Clinicolaboratory Features of Patients with Discoid Lupus Erythematosus

Enigbokan O.A[1], Ogunbiyi A.O[1], George A.O[1]
[1]Dermatology Unit, Department of Medicine, University College Hospital, Ibadan, Nigeria.
Correspondence: omololuenigbokan@gmail.com

ABSTRACT

Introduction: Discoid lupus erythematosus (DLE) is a benign skin disorder with prominent scarring if left untreated. The disease has also been identified to be associated with some laboratory abnormalities contrary to previous thought that the disorder is limited to the skin. Although, it was thought to be more prevalent in the black population, it was reported as a rare disease in West Africans. However, studies on DLE in our population are very few. Aims and objectives: To describe the clinical features and identify laboratory abnormalities in patients diagnosed with DLE.

Methodology: A retrospective study, patients who were diagnosed with Discoid lupus erythematosus from April 2008 to October 2012 were traced from our records and their case files were retrieved. Patients who had evidence of systemic lupus erythematosus from investigations and patients who do not have at least two of this three baseline investigations urinalysis, Full blood count, Erythrocyte sedimentation rate were excluded. Essential information such as demographic data, age of onset, clinical and laboratory features were obtained and analyzed using SPSS software version 15.0.

Results: A total of 23 patients met the above criteria. The male: female ratio was 1:3.6 while the mean age of presentation was 40.6 ± 14.7yrs. The mean age of onset was 36.6 ± 16.1yrs. Most of our patients presented late after disease onset and about half (52.2%) had the disseminated form of DLE as at presentation.

Conclusion: Discoid lupus erythematosus is a chronic disfiguring skin disease whose incidence appears to be increasing from unconfirmed reasons such as increased health seeking attitude. Majority of the patients still present late after the onset of the disease with a disseminated form that puts them at risk of progressing to Systemic lupus erythematosus. There is therefore a need for adequate education of the public and follow up of these patients for early institution of management.

Keywords: DLE, Nigerians, lupus, laboratory abnormalities, clinical features

Introduction

Discoid lupus erythematosus(DLE) is a benign skin disorder with prominent scarring if left untreated. There is paucity of studies on the clinical presentation of DLE in our population but data on prevalence of skin disorders showed that there appears to be a rise in prevalence of this. There was a report of its rarity in West African population in the past but recent observations seems contrary.[1-2] The observed rise may be due to better recognition, differences in study area, environmental factors or possibly better health seeking conditions and awareness in the population.

The disease has also been identified to be associated with some laboratory abnormalities suggesting its effect may not be limited to the skin as previously thought. The presence of these various laboratory abnormalities and their significance had been extensively investigated in other regions but data for our population are few to absent.

It is therefore imperative to document the clinical presentation and the observed laboratory abnormalities in patients with DLE in our environment so as to guide proper assessment and follow up of these patients.

Aims and objectives

To describe the clinical features and identify laboratory abnormalities in patients diagnosed with DLE. To compare the presentation of DLE in our environment with other geographical region and identify if any uniqueness exists.

Methodology

A retrospective study, patients who were diagnosed

with Discoid lupus erythematosus from April 2008 to October 2012 were traced from our records and their case files were retrieved. Diagnosis of Discoid lupus were made on clinical grounds and patients with Systemic lupus erythematosus using ACR criteria were excluded from the studies. Also patients who did not have at least any 2 of urinalysis or E/U/Cr, hematologic assessment and autoantibody screening were also excluded from the study.

Essential information such as demographic data, age of onset, site of involvement were extrapolated. The documented morphology, associated symptoms and laboratory features were also obtained. Discoid lupus was classified as localized when lesions were situated over head and neck, and generalized when these were more widespread and involves areas below the neck.

Data was analysed using SPSS software version 15.0 (SPSS, Inc., Chicago, IL, USA) with description of continuous variables represented as mean ± s.d and median (interquatile range) for normal and skewed distribution respectively while frequencies and percentages were used for categorical variables. Statistical significance was tested using chi square, fischers exact, man whitney U and t- test as deemed appropriate with significance level put at $p < 0.05$.

