

# Some interesting dermatoses recently observed in Singapore

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## INTRODUCTION

CERTAIN DERMATOSES RARELY found in Singapore have been recently observed in increasing frequency. This observation reflects the changing pattern of skin diseases since the last survey from this clinic in 1954 (Khoo, 1954). Thus, for instance, dermatoses directly or indirectly caused by chemicals, drugs, cosmetics, industrial and household wares and many other synthetic substances have now emerged as one of the major skin problems in this country.

The change in the dermatological pattern is chiefly attributed to the general rise in the standards of living, rapid industrialisation, growing affluence and the increasing Western influence of our present society. Today, we see more cars on the road, more air-conditioners, radios, television sets and other modern amenities in the homes and in the offices, and there are widespread uses of various chemicals, drugs, medicated preparations and lately, contraceptive pills. More women are sporting the latest mini-

skirts, wearing nylon-stockings and using a wide range of cosmetics.

The price of modernisation, as experienced in other advanced countries, is the increasing numbers of dermatoses arising from the uses, contacts or ingestion of the new products. These products can cause primary irritant dermatitis, allergic contact dermatitis, or other dermatoses from some systemic processes.

Although the problem is small at the moment, it is growing rapidly in dimension and the purpose of this paper is to inform the practising doctors of the recent trend in dermatological practice in Singapore.

Since most of the new skin diseases are fairly well-known to all of us, no further elaboration is needed. I shall only confine myself now to describing six interesting examples, all of which have been recently found in substantial numbers in our skin clinic at the Outram Road General Hospital. They are:

- (1) "Nylon-stocking" dermatitis in a girl

- wearing mini-skirts with nylon-stockings,
- (2) "Cold urticaria" precipitated by the cool air of the air-conditioning plant,
- (3) "Hair-spray" dermatitis,
- (4) "Japanese" rubber slipper dermatitis,
- (5) Chloasma from oral contraceptive pills, and
- (6) "Dettol" dermatitis.

If time allows, I might even mention four other interesting examples of psychocutaneous disorders, which are the products of the stress and strain of modern living. The latter condition will form the subject of another paper (Tay, 1970).

### (1) NYLON STOCKING DERMATITIS

A pretty Chinese waitress, aged 25, working in the air-conditioned bar of one of the leading Singapore hotels, was referred to our clinic as having intractable chronic neurodermatitis not responding to the usual dermatological treatment. Itchy rash had developed on both popliteal regions and the dorsum of both feet for the last six months, that is, soon after she commenced her present job. Pruritus was aggravated by excessive walking and relieved by resting, such as during the weekends and days off. There was no history of atopy, allergy or ingestion of drugs. In the interview, she did not mention any contact with nylon wears and she was not noticed to wear nylon stockings during the examination. Since her history suggested some relationship to her work, further questioning along this line revealed that she wore mini-skirt with nylon stockings provided by her employer when she was on duty. Even though the stockings were comfortable in the cool air conditioned atmosphere, she did notice that the material chafed and irritated her skin, especially at the back of the knees and the front of the ankles. The rash was worse when the skin was moist and warm.

Examination showed lichenoid patches and diffuse maculopapular pigmented lesions on both popliteal spaces (Figure 1) as well as the dorsum of both feet. Other areas were unaffected. The margins of the lesions were ill-defined. Skin scrapings and cultures revealed no bacteria or fungal infections. Patch tests with her nylon stocking and the azo dyes (extracted from the nylon with hot ethanol) yielded positive results. She was asked either to change the brand of the stocking, or to use those that contained no azo-dyes, or not to wear them at all.

### COMMENT

This girl represents the new breed of women



Fig. 1: Nylon stocking dermatitis on both popliteal spaces.

working nowadays at offices, hotels and other places in Singapore, sporting the latest fashions and a number of them wearing mini-skirts with nylon stockings in the air conditioned rooms. Because of the warm weather and the cost, nylon stockings have never been popular in this country before, but the advent of the mini-skirt craze and the importation of low cost oriental stockings over the last few years have boosted the sales of these products. Inevitably, a small number of wearers became sensitised to the material after some length of time. In this girl, although the skin lesions are classical of the disease, the diagnosis was earlier missed due to the general unawareness of this condition in this country. This contact allergic dermatitis is not uncommon in Western countries and its typical distribution is shown in Figure 2. The azo-dyes of the stockings are often the sensitizers, and they may cross react with p-phenylenediamine (PPD) and other related rubber chemicals (Calnan & Wilson, 1956; Cronin 1966). Cheaper stockings with darker shades are known to have surplus of these dyes but the expensive ones can also cause the dermatitis.

