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Original Research Article

Clinico epidemiological study of lichen nitidus in a tertiary care centre in South India

V. Gomathi, K. Narashimman*

Department of Dermatology, Venereology and Leprology, Government Dharmapuri Medical College, Dharmapuri, Tamil Nadu, India

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***Correspondence:**
Dr. K. Narashimman,
E-mail: bhavaniskinclinic@gmail.com

ABSTRACT

Background: Lichen nitidus is an uncommon chronic cutaneous eruption that exhibits a distinct morphology and histopathological features. Hepatitis B vaccination, UV radiation in actinic type, and genetic factors in familial lichen nitidus. It was also considered as a variant of lichen planus. The aim of the study was to assess the clinico epidemiological features of lichen nitidus and its clinical associations.
Methods: A total of 30 patients presented with the features of lichen nitidus were selected for the study. The analysis of cases was done by recording a detailed history and a thorough clinical examination. History regarding the etiological factors like tuberculosis, drug intake, photosensitivity, recent vaccination and family history were noted.
Results: In this study most of the patients were asymptomatic (70%). Only 30% were symptomatic among which 23% presented with mild itching and only 7% with moderate to severe itching. In our study, the most frequent sites of involvement observed were the upper limb in 25 cases (83%), followed by trunk in 17 cases (57%), lower limb in 15 cases (50%) and only 2 patients (7%) with facial involvement.
Conclusions: The present study shows that lichen nitidus is common in young adults and children with the male predominance. Most of the cases were asymptomatic. Although no definite etiological factors could be made out in most cases, few patients showed the risk factors like photosensitivity and family history.

Keywords: Lichen nitidus, Photosensitivity skin, Melanocytes, Histamine antagonist

INTRODUCTION

Lichen nitidus is an uncommon chronic cutaneous eruption that exhibits distinct morphology and histopathological features. It was first described by Felix pinks in 1901. The exact etiology is not known.[1] An unknown antigenic stimulus induced cell mediated immune response, resulting in superficial dermal granulomatous infiltrate, is responsible for the characteristic cutaneous eruption seen in lichen nitidus. The factors implicated in its etiology include tuberculosis, Hepatitis B vaccination, UV radiation in actinic type, and genetic factors in familial lichen nitidus. It was also considered as a variant of lichen planus. It is a self-limiting condition that most commonly affects young adults and children.[2] It is clinically characterized by asymptomatic, discrete, flat or dome shaped, flesh colored papules with a shiny surface. It is distributed most frequently in the flexor surface of extremities, trunk and genitalia. Rare sites of involvement of include the face, oral mucosa and palms and soles.[3] Koebner phenomenon is a characteristic finding seen in lichen nitidus and it occurs 1-2 weeks following minor trauma. Clinical variants like actinic, generalized, hemorrhagic or

purpuric, vesicular, perforating, spinous follicular, confluent, and linear forms have been described.[4] Various dermatological and systemic diseases in association with lichen nitidus have been reported. Generalized Lichen Nitidus is a rare variant of lichen nitidus, clinically characterized by wide spread eruption of discrete, shiny papules all over the body with or without itching. Various clinical studies revealed generalized lichen nitidus in association with crohn's disease, multiple endocrine neoplasia type 2B, postpartum thyroiditis, chronic renal failure and Down's syndrome.[5] The diagnosis is confirmed by the histopathological examination. It has a benign course and self-limiting in majority of cases over few months to one year without any sequel. Lichen nitidus can be treated with both topical and systemic drugs.[5] Drugs used in the treatment of lichen nitidus, include topical corticosteroids, calcineurin inhibitors and systemic drugs like corticosteroids, retinoid, astemizole, cyclosporine and itraconazole.[6] Systemic therapy is indicated for the persistent forms like generalized and palmoplantar type. Phototherapy with PUVA and NBUVB is effective in generalized type of lichen nitidus.

