ORIGINAL RESEARCH PAPER
Volume-6 | Issue-11 | November-2017 | ISSN No 2277 - 8179 | IF : 4.176 | IC Value : 78.46
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

MORPHOLOGICAL VARIANTS OF POLYMORPHIC LIGHT ERUPTION: AN OBSERVATIONAL CROSS-SECTIONAL STUDY.

Dermatology

Jayakar Thomas* Department of Dermatology, Sree Balaji Medical College & Hospital, Chromepet, Chennai, India *Corresponding Author

Deepthi Ravi Department of Dermatology, Sree Balaji Medical College & Hospital, Chromepet, Chennai, India

ABSTRACT

Background: Polymorphic light eruption (PMLE) is an abnormal, delayed onset and recurrent reaction to ultraviolet radiation. It usually resolves without any scarring. Different morphological variants of PMLE have been reported and hence the nomenclature 'polymorphic'. The papular and papulo vesicular are reported to be the most frequent presentation.
Aims: To find out the incidence of various morphological variants of polymorphic light eruption (PMLE).
Materials and methods: Thirty patients who were clinically diagnosed as PMLE were taken up for the study. The clinical features, age and gender were noted.
Results: The number of females (18) exceeded the number of males (12). The most common clinical variant was hypo pigmented (12). Maximum numbers of patients were in the age group of 30-40 years.

KEYWORDS

Polymorphic light eruption, Photo allergic dermatoses, Halogenated salicylanilides.

Introduction:
Polymorphic light eruption (PMLE) is a form of delayed hypersens itivity reaction developing on exposure to ultraviolet light. It is commonly seen in temperate climates especially during summer and occurs on the photo exposed areas such as the extensor aspect of the arms, V area of the check, neck and sometimes the legs and feet. The face and dorsa of hands are usually spared except if there has been no previous exposure to UV radiation due to hardening caused by chronic exposure to UV radiation.

The lesions usually develop a couple of hours to a few days after exposure to sunlight on the sun exposed areas. The lesions usually resolve spontaneously without any pigmentation or scarring. The patients eventually develop tolerance to the radiation in that particular season.

There are different morphologies of PMLE due to which it is labeled as 'polymorphic'. The most frequently reported morphological variant is the papulovesicular form. Other morphological variants reported include erythema, plaque, micropapular, lichen nitidus like, hypo pigmented, lichenoid, erythema squamous, prurigo like lesions, urticarial plaques, pruritus without any visible lesions(PMLE sine eruptione), and rarely insect bite like, purpuric, vesiculo bullous and erythema multiforme like.

In a particular patient, the presentation is usually monomorphic, i.e. papular or urticarial or lichen nitidus like. But sometimes different morphologies may be seen at different sites in the same patient. The recurrences also follow the initial pattern of PMLE in that particular patient.

Materials and methods:
A total of thirty patients presenting to the Skin OPD in Sree Balaji Medical College and diagnosed as polymorphic light eruption were recruited for the study. An informed consent was taken.

The clinical features, age and gender of the patient were noted down.

Results: The number of females (18) exceeded the number of males (12).

The most common clinical variant was hypo pigmented (12) followed by lichenoid and plaque type (4 each). Two of the patients had both hypo pigmented and lichen nitidus like lesions. The other clinical presentations observed were lichen nitidus like (3), papulosquamous (2), papular (2) and nodular (1).

The age of the patients ranged from 6 to 50 years with the maximum number of patients being in the 30-40 age group (16). The age was 33.5 years with a standard deviation of 10.8.

Discussion:
PMLE has a genetic basis with a susceptibility allele present in around 70% of the population. But environmental factors determine the expression of the condition. It occurs due to a delayed hypersensitivity reaction to UV radiation induced cutaneous antigen. This has been proved by the increased number of epidermal and dermal antigen presenting cells and perivascular T-lymphocyte infiltrate in biopsies of PMLE. There is supposed to be increased antigen recognition in PMLE patients following sun exposure in comparison to patients without PMLE.

Photoallergic dermatoses comprises of skin lesions which develop following exposure to sunlight. It is caused by photo allergens and photosensitizers and subsequent activation of immunological mechanisms. On exposure to sunlight, the photosensitizers get activated and get fused with cutaneous proteins. These make them complete antigens and thus initiate immunological mechanisms leading to development of skin lesions one of which is polymorphic light reaction. The others include solar urticaria and Hydroa vacciniforme. The common photo allergens include halogenated salicylanilides, phenothiazines and sulphonamide antibiotics.

In a study on photo contact dermatitis in a group of 26 patients, positive patch test was obtained to dibromosalicylanilides, 3, 3′, 4′, 5 tetrachlorosalicylanilide (TCSA) and tribromosalicylanilide along with positivity to hexachlorophene, carbanilides, and dichlorophene. On follow up after a period of one year, three of the subjects had recurrent episodes of polymorphic light reaction. Further in graded studies only minimal amount of exposure to UV radiation was sufficient to produce the reaction.

Halogenated salicylanilides are commonly present in detergents. In our study the incidence of PMLE was more in women and the most common form of PMLE was the hypo pigmented variant. This could possibly due to usage of detergents for washing clothes followed by sun exposure while hanging the clothes to dry.

Conclusion:
Excessive exposure to detergents followed by exposure to sunlight may be the reason for the more common occurrence of the hypo pigmented variant of PMLE instead of the papulo vesicular form reported in literature as well as the increased incidence in females.

Proper photo protection with the usage of sunscreens, protective clothing and knowledge about the photosensitizing effect of detergents may help to reduce the incidence and recurrence of polymorphic light eruption.

Legends to Figures:

Figure 1: 18 patients of PMLE showing hypopigmented, lichen nititidus like, lichenoid, papulosquamous, plaque type and nodular lesions. Note that all patients individually show monomorphic lesions except for the combination of lichen nitidus like and hypopigmented lesions.

Figure 2: 12 patients of PMLE showing hypopigmented, lichenoid, papular and lichen nitidus like lesions.

REFERENCES

1. Hawk JLM, Young AR & Ferguson J. Cutaneous Photobiology in Rook's Textbook of Dermatology Eighth Edition: 29.9-29.12.
2. Lehmann P, Schwarz T. Photodermatoses: diagnosis and treatment. Dtsch Arztebl Int. 2011; 108:135–41.
3. Epstein JH, Wuepper KD, Maibach HI. Photocontact Dermatitis to Halogenated Salicylanilides and Related Compounds: A Clinical and Histological Review of 26 Patients. Arch Dermatol. 1968; 97(3):236–244.
4. Sharma L, Basnet A. A clinic epidemiological study of polymorphic light eruption. Indian J Dermatol Venereol Leprol 2008; 74: 15-17.