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# A STUDY OF DERMOSCOPIC PATTERNS WITH HISTOPATHOLOGICAL CORRELATION IN PATIENTS OF IDIOPATHIC GUTTATE HYPOMELANOSIS.

Dermatology

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## ABSTRACT

**INTRODUCTION:** Idiopathic guttate hypomelanosis is a very common depigmentary disorder and its incidence ranges from 20% in ages below 30 years to 80% over 70 years. It is clinically characterised by multiple, discrete round to oval, hypo pigmented to depigmented porcelain-white macules measuring about 0.2 to 2 cm in diameter. The sites of involvement are trauma prone areas like pretibial areas and extensor aspects of forearms sparing face. In Idiopathic Guttate Hypomelanosis, various types of dermoscopic patterns have been identified namely, amoeboid, feathery, petaloid and nebuloid.

**AIMS & OBJECTIVES:** This study was aimed to identify any relation existing between various types of dermoscopic patterns and histopathological findings.

**MATERIALS & METHODS:** This study was carried out in the outpatient department of ASRAM hospital, Eluru in a group of 10 patients. A very detailed history, thorough clinical examination, dermoscopic evaluation and histopathological examination were documented. Dermlite dermoscope was used in the study.

**RESULTS:** There were 7 females and 3 males in the study.Among the cases, four types of dermoscopic patterns were observed, amoeboid, nebuloid, feathery and petaloid. The lesions were also subjected to histopathological examination in which epidermal atrophy with skip areas of retained melanin was common finding in all cases despite variation in dermoscopic pattern.

**CONCLUSION:** Idiopathic guttate hypomelanosis is an acquired hypopigmentary disorder in elderly that leads to anxiety due to its similarity to vitiligo. No significant relation was found in the histopathology and dermoscopic patterns of IGH.

## KEYWORDS

Idiopathic guttate hypomelanosis, dermoscopic patterns of amoeboid, feathery, nebuloid, petaloid pattern, skip areas in histopathological examination.

## INTRODUCTION:

Depigmented skin lesions are commonly encountered in day-to-day practice that poses a diagnostic challenge for the clinician. One of the differential diagnosis includes vitiligo that causes tremendous social implications as social stigma, especially in India.Idiopathic guttate hypomelanosis (IGH) is one such depigmented skin condition whose incidence in India is about 20% in patients below the age of 30 years, and it increases up to 80% of patients over the age of 60 years. IGH looks similar to other depigmented skin lesions including vitiligo in the clinical morphological appearance making it difficult to diagnose and differentiate IGH from other conditions on clinical grounds. Therefore, there is a need for standardized criteria or patterns to differentiate these conditions. IGH is commonly seen in elderly patients with unknown etiopathogenesis and characterized by hypo pigmented or depigmented macules and patches clinically distributed over extremities, trunk and rarely face. Dermoscopy, a non-invasive, *in vivo* technique for the microscopic examination of pigmented skin lesions, has the potential to improve the diagnostic accuracy.

## MATERIALS AND METHODS:

Source of data: A hospital based study was conducted on group of 10 patients in the Department of Dermatology, Venereology and Leprosy, ASRAM, Eluru, AP. Patients were recruited from OPD and study was conducted from October 2019 to April 2020.

## DERMOSCOPIC EXAMINATION:

Dermlite DL3N hand held dermoscope with polarized light (×10 magnification) was employed in the study. Iphone was attached to save the images. The skin lesions were observed through the eyepiece of dermoscopy and the photographs were captured with the help of Iphone.

## HISTOPATHOLOGICAL EXAMINATION:

All IGH lesions were subjected to skin biopsy, and histopathological examination was done to observe any relation existing between the dermoscopic patterns and histopathology.

## INCLUSION CRITERIA:

1. Well defined depigmented macules of size less than 4mm
2. All age groups and both genders included.
3. Lesions existing over lower limbs, abdomen and trunk were included.

## EXCLUSION CRITERIA:

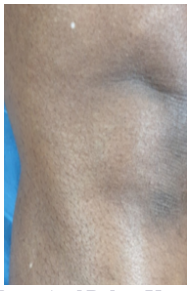
1. known case of keloids
2. known case of vitiligo

## DATA COLLECTION:

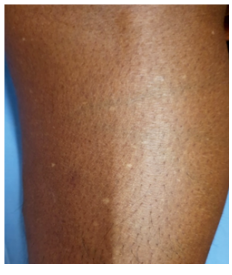
After obtaining the consent from the patient, information was taken as per the proforma, enclosed, recorded on the clinical forms. Complete history regarding the onset, progression, associated conditions is included in the proforma.

## CLINICAL EXAMINATION:

Inspection of all sites of body including face, upper limbs, lower limbs, and trunk was done. The morphology of lesions, their distribution, sites of involvement was recorded.