### COLD URTICARIA

A 32-year-old dental surgeon complained of chronic urticaria on and off for two years. He first noticed the rash after working in the air conditioned surgery. One or two hours after exposure to the cold air, erythematous, itchy weals developed over the exposed parts of the body — face, neck, arms and feet — and the rash would soon subside after he left his office. He also noticed that the urticarial rash would reappear on re-exposing to the cold air of his air conditioned surgery or his bedroom. Later, even contact with cold water during a shower could precipitate the rash. Attempts to suppress the urtica-

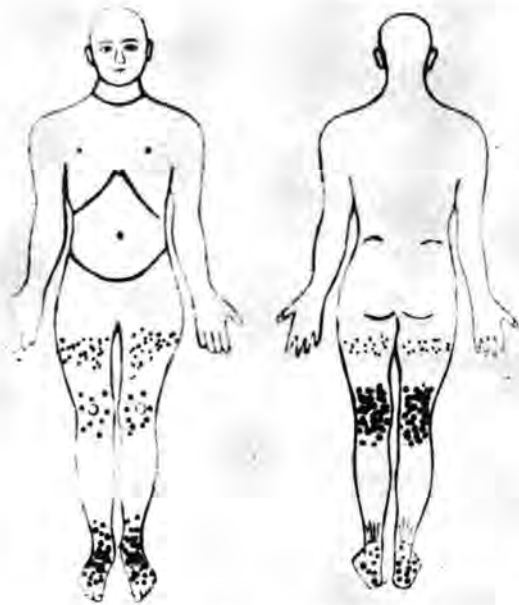


Fig. 2: Typical distribution of skin lesions in nylon stocking dermatitis.

ria with antihistamines and even small doses of steroids failed. He had to keep away from air conditioned rooms as well as from the cold air and other cold substances. He had no systemic diseases and was otherwise healthy. Family history of asthma and other known allergies was not obtained.

Clinically, he was found to be physically normal. Patch test with ice cube on the leg produced a large erythematous weal after 30 seconds, whereas no weal was found with a controlled subject (Figure 3). Investigations did not disclose any systemic disorders, such as malignancies, collagenosis, latent syphilis, cryoglobulinaemia or cryofibrinogenaemia. He was asked to desensitise himself with increasing amounts of cold water. With this treatment over a period of three months, he could later tolerate a moderate degree of cold air.

#### COMMENT

Cold urticaria is an uncommon dermatose and has been classified into four main causes (Miller et al., 1968).

- (1) Cold haemolysin syndrome,
- (2) Cryoglobulinaemia,
- (3) Cryofibrinogenaemia, and
- (4) Essential cold urticaria (cold allergy)

which is again subdivided into:

- (a) congenital or familial, and



Fig. 3: Patch test with ice-cubes 30 seconds later — "C" — Control subject showed no reaction, "P" — Patient with cold urticaria showed a positive reaction with large erythematous weal. Note the effect of the spill due to the ice-water running down the side of the arm.

- (b) acquired — which may be idiopathic or associated with acute illness or food allergy.

Our patient's illness is probably due to the idiopathic form of the essential cold urticaria, since the aetiology was unknown and other causes had been excluded. The disease could not have manifested itself had he not been exposed to the cold air conditioned air. A fair number of these conditions have recently been observed in Singapore and it is intriguing to know that this disease has often been unrecognised or was misdiagnosed because the skin lesions were delayed from 12 to 24 hours after contact or exposure. By then, the patient was no longer near the air conditioned surroundings. Therefore, it is essential to inquire into the history of exposure to cold air (air conditioned rooms or air-conditioned cars) in patients with chronic urticaria. The diagnosis can be readily confirmed by the patch tests with ice cube or exposure to cold air. This subject has been recently reviewed by Champion (1968) and Shafar (1965).

#### 3. "HAIR-SPRAY" DERMATITIS

Miss K, an 18-year-old Malay housewife, bought an expensive imported brand of scented hair-spray set for quick re-set and to keep the hair in place. This hair-spray, which contained no lacquers or shellac, claimed to give lustre to the hair, to tame the wispy ends, and to leave the hair-waves shining, soft and staying in the desired style "even on the dampest days". After combing and arranging her hair, she gave it a generous spray, according to the instructions printed on the container.

