Original Article

A clinicoepidemiological study of polymorphous light eruption in Marathwada region

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Abstract

Background and Aims: To study the age, sex and month wise distribution and clinical variants of polymorphic light eruption (PLE) as there are very few studies done in India. **Methods:** A clinicoepidemiological study of PLE was done in the skin outpatient department (OPD) of a tertiary referral centre (medical college), Aurangabad during 2 year period. Detailed history and examination was done. Chi square test was used to find out the significance of the age, sex distribution of the patients. **Results:** The study shows females are more affected than males and maximum incidence in age group of 20-39years and minimum in age group of 60-89 years. It was most common in housewives and papular variant, involving face, neck, and forearm was fond to be most common. Highest number of cases were reported in April(16%) and May, October, November(14% each). **Conclusions:** PLE is photosensitive disorder. It was mild in nature and only areas which are intermittently exposed to the sun were involved. It was most common in childhood and adolescent with female preponderance.

Keywords: Polymorphic light eruption(PLE), Clinicoepidemiological study.

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INTRODUCTION

Polymorphic Light Eruption(PLE)[1] is an abnormal cutaneous response which occurs on exposure to sunlight. This eruption is classified as a photodermatosis, a subset of skin lesions which are exacerbated or initiated by exposure to ultraviolet radiation[1]. It is more common in spring[2, 3, 4] & summer; however the prevalence may be higher in summer months because of the bright sunlight. It is more common in people living in temperate climates affecting approximately 10-20% of patients. As the name suggests, lesions are polymorphic. It could be small, itchy[5] papules, plaques, papulovesicles[6] or urticarial plaques occurring mainly on sun exposed areas. Characteristically, involving dorsum of the hands and forearms, upper part of arms, neck and face. In patients with papulovesicular variant, face is usually spared. Most commonly affected age group is 30-40 years and females[7] are 2-3 times more affected than males. The lesions occur several hours to days following sun exposure and subside within a 7-10 days if there is no further exposure. The disease can be genetically[8, 9, 10] inherited with autosomal dominant inheritance, some cases seen in Finland. Under the microscope[11], there are variable changes with a superficial and deep dermal infiltrate of lymphocytes and occasionally eosinophils and neutrophils. Early cases may only show changes in papillary dermis. Edema may be prominent in the upper dermis and may form sub epidermal blister. The epidermis may show varying degrees of spongiosis with parakeratosis and acanthosis.

METHODS

A clinicoepidemiological study was done in patients who had been visiting our dermatology OPD in a period of 2

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years. Patients were enrolled from March 2009 to 2011 Patients who were taking any drugs, which can cause or aggravate photosensitivity, were excluded. Total 150 cases were enrolled. Patient history was recorded including age, sex, occupation, similar disease history in family members, time of onset of symptoms, its severity, nature - transient, persistent or recurrent, aggravating factors, constitutional and other symptoms and any change in the severity of symptoms. Patient's duration of exposure to sunlight during outdoor activities including travel also recorded. Cosmetics and sunscreen use, as well as previous treatments were noted. Details of skin lesions and the site, size, shape, color, type and secondary changes were noted. In doubtful cases, patients were asked to follow photo protection of the affected part for 7-10 days during this time the lesions should have healed without scarring. Diagnosis was made on the basis of typical history and examination findings on clinical basis. Data thus obtained was compiled, tabulated and analysed for distribution of cases in the following parameters. Age group, sex, occupation, symptoms, affected body site, morphology of lesions, month wise variation.

RESULTS

From the study, which Age included 150 patients of PLE, following observations were made

