Lichen planus: variations in Indians

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Introduction

SINCE ERASMUS WILSON described lichen planus a century ago, variations of this condition has been found especially in the American Negroes (Winer and Levitt, 1947) and in the Jews with darker complexion (Dostrovsky and Sagher, 1949). Fasal (1945) reported that in Malaya, lichen planus was similar to those occurring elsewhere. This statement is not born out in skin clinics, for both the classical type and variations are seen.

Material

The purpose of this paper is to review the variations of lichen planus as seen in Indians. A total of ten patients, forming about 0.5% of new patients seen in a year in the skin clinic of the University Hospital, were personally studied. The clinical diagnosis was confirmed in each case by biopsy. The patients were classified into the following groups according to the clinical appearance:

(i)	Acute and confluent	1
(ii)	Subacute classical	4
(iii)	Subacute facial	3
(iv)	Subacute nodular	1
(v)	Hypertrophic	1

(The number of patients in each group is shown in Arabic numerals)

Clinical appearance and characteristics

A 14-year-old boy developed the acute type. The lesions started on the lower limbs and within two months practically every part of the body except the groins, the face and the periphery of the limbs was covered with discrete and confluent lesions of bluish-grey hue. The greyish colour was particularly noticeable on the top surface of the confluent lesions (Fig. 1). The mucosa and the nails were spared.

The subacute facial type had some resemblance to both the subtropical type (Dostrovsky and Sagher, 1949) and the lichen planus actinicus. Flat-

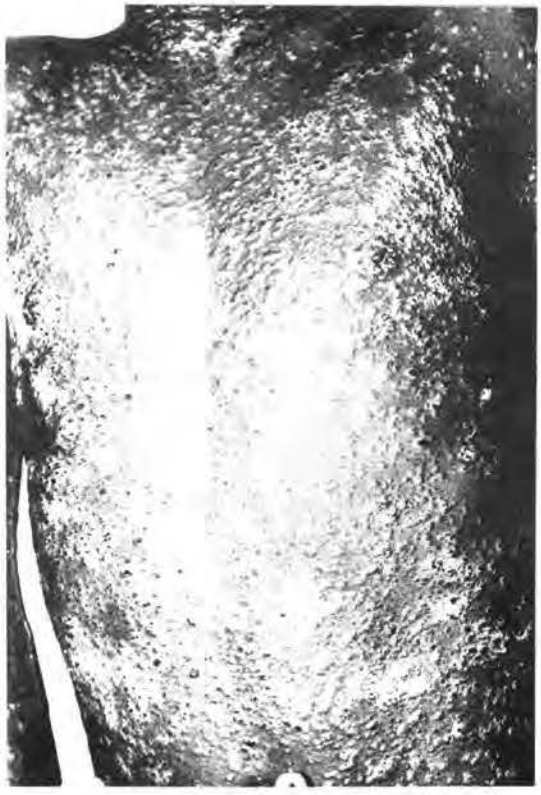

Fig. 1
Acute and confluent. Greyish colour noticeable on the surface of the lesion.

Fig. 2
Subacute facial. Papular flat-topped lesions on the angle of the jaw. Lesion along the ramus of the mandible is diffuse and darker in colour.

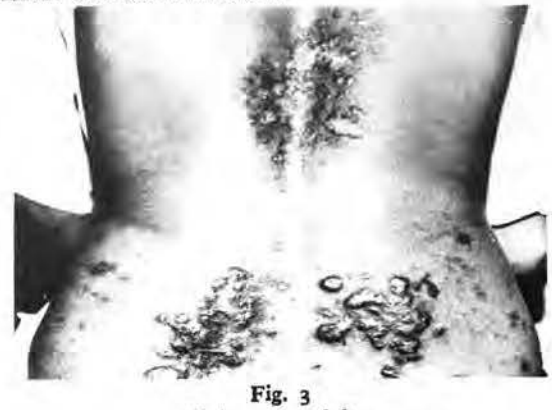

Fig. 3
Subacute nodular.

topped papular lesions, forming both linear and circinate pattern were found on the jaw with the older lesions having a bluish colour (Fig. 2). Annular lesions resembling granuloma multi-forme were found on the forehead. The rest of the body was spared. The patients with this type were all males between 20 and 30 years of age, and the average duration of the lesion was six months at the time of the first examination.

A 27-year-old housewife developed the subacute nodular lesions over a period of four months. Bluish grey nodular eruptions of various sizes were found on the flexor surface of both forearms, and on the lumbo-sacral region on either side of the spinal column (Fig. 3). The lesions were much bigger than those found in all the other types. The nails showed longitudinal ridging.

