DISCOID LUPUS ERYTHEMATOSUS IN SINGAPORE

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SYNOPSIS

Discoid lupus erythematosus (DLE) is a benign cutaneous variant clinical spectrum of lupus erythematous condition. This spectrum includes the subacute cutaneous lupus erythematosus subset and systemic lupus erythematosus with major organ involvement. This paper presents 38 cases of DLE seen in Middle Road Hospital. The epidemiological data is presented. The antinuclear antibodies and direct immunofluorescence on skin biopsies are highlighted. The paper compares findings by other investigators.

INTRODUCTION

The clinical condition of lupus erythematosus forms a spectrum from the benign cutaneous variety to the potentially fatal systemic type with renal and nervous involvement. Within this spectrum there are 3 fairly well defined, though occasionally overlapping subsets.

1 Discoid lupus erythematosus (DLE)
2 Subacute cutaneous lupus erythematosus (SCLE)
3 Systemic lupus erythematosus (SLE)

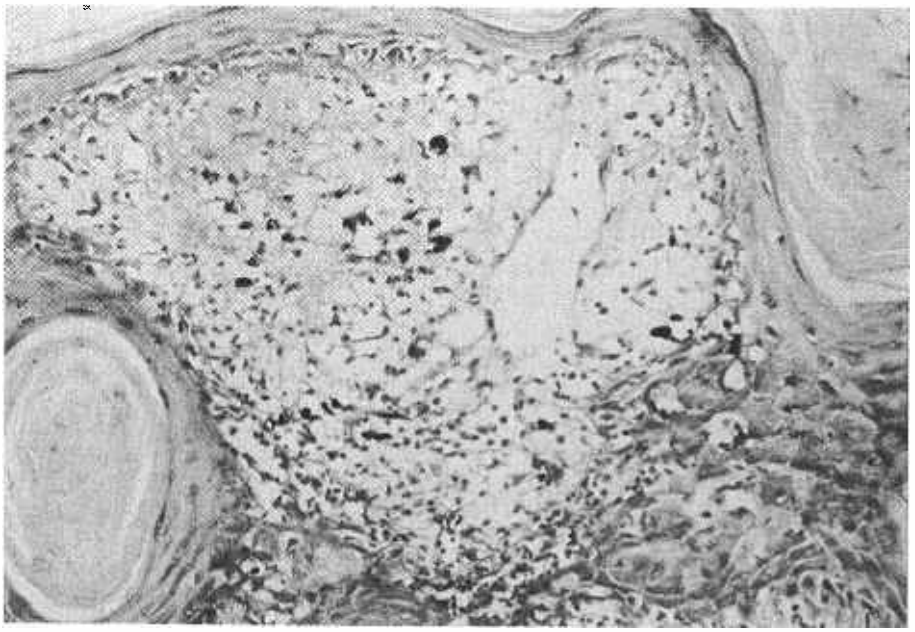
DLE is a cutaneous disease characterised by the presence of well defined, raised erythematous lesions which enlarge with an irregular outline while the centre heals with atrophy, scarring and telangiectasia. The lesions are located most often on the sun exposed parts. The history of active lesions often show the following features — hyperkeratosis, follicular plugging, vacuolar degeneration of the basal cells and a thickened basement membrane of Periodic Acid Schiff (Photograph 2). There is usually no clinical evidence of systemic involvement.

MATERIALS AND METHODS

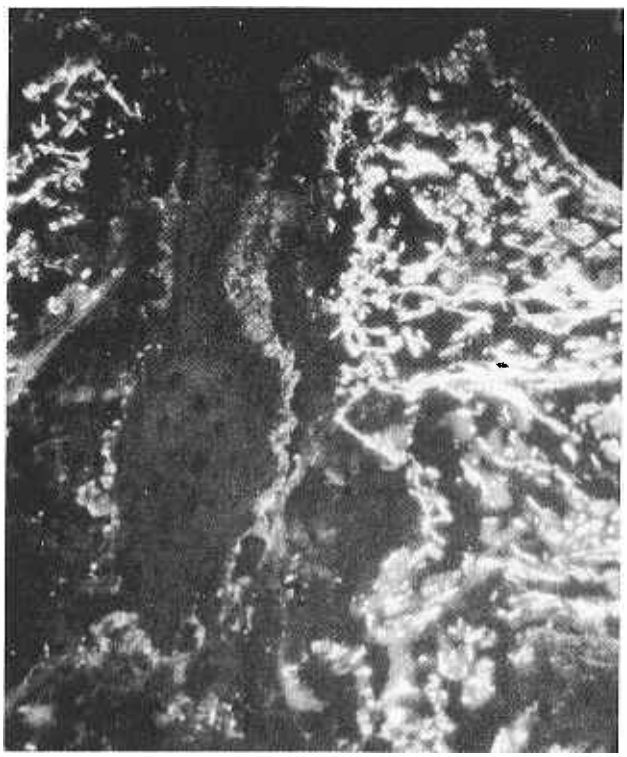
38 cases of DLE seen in Middle Road Hospital between 1978 and 1983 were analysed retrospectively. The diagnosis was made on clinical and histological grounds. SLE was excluded by full clinical examination and investigations.