Results

DLE cases seen within the study period were 43 but only 23 cases were analyzable after using the inclusion and exclusion criteria. The male: female ratio was 1:3.6. The distribution of the age of presentation, duration prior to presentation, age of onset and is shown in Table 1 and 2. The mean age at presentation was 40.6(14.7) years while the mean age of onset was 36.1(s.d 16.1) years. Most of our patients presented late after disease onset with a median duration of disease of 4.0 years (IQR 0.96 – 8.50 years). The atrophic hypopigmented type was the commonest morphology seen (Table 4). The malar area followed by the scalp were the commonest site involved in patients seen with a frequency of occurrence of 20(87%) and 16(69.7%) respectively. 12(52.2%) had disseminated form of DLE while localized DLE was found in the remaining 11(47.8%) of the 23 patients at presentation (Fig 1). When asked about associated symptoms, 11(47.8%) had one or more of constitutional symptoms with headache, fever and photosensitivity being the commonest in 21.7%, 17.4% and 17.4% respectively. None of the patients gave history of arthralgia. The mean PCV was 37 ± 4.4 while ESR ranged from 5-78 with a mean of 32.1 ± 22.4 and a median of 23 (interquartile range 13 - 56). Proteinuria was observed in 3(13%) patients. Out of the 10 that had LEcell test done, 8(80%) had a positive result. Laboratory abnormalities occurred more in disseminated DLE than localized DLE (75% vs 27.5%) but this was not found to be statistically significant (Table 5). There was no correlation found between age of onset or sex with development of laboratory abnormalities also. However, occurrence of laboratory abnormalities was associated with a higher duration of illness prior to presentation ($p = 0.025$).

	Mean (s.d)	**Median (interquartile range)**
Age at presentation in years	40.6(14.7)	40 (27 - 48)
Duration of lesion in years	5.8 (6.0)	4.0 (0.96 – 8.50)
Age at onset in years	36.1(16.1)	34.0 (21.5 – 46.5)

Table 1. The distribution of the age of presentation, duration prior to presentation and age of onset

	Male	Female	P value
Mean Age at presentation in years (s.d)	36.6(14.5)	41.7 (15.0)	0.508
Median Duration of lesion in years (interquartile range)	2.0 (0.25 -12.0)	(0.96 – 8.50)	0.591
Mean age of onset in years (s.d)	31.4(16.1)	37.6 (16.4)	0.471

Table 2. The distribution of the age of presentation, duration prior to presentation and age of onset in both sexes

	Frequency	Percent	Cumulative Percent
Yoruba	15	65.2	65.2
Ibo	5	21.7	87.0
Hausa	2	8.7	95.7
Ghanian	1	4.3	100.0
Total	23	100.0	

Table 3. Distribution according to Ethnicity

Type of lesion	**Frequency**	**Percent**	**Valid Percent**
Atrophic	12	52.2	85.7
Papulonodular	2	8.7	14.3
Missing	9	39.1	
Total	23	100.0	

