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DERMOSCOPIC PATTERNS IN HYPERPIGMENTARY DISORDERS OF SKIN

Dermatology

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ABSTRACT

Background : Hyperpigmented dermatoses are fairly common in our day-to- day practice, and they pose a serious challenge to the treating physician. The prevalence is increasing due to changes in lifestyle, use of over-the-counter medications and cosmetic products, and increasing acceptance of procedures such as chemical peels, lasers, light sources, besides an increasing awareness.Disorders causing hyperpigmentation include melasma, Ashy dermatoses, pityriasis versicolor, lentigines, post inflammatory hyperpigmentation, eczema, Lichen planus pigmentosus, Riehl's melanosis etc. Dermoscopy is a non-invasive diagnostic tool with in-built illumination and magnification sources. It helps in visualization of skin surface and subsurface structures. **Aim:** To identify the specific dermoscopic features in common hyperpigmentary disorders of skin. **Materials And Methods:** 40 cases of hyperpigmentary disorders were included in this study. Patients were explained and Informed consent was taken. The hyperpigmented skin disorders which were included in the study are Melasma, lichen planus pigmentosus, pityriasis versicolor, post inflammatory hyperpigmentation, erythema dyschromicum Perstans and pigmented purpuric dermatoses. A detailed history and clinical examination was done and the cases on prior topical or systemic therapy were excluded from the study. The parameters considered while performing dermoscopy are Colour and type of pigmentation, Margins, scaling, erythema, telangiectasia. **Results:** In this study, 40 patients with hyperpigmentary disorders were included. These include Melasma (10 cases), pityriasis versicolor (8 cases), lichen planus pigmentosus (5 cases), Pigmented purpuric dermatoses (7 cases), post inflammatory hyperpigmentation (7 cases), erythema dyschromicum Perstans (3 cases). Melasma on dermoscopy shows reticuloglobular pattern, perifollicular brown black globules, honeycomb-like pattern. LPP shows Hem-like distribution of cluster of pigments, Perifollicular pigment deposition.Erythema dyschromicum Perstans shows exaggeration of normal pigmentary reticular pattern. Pityriasis versicolor shows fine scaling overlying pigmentation in hyperpigmented lesion. Pigmented purpuric dermatoses shows red dots and globules with coppery red pigmentation and brown reticular network.Post inflammatory hyperpigmentation shows dark brown, gray dots, and/or blotches. **Conclusion:** This study has shown that dermoscopy is an essential adjunct in the evaluation of hyperpigmentary disorders of the skin, as each hyperpigmentary disorder presents with its own characteristic features on dermoscopy. Hence, Dermoscopic findings should be evaluated without a fail, as it helps in the diagnosis, to monitor the progression of the disease and to evaluate the response to therapy.

KEYWORDS

INTRODUCTION :

Pigmentary disorders include a heterogeneous group of disorders, which are characterized by an altered melanocyte density or concentration resulting in abnormal skin pigmentation that can be hypopigmented or hyperpigmented.

Hyperpigmented dermatoses are fairly common in our day-to- day practice, and they pose a serious challenge to the treating physician. The prevalence is increasing due to changes in lifestyle, use of over-the-counter medications and cosmetic products, and increasing acceptance of procedures such as chemical peels, lasers, light sources, besides an increasing awareness.The hyperpigmentation can be localized or generalized, benign or malignant, and could be an indicator of an underlying systemic disease, affecting the quality of life of the patient. Disorders causing hyperpigmentation are melasma, Ashy dermatoses, pityriasis versicolor, lentigines, post inflammatory hyperpigmentation, eczema, Lichen planus pigmentosus, Riehl's melanosis, etc.

Dermoscopy is a non-invasive diagnostic tool with in-built illumination and magnification sources. It helps in visualization of skin surface and subsurface structures.Dermoscopic features help in diagnosis, monitoring disease progression and response to therapy of various disorders based on characteristic visual patterns.

Aim: To identify the specific dermoscopic features in common hyperpigmentary disorders of the skin.

MATERIALS AND METHODS:

40 cases of hyperpigmented disorders were included in the study from march 2023 to march 2024 at Alluri sitaramaraju academy of medical sciences. Patients were explained and Informed consent was taken.

