 strains) *Aspergillus niger* (17); *Asp. flavus* (7), *Asp. fumigatus* (5), *Asp. ustus* (1), *Asp. candidus* (1), *Asp. sp.* (4) *Stemphylium* (4), *Monosporium apiospermum* (2), *Paecilomyces* (1) and *Cephalosporium* (1). Cultures could be repeated in 24 cases, in which the same fungus was isolated in 4 cases. These were *Paecilomyces*, *Penicillium sp.*, *Asp. niger*, and *Asp. flavus*. Fungi different from the first isolation were obtained in 10 cases and in the other 10 cases the results were contradictory to the first finding i. e. positive in cases previously negative and vice versa.

No correlation could be achieved between the direct microscopical and the cultural examination. Many samples which were positive in wet preparations were negative in culture and vice versa. Only 16 samples were positive in both. However, on re-examination the same results could not be obtained.

The bacteriological examination revealed the isolation of saprophytic bacteria mainly *Staph. epidermicus* (18), anthracoids (11), diphtheroids (1). Only in 9 cases *Staph. aureus* (*pyogenes*) and in one case *Klebsiella* were recovered. However, all these bacteria could be obtained from affected and apparently normal skin, in the remaining 10 cases no growth was seen.



Fig. 3: Multiple patches of pityriasis alba on the face of a boy

#### Discussion

Pityriasis alba was thought to be due to bacterial or fungal infection; in this study effort to isolate an infective agent common in most of the cases was not successful, and most of the isolates were the common nonpathogenic bacteria and fungi. Furthermore repeated trials to isolate the same infective agent were unsuccessful, and in some cases different results were obtained. Also the

same isolates were found on unaffected skin in the same patient. So, from these results we can exclude any fungal or bacterial aetiology in pityriasis alba.



Fig. 4: Pityriasis alba on the forearm of a girl

#### Zusammenfassung

100 Fälle von Pityriasis alba aus der Poliklinik des Ain-Shams Universitäts-Krankenhauses wurden z. T. mikroskopisch und kulturell untersucht. Die bakteriologischen Kulturen erfolgten aerob und anaerob, die mykologischen nur aerob.

35 der 75 mikroskopisch untersuchten Präparate enthielten Pilzelemente, darunter in 3 Fällen schwarze runde Gebilde, in 1 Fall typische Sporen von *Stemphylium*. Auch runde Zellen, wie sie als Konidien bei *Penicillium* und *Aspergillus* vorkommen, wurden gesehen.

Aus 59 Kulturen wurden 71 Pilzstämmen isoliert: 28 *Penicillium*, 17 *Aspergillus niger*, 2 *A. flavus*, 5 *A. fumigatus*, 1 *A. ustus*, 1 *A. candidus*, 1 *A. species*, 4 *Stemphylium*, 2 *Monosporium apiospermum*, 1 *Paecilomyces* und 1 *Cephalosporium*.

Die bakteriologischen Kulturen ergaben 18 *Staph. epiderm.*, 11 Anthracoide, 1 *Diphtheroiden*, 9 *Staph. aureus*, 1 *Klebsiella*.

Daraus wird der Schluß gezogen, daß die Pityriasis alba nur zufällig von Bakterien und Pilzelementen kontaminiert wird.

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