By evening, her face and the exposed parts of her arms and the dorsum of her feet were warm, swollen

and tender. Later, widespread vesicles on swollen erythematous bases appeared on these areas, and she immediately sought hospitalisation.

Her face, especially the uncovered part of the lower face, was red, swollen with extensive vesiculation and had serious oozing (Figure 4). Moderate erythema with few blisters were present on the extensors of the forearms and arms. The dorsum of the feet were mildly affected. But the scalp, the forehead, the neck and the retro-auricular areas shaded by the hair, were not severely affected. All the other covered parts of the body, too, escaped. The border between the affected skin and the covered parts was sharply demarcated.

She suspected the hair-spray set of containing the offending allergen and it was brought to the hospital for investigation. It was then found that the moisture contained mostly lanolin and silicone as stated by the manufacturer. When the rash subsided in three to four days later, she yielded a positive patch test to lanolin, but not to silicone or other substances.

#### COMMENT

This is one of the many examples of new dermatoses due to imported cosmetics recently introduced. The contact (cosmetic) dermatitis in this case is due to airborne vaporised allergen which in this instance is lanolin. Typically, the exposed parts are diffusely affected and the rash stopped sharply over the covered areas, either by the hair or by the clothing. The lesions are more severe at the top where the concentration of the allergen is maximum, for example, face, and are relatively mild at the bottom, that is, at the dorsum of the feet on standing. The distribution of the airborne hair-spray rash is therefore different from the contact allergic dermatitis due to hair perm or hair lotion. Lanolin is a known sensitiser in many cosmetic preparations. Fortunately, only 1% of those who use cosmetics products are sensitive to the substance. (Wells & Lobowe, 1964) The number of cases will definitely increase with the large numbers of consumers in this country.

#### 4. "JAPANESE" SLIPPERS DERMATITIS

A 24-year-old Chinese factory worker, Miss T, had itchy rash on both feet for over six months. She had earlier tried various topical medicated creams without any relief. Her doctor thought that she had "Singapore feet" and was given anti-fungal drugs. No response was noted. On direct questioning, the rash appeared soon after she wore a new pair of "Japanese" rubber slippers.



Fig. 4: Hair spray dermatitis.

Dry, thickened and scaly lichenoid patches shaped like an inverted "V", with the apex at the junction of the big and the second toes, and found over the dorsum of both feet, corresponded to the rubber strappings of the slippers. (Figures 5 - 6) Several patchy lichenoid lesions were found above these lesions. The first interdigital webs and the opposing surfaces of the big and two toes were also affected, because of the contact with the base of the rubber strappings. No bacterial or fungal infections were demonstrated in these areas. Patch tests with chemical reagents like diphenylguanidine, p-aminophenol and 2-mercaptobensothiazole were positive.

#### COMMENT

"Japanese" rubber slippers have been popularly used in this country for many years as they are cheap, light and comfortable, especially for our warm and humid climate. Not all such slippers, however, are made in Japan as some are manufactured locally. The





Fig. 5: "Japanese" rubber slipper dermatitis showing the chronic lichenoid lesions on the dorsum of both feet.



Fig. 6: As in fig. 5 — showing the actual contact of the feet with the rubber strappings.

increasing number of cases with contact allergic dermatitis to these slippers reflect the increasing numbers of wearers in the Republic, and the skin condition is probably one of the commonest form of rubber dermatitis. In contrast, the common causes of rubber dermatitis in Europe are rubber gloves (43%), rubber shoes and boots (10%), condoms (9%), brassieres and girdles (7%) and numerous other articles. (Wilson, 1969; Calnan and Sarkany, 1959; Cronin, 1966; Leider et al., 1952; Hindson, 1966). The commonest sensitizers are the thiuram accelerators (PTD, TMT), the mercaptobenzothiazole (MBT) and occasionally, the zinc diethyl dithiocarbamate (ZDC). The sensitizers in our "Japanese" rubber slippers are often due to the strappings and not the rest of the slippers. This is because the processing and rubber ingredients of the two components are different. However, cases sensitive to both parts had been seen, but these are rare.

##### 5. CHLOASMA DUE TO ORAL CONTRACEPTIVE PILLS

Mrs. M, a 30-year-old Chinese housewife, was referred to the clinic because of increased pigmentation of the face for over six months. She had a child

three years old, and for the past one year, she was taking oral contraceptive pills from the Family Planning Clinic in Singapore. At first, she thought the rash was freckles, but after some time, especially after exposure to sunlight, pigmentation became diffuse and spread to other parts of the face. There was no history of exposure to other drugs or chemicals and the patient had no known systemic disorders.