METHODS

The study was conducted among the patients who have attending the dermatology outpatient department of Government Dharmapuri Medical College Hospital, Dharmapuri during the period July 2016 to December 2017. All patients with the clinical features of lichen nitidus of both sexes and all age groups who attended the dermatology outpatient department, during the above period were taken for this study. A detailed history was recorded and a thorough clinical examination was performed for each patient. At first, preliminary data in the form of age, sex and occupation were noted, and then a detailed history regarding onset, duration and symptoms were noted. History regarding the etiological factors like tuberculosis, drug intake, photosensitivity, recent vaccination and family history were noted. The following investigations -hemoglobin percentage, total and differential leukocyte count, platelet count, erythrocyte sedimentation rate, blood sugar, blood urea, serumcreatinine, liver function test, HIV- ELISA, Blood VDRL, Mantouxtest, x ray chest and Skin biopsy were done. Hematoxylin and eosin staining of the skin biopsy specimen was done for histopathological examination to confirm the diagnosis.

Statistical analysis

Results will be expressed as mean±standard deviation and range. Unpaired' test will be used to compare the contact site involvement in lichen nitidus patients p value of 0.05 or less than will be considered for clinical significance.

RESULTS

The present study is across sectional study of 30 cases of lichen nitidus who attended the dermatology outpatient department. Various observations made are as follows.

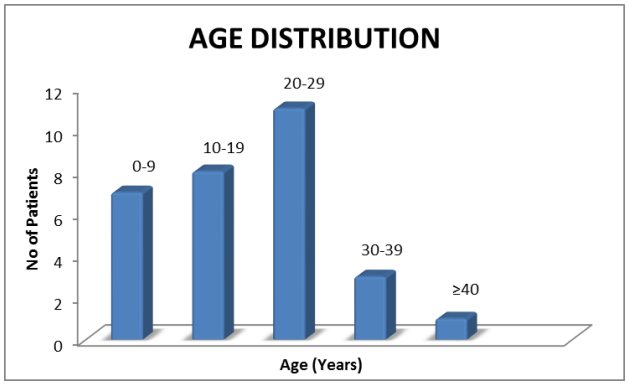

Figure 1: Age distribution among the patients.

In the present study maximum number of cases belonged to the age group of 20-29 years (37%) followed by 10-19 years (27%) and 0-9 years (23%). The youngest one was 5 years of age, and the eldest was 40 years old. The mean age of the patient observed in our study was 20 years for males and 21 years for females.

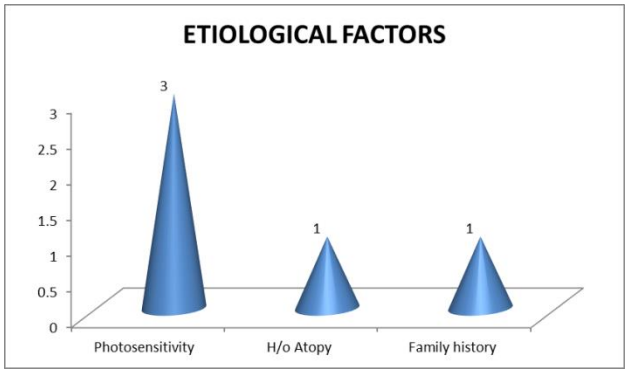

Figure 2: Shows the etiological factors among patients.

In our study, the most frequent sites of involvement observed were the upper limb in 25 cases (83%), followed by trunk in 17 cases (57%), lower limb in 15 cases (50%) and only 2 patients (7%) with facial involvement. Genital involvement was present in 8 male patients (30%). Palmoplantar and oral mucosal involvement were absent in all 30 cases.

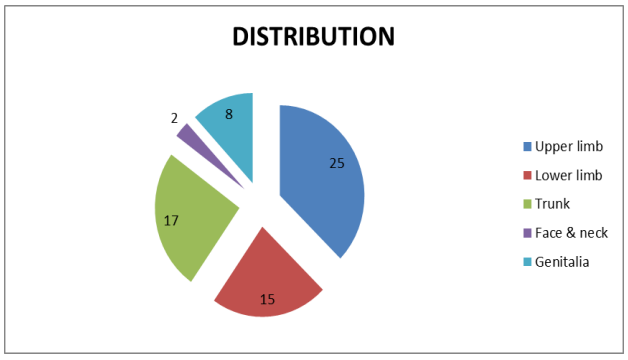

Figure 3: Clinical forms –distribution.