All the patients had their serum analysed for antinuclear antibodies (ANA) using rat's liver as substrate. 4μ frozen sections of lesional and normal skin were layered with flourescence conjugated anti human Ig6, A, M, C_3, Ciq and fibrinogen (Hertz) at a dilution of 1/10. The slides were incubated for half an hour, washed and read with an Olympus ultraviolet microscope.

All the investigations were done on presentation, as part of the diagnostic workup. Therefore, they were pre-treatment investigations.



H & E Section of Lesional Skin x 10 Showing Typical Features of DLE



Granular Band of Ciq along the Dermo-epidermal junction x 10

RESULTS

There is a slight *male* preponderance with 16 female patients and 22 males. The female to male ratio is 0.7:1.

Table 1 shows the age distribution of the patients. The mean age was 38 years. 71% of the patients fall between the third and fifth decade. The youngest patient was 16 while the oldest was 67 years.

There were 29 Chinese (76%); 5 Indians (15%) and 4 Malays (11%).

9 of the patients (23.6%) had antinuclear antibodies. Table 2 shows the details of the ANA detected. The titres were on the whole low, ranging from 1/10 dilution to 1/40 dilution. 5 had the speckled pattern, 3 showed the homogenous pattern and 1 showed the peripheral pattern.

Table 3 shows the results of direct immunofluorescence on lesional skin. 18 patients (47%) had immunoreactants in the dermo-epidermal junction (that is, the lupus band). The commonest immunoreactant found at the DEJ were complements Clq and C_3, present in 61% of the positive DIF. Of the im