Table 4. Morphology of the lesions

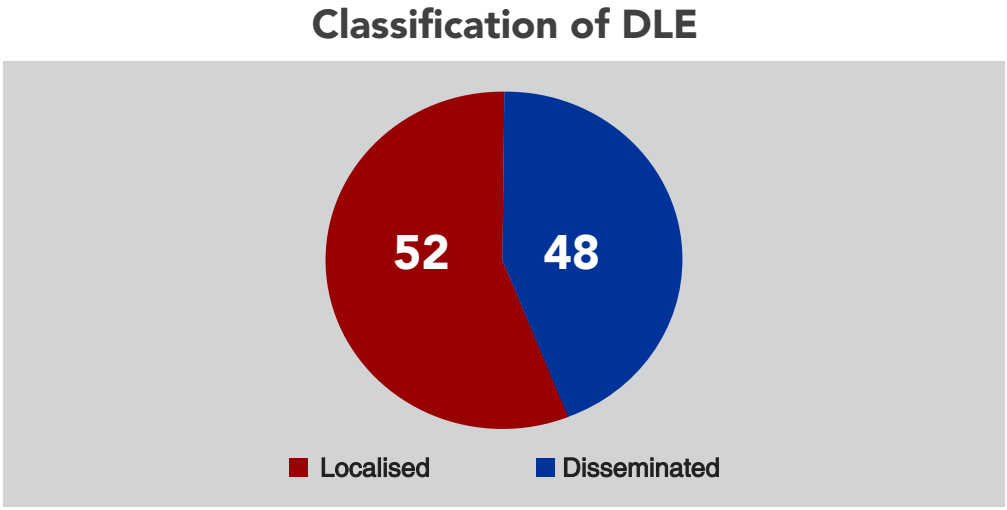

Fig 1. Pie chart showing the type of DLE based on extent of lesions

		Presence of lab abnormalities		P value
		Yes	No	
Classification based on extent	Disseminated	9	3	0.10
	Localized	4	7	
Sex	Male	4	1	0.339
	Female	9	9	
Mean age of presentation in years (s.d)		41.9 (15.0)	38.8 (14.9)	0.625
Mean age of onset (s.d)		35.8 (15.3)	36.4 (18.2)	0.934
Median duration of presentation in years (IQR)		6.50 (3.25 – 9.75)	1.0 (0.00 – 1.00)	0.025

Table 5. Relationship between presence of laboratory abnormalities and other variables

Discussion

Discoid lupus erythematosus is a relatively common disorder seen in dermatology clinics of our environment. The mean age of onset is similar to the report from earlier study done in this locality and various studies from other geographical area.[3-5] While the female preponderance agrees to the universal fact that the disease affects more females than males, the 3.6 : 1 female to male ratio is closer to reports from several studies but slightly lower than value gotten in an earlier study in our environment.[1,3-6] This may not be unsurprisingly related to the hormonal interplay suggested in the pathogenesis of lupus erythematosus.

Discoid lupus was observed to mostly affect the face and scalp of patients and this has also been confirmed in other studies[3,5] This may be related to the association between the disorder and sun exposure although only a few of the patients reported photosensitivity. In our environment, photosensitivity, one of the presenting symptoms in lupus erythematosus (LE), is still vaguely defined and difficult to recognize early. The dark skin prevents early feature of photosensitivity such as erythema, photosensitivity only becomes obvious when other features such as papules or vesicles are present. It was observed that majority of the patients that had scalp involvement also presented late with extensive disease and hair loss. This was corroborated by the longer mean duration of disease prior to presentation.

In this study, the proportion of disseminated DLE is more than those reported by several other studies. An earlier study by Jacyk observed that 16 of 37 (42.3%) patients had laboratory abnormalities which was slightly lower than the 56.5% found in this study.[1] We are not sure if this was a result of the larger proportion of disseminated DLE in our study. Lupus erythematosus is an autoimmune inflammatory process that may span from involvement of the skin only to a multisystem process. It is generally believed that some of laboratory abnormalities are markers of association between chronic and systemic lupus erythematosus. However, Jacyk's earlier suggestion was that the occurrence of more laboratory abnormalities in our population was queried and questionably linked to heavy parasitic infestations that occurred in the tropical regions then as it was demonstrated that in a tropical milieu heavy parasitic infections produce marked immunological disturbances. However, the persistence of this finding despite the better control of infections and infestations currently puts more doubt to this explanation and calls for case control study. It is possible that DLE is primarily responsible for these laboratory abnormalities. Also the lower mean PCV, slightly higher ESR values and LE cell positivity found in 10 of 13

patients supports the evidence that DLE in blacks is more associated with laboratory abnormalities. Unfortunately, many of the patients were unable to do autoantibody screening because of cost as at that time.

Lastly, the presentation of DLE and occurrence of more frequent laboratory abnormalities with increasing duration of illness observed in this report may indicate the tendency for DLE in West Africans to be more disseminated, progress more to systemic lupus and ultimately worse prognosis despite the relatively lower prevalence – a subject to be clarified in prospective studies.

We therefore advise patients with DLE in our environment should be followed up more closely. A more robust prospective study is also suggested to help sort out the long term implications of these laboratory abnormalities in patients with DLE in our environment.

The limitation of this study is that it was a retrospective study and tests for autoantibody was not a routine in those periods because it was costly and not readily available.

Conclusion

Patients with DLE usually presents with multiple disfiguring skin lesions. Majority of the patients present late. Disseminated DLE is common in our environment with some associated laboratory abnormalities and this portrays the need to follow up these patients. There is also a need for adequate public education on early presentation and institution of management before irreversible scarring occurs.

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