Above And Below Knee



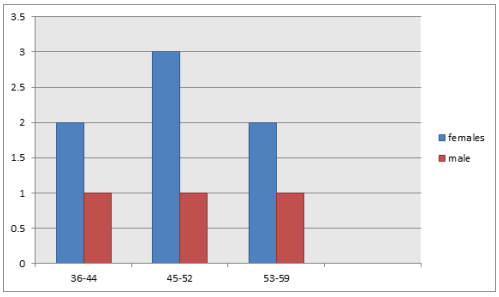
IGH Extensor Aspect-knee

## RESULTS:

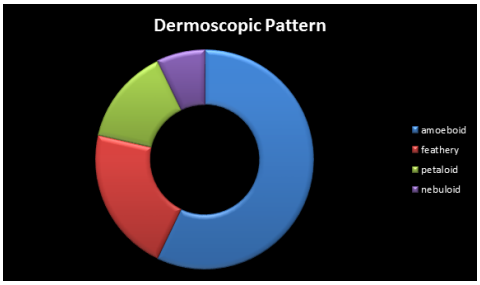
In our study,

The age of the patients ranged from 36 to 59 years with the average being 47 years. The distribution of lesions is represented in a tabular form below.

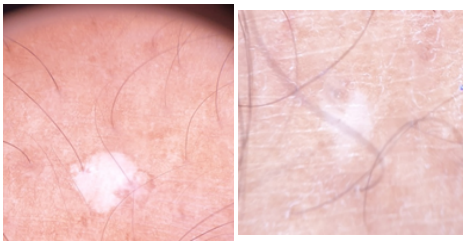
| S.No | Sites of involvement | Percentage |
|---|---|---|
| 1 | Lower Limbs | 100% |
| 2 | Abdomen | 2% |
| 3 | Back | 2% |



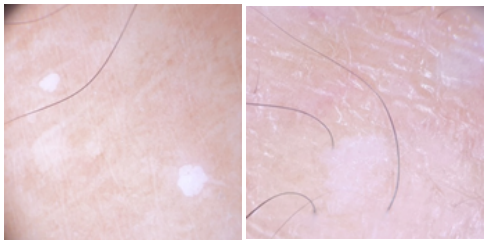

Dermoscopic evaluation of lesions demonstrated amoeboid, feathery, petaloid and nebuloid patterns. Of the patterns, amoeboid pattern (57%) is the most common and appears as pseudopodia extending into the adjacent skin. Feathery with feather-like margins and white areas (21%), petaloid with well defined petal-like borders (14%) and nebuloid with indistinct borders (7%) patterns are in the decreasing order.




**Dermoscopic Patterns:**

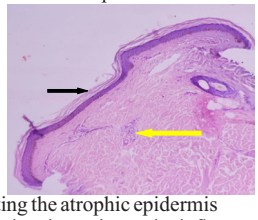


**Amoeboid Pattern** **Feathery pattern**

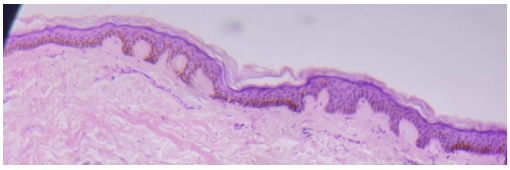


**Nebuloid Pattern Petaloid Pattern**

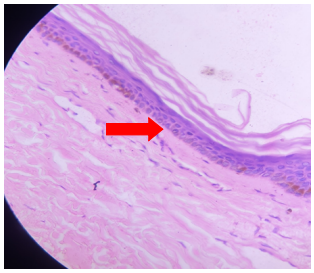
Histopathological studies reveal epidermis lined by atrophic stratified squamous epithelium showing reduced pigmented melanocytes in the atrophic areas with normal pigmented melanocytes in between (skip areas). Dermis shows fibrocollagenous tissue, appendages with mild perivascular lymphoplasmacytic infiltrate. These findings are uniform in all dermoscopic patterns irrespective of the variety.



Black arrow indicating the atrophic epidermis
Yellow arrow indicating the perivascular inflammatory infiltrate



Skip areas with absent, decreased and normal pigmentation of melanocytes in the basal layer



Flattened epidermis with areas of absent and decreased to normal pigmentation "SKIP AREAS"

## DISCUSSION:

IGH is an acquired leukodermic dermatosis, commonly seen in elderly age group. It was first described by Costa as "symmetric progressive leukopathy of the extremities". Even though the exact pathogenesis is not elucidated, it is mainly attributed to factors such as elderly age, chronic UV exposure, trauma and rarely autoimmunity. The characteristic IGH lesion is a circumscribed, sharply defined, smooth, asymptomatic porcelain white macule occasionally lesions are up to 2.5 cm .there appears to be no increase in size of the lesion, no coalescing. No spontaneous repigmentation has been observed. Hairs over the lesion retain their dark colour. It commonly affects the following sites, shins of legs, extensors of the upper limbs, trunk and rarely the face. Histologically, IGH lesions are characterized by slight basket-weave hyperkeratosis with epidermal atrophy and flattening of the rete ridges. Lesions show decrease in melanocytes and melanin content of the affected epidermis and pigment granules are irregularly distributed. Skip areas refer to small areas of near normal melanin that are seen in an otherwise depigmented basal layer. The term skip refers to sparing of a small part of the basal layer from depigmentation, which is the dominant pathophysiological process in the epidermis. These skip areas help in differentiating IGH from vitiligo. A variety of therapies with variable success are described, including cryotherapy, superficial dermabrasion, monthly spot applications of phenol and trichloroacetic acid.

## CONCLUSION:

Idiopathic guttate hypomelanosis is an acquired leukoderma of unknown cause that causes anxiety and apprehensiveness in elderly. The consistent dermoscopic patterns and skip areas in histopathological examination may help in diagnosing Idiopathic guttate hypomelanosis. However, no correlation could be established between dermoscopic patterns and histopathological studies. However, further studies may be required in this area.

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