TABLE 1
AGE DISTRIBUTIONS OF DLE PATIENTS

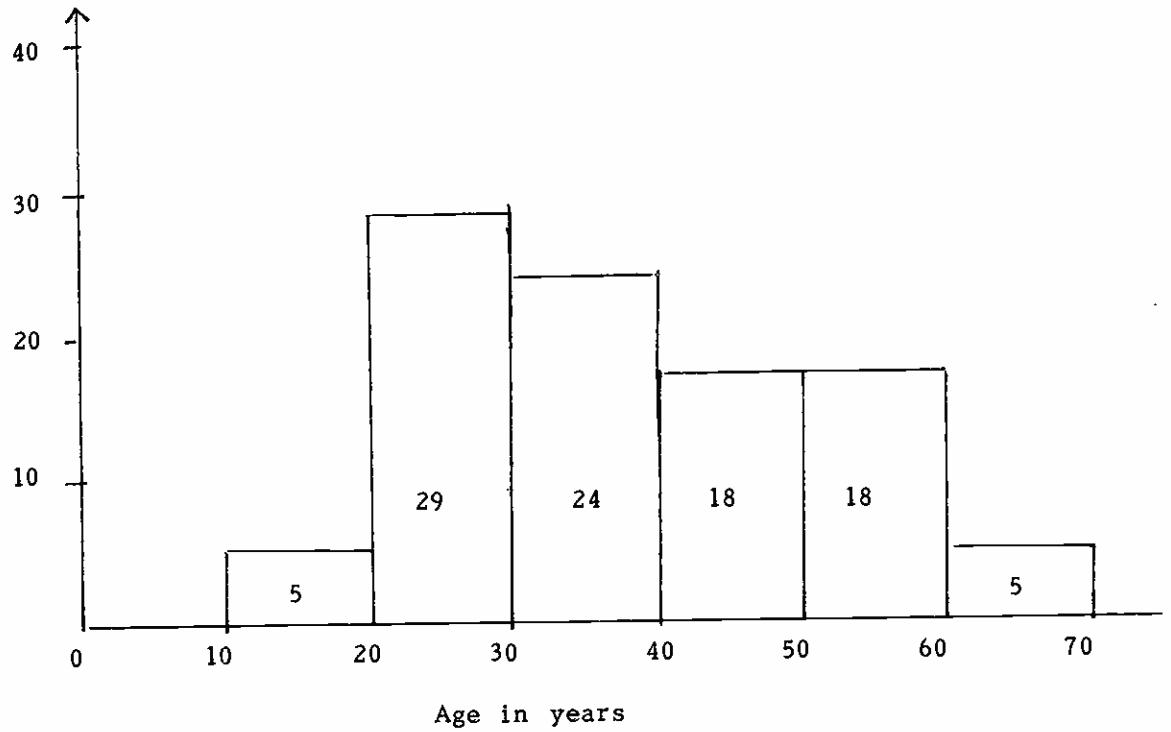


TABLE 2
ANA IN DLE PATIENTS

Pattern	Titre
Speckled (5 patients)	1/10 1/10 1/20 1/20 1/20
Homogenous (3 patients)	1/20 1/40 1/40
Peripheral (1 Patients)	1/10
Total: (9 patients — 23.6%)	

TABLE 3
THE LUPUS BAND TEST

Number of patients — 38
Positive Lupus Band — 18 (61%)

Immunoreactants at the DEJ	No. of patients
C3	11 (61%)
Clq	11 (61%)
IgG	9 (50%)
IgM	7 (39%)
IgA	4 (22%)
Fibrinogen	2 (11%)

munoglobulins, IgG occurred more frequently than IgM and IgA. Fibrinogen is found in only 11% of the positive DIF.

18 patients had direct immunoflourescence done on normal sun-exposed skin. Only 1 showed IgG at the dermo-epidermal junction. (Photo 2). The rest were negative.

23 patients had their blood analysed for VDRL and FTA-ABS. Only 1 had a biological false positive serology with a weakly reactive VDRL at 1/1 dilution and a non reactive FTA-ABS. 2 other patients had both reactive VDRL and FTA-ABS, diagnosed to have concomitant syphilis and treated accordingly.

DISCUSSION

38 cases of DLE seen between 1978 and 1983 were analysed. The male preponderance is strikingly different from other reported series. The other reported series (1, 2) all showed a female preponderance with a female to male ratio in the region of 2.0 to 1. Having mentioned this, it must be added that this is a small cohort. It does, however, add substance to the clinical impression that we see more male DLE patients than females in our hospital.

The age distribution shows that DLE, like SLE, is a disease affecting young adults.

23.6% of the cohort has ANA. The proportion of DLE patients with ANA in other reported series ranges from 2% to 35% (2). This may reflect the differences in the criteria used in diagnosis as well as the sensitivity of the technique used.

The low titres of ANA were expected. High titres of ANA are uncommon in DLE , in contrast to SLE.

The pattern of ANA is also not surprising, the speckled pattern and the homogenous pattern being more common. Only 1 patient had the peripheral pattern, which is found more specifically for SLE.

Direct immunoflourescence is a useful technique in the investigation of skin lesions. The finding of immunoreactants in a band at the dermo-epidermal junction is suggestive of LE, especially if all the major classes of immunoglobulins are found together. This has been called the lupus band. 47% of our patients had the lupus band in lesional skin. Other series reports range from 50% to 90% positivity (1, 2, 3, 5). Again, this can be explained on the different criteria for diagnosis and the sensitivity of technique used. The age of the lesions and whether the test was done pre or after treatment also may alter the findings.

As expected, most of the direct immunoflourescence on normal skin showed negative results. This is the rule in DLE, as opposed to SLE where the DIF is often positive in normal skin. The only patient with IgG at the DEJ in normal skin was a 49-year old Malay man. He had lesions on the face and neck, no ANA and no systemic involvement on investigations and clinical examination. It is prudent to follow the man closely to detect any systemic involvement which may arise in the future.

DLE is an autoimmune disease and is a known cause of a biological false positive serology. In our series, only 1 patient had this, out of 23 tested.

All the patients were first treated with topical steroids. In 21 patients (55%), the response with this alone was good and no other treatment was required. In 10 patients (26%), chloroquine had to be added. In 3 patients (8%) low dose prednisolone was added to the topical steroids. In 4 patients (11%), all 3 modalities of treatment were used.

ACKNOWLEDGEMENT

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