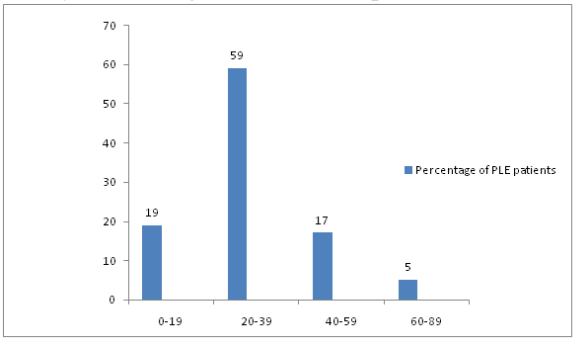

Figure 1

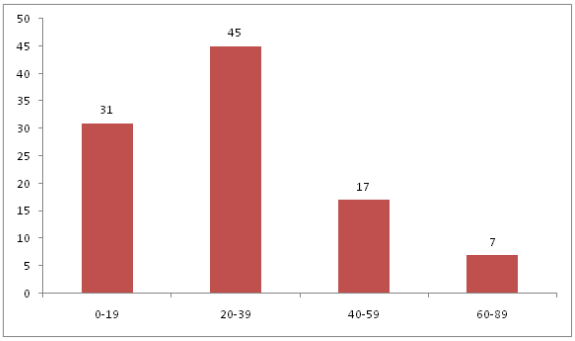

Figure 2

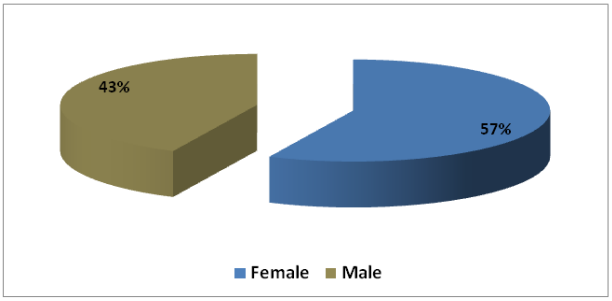

Figure 3

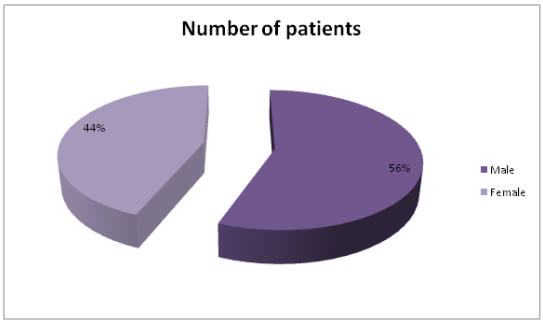

Figure 4

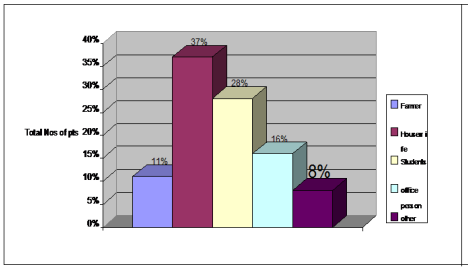

Figure 5

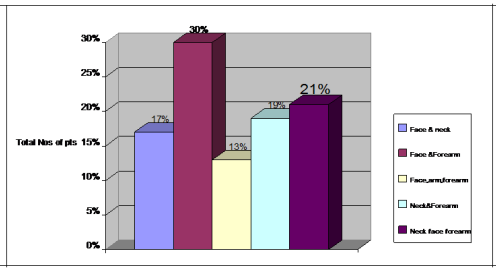

Figure 6

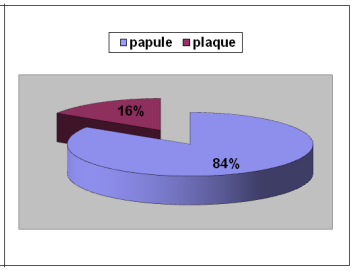

Figure 7

Legend

Figure 1: Age distribution of PLE patients expressed as percentage
Figure 2: Age distribution of all the patients of skin OPD(percentage)
Figure 3: Sex distribution of PLE patients
Figure 4: Sex distribution of all patients of skin OPD
Figure 5: Occupation of PLE patients
Figure 6: Sitewise distribution
Figure 7: Morphology of lesions

DISCUSSION

PLE is considered to be a most common in fair-skinned individuals with skin types I to IV. It is less common in very dark-skinned individuals skin types IV to VI like in America, India and Pakistan. In our study, 96% of the patients were of skin types IV to VI which explains its low prevalence, & mild nature. The majority of the cases were in the age group of 20-39 years showing similarity in age groups. Of 150 cases studied, 57% were females. Most of them were housewives (55) in whom exposure to sunlight was intermittent and for a short period. The clothing used was light which gave full exposure to the neck, arms and forearms. Partial ultraviolet radiation-induced immunosuppression is said to result in a delayed type hypersensitivity response to photo induced antigens. PLE lesions fade off near or sometimes sharply at the borders of garments but not all exposed areas are involved. It is thought that exposure of those areas throughout the year makes them more tolerant. PLE lesions start in the month of March mostly. During this month, patients used light clothing with short sleeves during outdoor activity. This is the time when the sun shines on the equator and the days and nights are of almost equal length. Out of 150 cases studied, majority of the cases were from the city of Aurangabad. Latitude of Aurangabad is 19. 52^{o} north and longitude 75. 19^{o} east. The prevalence of PLE is said to be higher in regions away from the equator because of the variation in the proportion of ultraviolet A and B radiations at different latitudes. we found that a 30 min exposure to sunlight was required to produce the itching & rash sometimes, the interval being slightly less than ½ hour in 22% of cases, more than ½ hour in 47%, but 29% were not aware of this. The external aspect of the arms and forearms were involved in most of the cases possibly because these parts are placed horizontally while sitting or travelling and receive the maximum exposure. The exposure of covered areas in the summer months makes them vulnerable to this photodermatosis. Repeated sun exposure causes hardening of the skin which explains the resolution of the eruption after few days. The eruption was improved in 96 cases, not improved in 36 cases, not changed in 16 cases. The type of lesion was papular in 84% cases & in 16% plaques. Fewer cases had scaling & crusting. Itching presents in 120 cases, burning in 11 cases, in 11 cases itching & burning both presents & 8 patients were asymptomatic. It may be because the disease was milder in this part of the world. Covered areas were not affected irrespective of the type of clothing or weave tightness which suggests that it is probably preventable by all types of clothing.

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