The hypertrophic type was present for six years on the ankle of a 14-year-old boy. It formed a plaque, 8 × 2 cm with a verrucous surface of dark bluish hue and irregular edges (Fig. 4). The glans penis also showed lichen planus but the patient was not aware of the duration of this lesion.

The subacute classical type was in no way different from those found in patients elsewhere. Largest number of patients were found in this group and all were females between the ages of 30 to 50 years. One patient showed annular lesion on the ankle (Fig. 5).

Histology

The dermal infiltrate were not entirely of lymphocytes (Lever, 1969), but monocytes, plasma cells and even eosinophils were also found, the latter particularly in the acute type. In addition melanin, both extracellular and intracellular was found in the dermal infiltrate in all types of lichen planus, the greatest concentration being found in the subacute classical type (Fig. 6). The saw-toothed appearance of the rete pegs, due both to the degeneration of the basal cells and to the distortion by the tight packing of the infiltrate in the dermal papillae, was most marked in the acute type than in the others (Fig. 7). The colloid bodies in the

Fig. 4
Hypertrophic. Verrucous with irregular edges.

epidermis was found only in the acute type (Fig. 8).

In the subacute facial variety (the annular lesion), the dermal infiltrate was less dense compared to the other types and it was not closely hugging the epidermis. However, other features of lichen planus, including the collection of melanin, were seen. The nodular type showed the characteristic dome-shaped dermal papillae with collection of melanin and sparse infiltrate of cells between the saw-toothed rete pegs (Fig. 9). Cellular infiltrate was also found in the deeper dermis. In the hypertrophic type, hyperkeratosis was most marked, the epidermis was hyperplastic and the dermo-epidermal junction was more well defined, as could be expected in long-standing lesions (Thyresson and Moberger, 1957).

Treatment and duration of the disease

All the patients were followed up for a period between 18 months to two years from the time of their first visit to the clinic. Oral steroid therapy was given both to the subacute classical and the acute type, starting with 60 mg. daily and being tailed off within six months. The patient with the acute type showed the most dramatic response, the lesions beginning to fade off within six months with almost complete clearance but for the residual pigmentation. The subacute classical type showed poor response. The nodular and subacute facial type had topical steroid therapy for over a year and showed complete clearing of the lesion, again with residual pigmentation. The hypertrophic type has entered the eighth year with neither spreading of the lesion nor any response.

Comment

Although the number of patients studied was small, the features of lichen planus in Indians is variable compared to those described in the West. However, some of the features which are reported here resemble those found in the American Negroes (Winer and Levitt, 1947). During the period of observation, lichen planus was not seen in the other two ethnic groups who together form more than 80 per cent of the population. Therefore, an incidence of 0.5% is probably accurate and it falls within the range of figures reported elsewhere. Classification of lichen planus in this report somewhat resembles that of Samman (1961) although various other ways has been reported in world literature.

Incontinence of melanin pigment is a feature in all types of lichen planus, both in the young and old lesions. This pigment definitely comes from the basal layer of the epidermis, for the latter layer immediately above the lesion is devoid of melanin compared to that at the edge of the lesion. The bluish hue of the lesions instead of being violet as described in the West, is remarkable and this may be due to the accumulation of melanin in the dermis, as Findlay (1970) reported that the blue colour of the skin arises from a particular

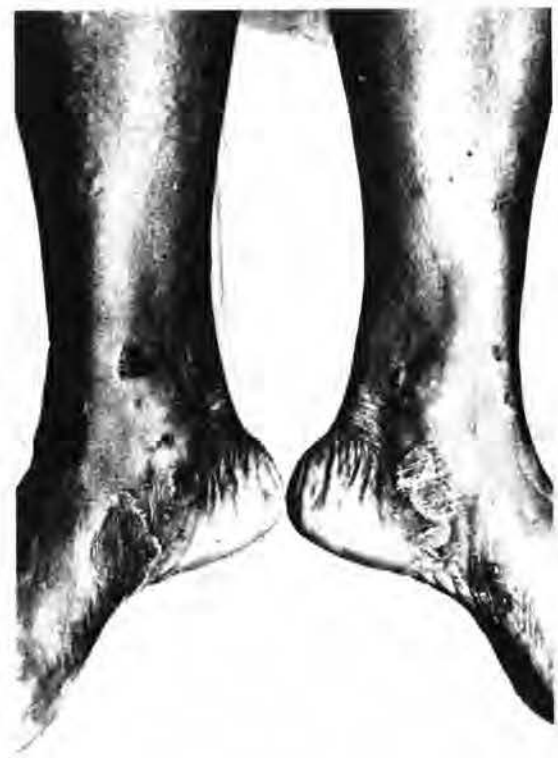

Fig. 5
Annular lesion on both ankles.