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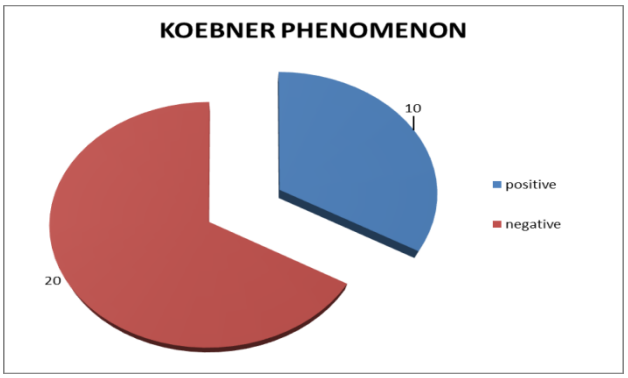

Figure 4: Koebner phenomenon.

10 cases (33%) of Lichen Nitidus with koebner phenomenon have been reported in our study.

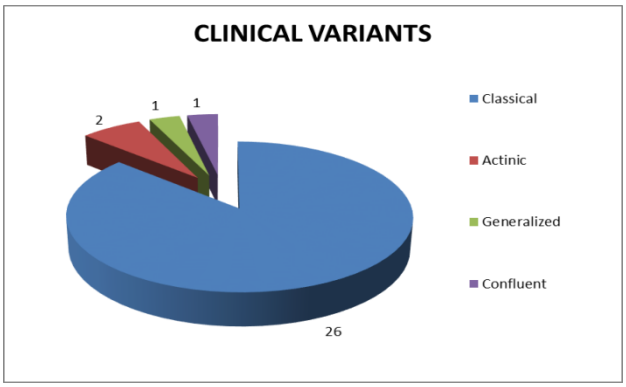

Figure 5: Shows the clinical variants.

In the present study, the commonest type of lichen nitidus observed was classical type in 26 cases (87%) followed by actinic type in 2 cases (7%), generalized and confluent type in one patient (3%) each.

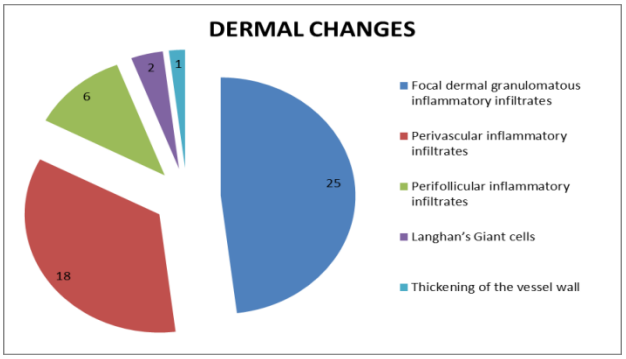

Figure 6: Shows the dermal changes.

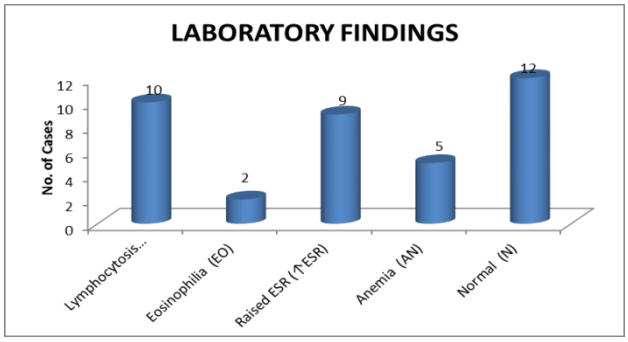

Figure 7: Shows the hemogram profile of patients.

The complete hemogram findings observed among 30 patients involved in our study showed normal findings in 12 cases (40%). Lymphocytosis was observed in 10 patients (33%), followed by raised ESR in 9 cases (30%), low hemoglobin in 17% cases and eosinophilia in 2 cases (7%).