Chloasma-like pigmentation was seen over her face, but there were no pigmentations of the nipple, areolae and midline of the abdomen, thus differentiating it from the chloasma of pregnancy. The facial melanosis was symmetrical, blotchy, and mainly affected the cheeks, malar eminences, forehead, and lower lips (Figure 7). On the scalp margins, eyes and lips, a distinct margin was observed, but in other areas, the pigmentation faded imperceptibly into the normal skin.

##### COMMENT

"The pill" has recently been widely used in Singapore to control the population explosion. Two main types commonly used are:

- (1) A synthetic oestrogen pill, combining



Fig. 7: Chloasma due to oral contraceptive pills.



Fig. 8: "Dettol" dermatitis — the rash corresponds to the area of the face which comes into contact with a fluid whilst drinking with a wide-brim glass.

- with an active progestogen, and
- (2) A sequential type of pills, involving the taking of an oestrogen for 15 days, followed by an oestrogen-progestogen combination for a further six days.

The adverse cutaneous reaction to oral contraceptive has been recently reviewed by Baker (1969) and Jackson (1968). Four main groups were classified:

- (1) Cutaneous lesions stem from the pseudo-pregnancy state, that is, candidiasis, herpes gestations, cholestatic pruritus, and jaundice of pregnancy,
- (2) Skin lesions from the hormonal side-effects, that is, chloasma, hirsuties, acneiform eruptions and alopecia,
- (3) Skin lesions stem from hepatotoxicity of the drug and its affluence on cutaneous porphyria, and
- (4) Miscellaneous effects, that is, erythema nodosum hypertrophic gingivitis, hidradenitis and so on.

Chloasma from "the pills" has been known for

some time (Esoda, 1963; Resnik, 1967) and the progestational steroids are the usual offenders. Pigmentation may take a long period of time to develop and it often fades slowly, even on cessation of the drugs. Eight per cent of Puerto Rican and Mexican females developed this melanosis while on the "pill" but there may be racial differences (Cook et al., 1961; Rice-Wray et al., 1962). As seen in our patient, the pigmentation has a different distribution pattern from that caused by physiological pregnancy (Caruthers, 1966). Changing the drugs to the sequential type and avoidance of sunlight often help to reduce the discolouration. However, one has to be aware of other causes of facial melanosis in the differential diagnosis:— for example, those due to cosmetics, soaps, perfumes, drugs and other endocrine disorders.

#### 6. "DETTOL" DERMATITIS

After a domestic quarrel with her husband, Mrs. T, a 23-year-old Chinese housewife, attempted suicide by drinking a large glassful of undiluted "Dettol" solution. She was rushed to the hospital where she

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recovered after a careful stomach-washout.

Twelve hours later, darkish pigmentation with swelling, erythema and tenderness was found around the nose and the upper lip. This pigmentation corresponded exactly to the area of contact of the face with the irritant Dettol solution whilst drinking with a wide-brim glass. (Figure 8). She was treated with bland lotions and the rash cleared after three to four weeks.

### COMMENT

This case demonstrates several interesting points. Dettol, an antiseptic and germicide (containing isopropyl alcohol, chloroxylenol and terpineol), has been extensively used in Singapore by most households for a great variety of conditions. This substance, as well as many other detergents, have recently replaced caustic soda as the commonest agents used for suicides in this country since the latter was prohibited for sale over five years ago. Over the same period of time, the suicide rates have also increased, a close reflection of the stress and strain of

modern society. Without knowing the history of this patient, the unusual distribution of this primary irritant dermatitis could be extremely baffling indeed.

### CONCLUSION

The six interesting dermatoses just described are but a few of the many new skin problems that we are facing in Singapore.

They underline the changing pattern of dermatology in the world of rapid progressive changes with strong Western influences. Every introduction of new legislation, new fashions, new cosmetics, new synthetic products and so on, are often accompanied by their drawbacks, and in this instance, the appearance of new dermatoses. Fortunately, the numbers of sufferers are small in comparison to the size of the consumers' market. These six cases, therefore, should serve to alert one to the increasing frequency of current dermatoses observed in present day practice. They also demonstrate how these conditions could easily be misdiagnosed and mismanaged if the doctor is unaware of the recent dermatological pattern.

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