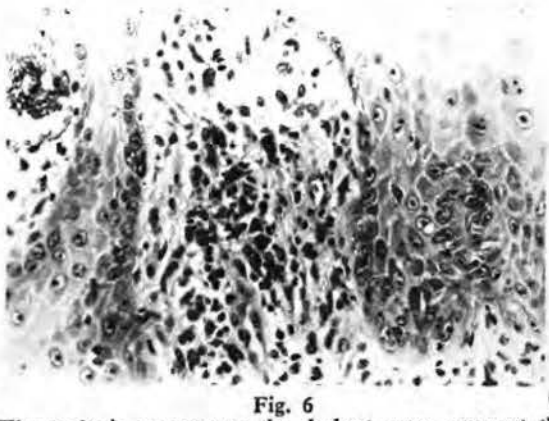

Fig. 6
The melanin appears as the darkest areas amongst the infiltrate between the rete pegs. (H.E. stain x 25).

relationship between collagen and melanin which leads to a subtractive colour mixing in the light reflected from the dermis.

Colloid bodies in the lichen planus were believed to be due to a vegetating, low molecular virus (Thyresson and Moberger, 1957). Although they were able to find these bodies in all types of lichen planus, the author found them only in the acute type, which had a very short natural history and dramatic response to steroid. These characteristics may support the contention that virus may play a part in the aetiology of the acute lichen planus.

The subacute facial type, though resembling the lichen planus actinicus of the tropical and subtropical areas (Rook, Wilkinson and Ebling, 1969) the eruption over the jaw has not been described before. The nodular variety was most unusual and the clinical diagnosis was uncertain till a biopsy was done. The large size of the individual lesion was striking.

Although the value of steroid therapy is controversial the acute type responded very well to oral therapy and the subacute facial and the nodular type to topical therapy. Undoubtedly the natural history of the above three types was shortened by the therapy.

Summary

Five types of lichen planus seen in Indians are described. Though the classical type was the commonest, variations not described elsewhere were found. The presence of melanin in the dermis, which is striking in all types of lichen planus, is an additional characteristic feature of the histology of lichen planus. The blue colour of the lesion is probably due to the abovementioned feature. The duration of lichen planus in individual patients seems to depend largely upon the type of lesions they develop. Steroid therapy both oral and topical has a place in the management of lichen planus.

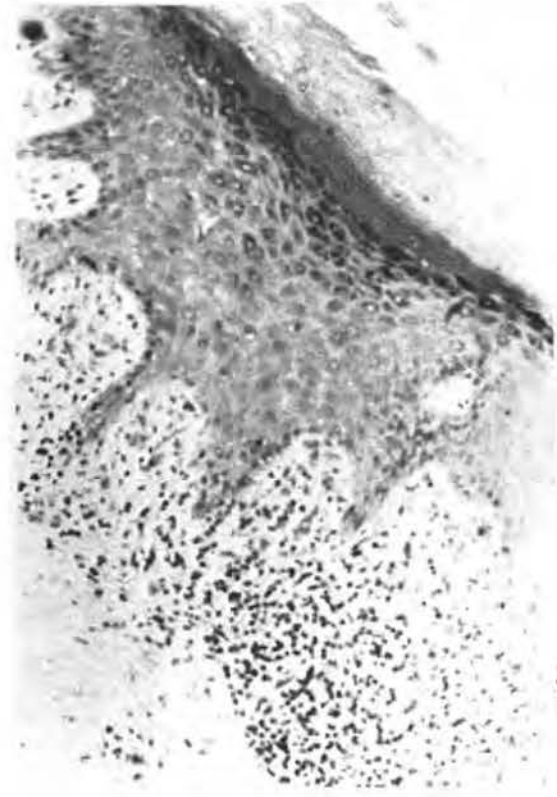

Fig. 7
The saw-toothed appearance of the rete pegs (H.E. stain x 10).

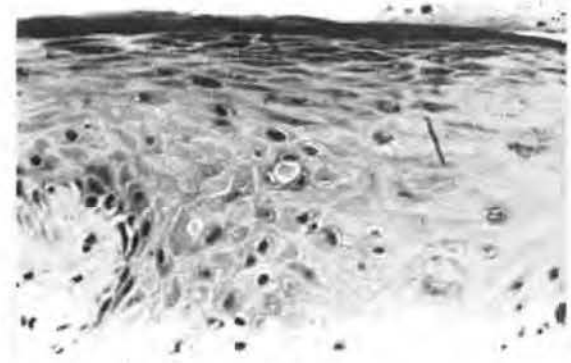

Fig. 8
Colloid bodies seen as "rounded" bodies with a clear halo (H.E. stain x 25).

Fig. 9
The dome-shaped dermal papillae in the nodular type (H.E. stain x 10).

Acknowledgments

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