DISCUSSION

In our study, the average annual incidence of lichen nitidus among patients with skin diseases attending the Out Patient Department of dermatology was 0.032%. The incidence of lichen nitidus reported in the Hazen's study was 0.034%.[7] In the present study maximum number of cases belonged to the age group of 20-29 years (37%) followed by 10-19 years (27%) and 0-9 years (23%). In the present study, observation of sex distribution among 30 patients with lichen nitidus, showed 17 males (57%) and 13 females (43%), and the male to female ratio was 1.3:1.[8] The male predominance observed in our study is consistent with the prior studies, whereas in Hazen's study conducted among 11729 Negro patients with skin diseases revealed no gender predisposition.[9] In our study 21 patients (70%) presented with less than 1 year duration and 9 cases (30%) with more than 1 year duration which is in concurrence with the literature.[10] The longest duration observed in our study was 9 years and the shortest one with 2 weeks. In our study 70% of the patients were asymptomatic, 23% patients presented with mild itching and moderate itching in only 7% cases.[11] This observation in our study is consistent with the previous studies which revealed the asymptomatic nature of illness in majority of cases. In our study the distribution of lesions with the decreasing order of frequency include the upper limbs (83%), trunk (57%), lower limbs (50%), genitalia (30%), and face (7%) which is consistent with the reports of previous studies.[12] No mucosal and palmoplantar involvement was reported in our study, which is a rare finding observed in Lichen Nitidus.[13] Few cases of generalized type of lichen nitidus with the significant association of systemic diseases like Crohn's disease, Down's syndrome, MEN type 2b,[5] postpartum thyroiditis and chronic renal failure[7] have been reported in the literature.[14] A 11 year old female child with the generalized type of lichen nitidus was reported in our study, but no systemic association was found in this patient. Histopathological examination of 30 cases of lichen nitidus in our study revealed the following

epidermal and dermal changes.[15] The most frequent epidermal changes observed in our study include focal disruption of the basal layer in 24 cases (80%) and flaky hyperkeratosis in 22 cases (73%), thinning of epidermis in 15 cases (50%). Dermal changes include the characteristic focal dermal inflammatory infiltrates in 83% cases, followed by perifollicular infiltrate in 13% cases.[16] In our study 40% patients showed normal complete hemogram findings. Lymphocytosis was present in 33% cases, increased ESR in 30% cases and low hemoglobin in 17% cases. Eosinophilia was found in 2 cases (7%). In our observation lymphocytosis was more common among patients with longer duration of illness.[17] Liver function test and renal function test were normal in all cases. Increased blood sugar level has been observed in one patient, a known case of diabetes mellitus. [18] Normal chest x ray findings and negative Mantoux test were observed in all 30 cases, hence no significant role of tuberculosis in the etiology of lichen nitidus was found in our study which is consistent with the Niles et al study who disproved the etiological role of tuberculosis in their study.[19,20]

CONCLUSION

The present study shows that lichen nitidus is common in young adults and children with the male predominance. The mean age of the patient in males was concurrent with the prior studies, but in females the mean age was higher than the prior reports. Most of the cases were asymptomatic. Although no definite etiological factors could be made out in most cases, few patients showed the risk factors like photosensitivity and family history. The most common type was classical type. Rare cases like actinic type, generalized type and confluent type of lichen nitidus have been reported. Actinic type was common in females and associated with photosensitivity Significant genital involvement in male patients was reported. Koebner phenomenon was present in 1/3rd of the patients. Histopathological findings in most of the cases were consistent with typical findings of lichen nitidus and few cases with perifollicular inflammatory infiltrates and giant cells. Perivascular inflammatory infiltrate along with focal dermal inflammatory infiltrates were observed in 18 patients presented with the classical lesions of lichen nitidus, which is different from other studies lichen nitidus where the perivascular infiltrate was frequently reported in the purpuric type. Cutaneous associations like lichen planus and mollscum contagiosum have been reported.

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Ethical approval: The study was approved by the institutional ethics committee

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