The hyperpigmented skin disorders which were included in the study are Melasma, pigmented purpuric dermatoses, lichen planus pigmentosus, pityriasis versicolor, post inflammatory hyperpigmentation, erythema dyschromicum Perstans. A detailed history and clinical examination was done and the cases on prior topical or systemic therapy were excluded from the study. The parameters considered while performing dermoscopy are Colour and type of pigmentation, Margins, scaling, erythema, telangiectasia.

RESULTS:

In this study, 40 patients with hyperpigmentary disorders were included. These include Melasma (10 cases), pityriasis versicolor (8 cases), lichen planus pigmentosus (5 cases), Pigmented purpuric dermatoses (7 cases), post inflammatory hyperpigmentation (7 cases), erythema dyschromicum Perstans (3 cases).

Melasma on dermoscopy shows reticuloglobular pattern, perifollicular brown black globules, honeycomb-like pattern. LPP shows Hem-like distribution of cluster of pigments, Perifollicular pigment deposition.Erythema dyschromicum Perstans shows exaggeration of normal pigmentary reticular pattern.Pityriasis versicolor shows fine scaling overlying pigmentation in hyperpigmented lesion. Pigmented purpuric dermatoses shows red dots and globules with coppery red pigmentation and brown reticular network. Post inflammatory hyperpigmentation shows dark brown, gray dots, and/or blotches.

DISCUSSION -

Melasma :

Melasma is a common, hyperpigmentary disorder with a complex pathogenesis.

Clinically, It presents as symmetrical hyperpigmented macules and patches over face, predominantly over malar areas, nose, forehead and chin. It is classified as epidermal, dermal, and mixed variants based on the location of melanin, which can be confirmed by dermoscopy.

On Dermoscopy melasma shows a Light brown to dark brown pigment depending upon the depth of melanin in the skin, reticuloglobular pattern, perifollicular brown - black globules, arcuate and honeycomb-like pattern, telangiectasia in cases of steroid abuse.

Dermoscopy is a useful tool for diagnosis and in prognosis of melasma. It helps in differentiation of epidermal and dermal variants of melasma based on the colour of pigmentation. It can be used as a screening tool in all cases of melasma before starting steroid-based triple combination therapy as a first-line agent and during follow-up, as early indicators of steroid harm might not be visible to the unaided eye.

FIGURE : 1a

FIGURE : 1b

Erythema Dyschromicum Perstans :

Clinically, it presents as asymptomatic slate gray to blue brown macules or patches with symmetrical distribution over the face, trunk and extremities. The initial lesions may have an erythematous border. It overlaps with LPP and Riehl's melanosis not only in morphology, but also in etiology to some extent.

On Dermoscopy it shows exaggeration of normal pigmentary reticular pattern. Reticulations are broader, blunted and broken at places. Color of pigment is slate-gray. Larger gray - brown dots/ globules with bluish background is a characteristic feature. Pinkish- brown background is seen in early lesions. Telangiectatic vessels in irregular linear pattern.

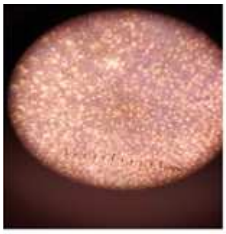

FIGURE : 2a

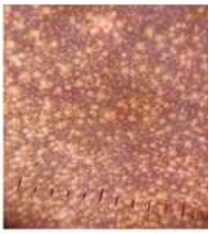

FIGURE : 2b

Pityriasis Versicolor :

Pityriasis versicolor is a superficial fungal infection of skin characterized by hypopigmented or hyperpigmented macules and patches on the chest, back, and arms. It is a clinical diagnosis, characterized by patches and fine scaling.

However, scales cannot always be easily observed, it becomes apparent only when the lesion is scratched or scraped.

On Dermoscopy lesions show fine scaling overlying pigmentation in hyperpigmented lesion.

The scaling with net-like distribution can easily be observed by dermoscope which prevents unnecessary invasive procedures such as biopsy, particularly in hyperpigmented and erythematous PV.

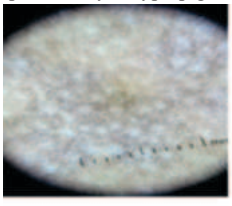

FIGURE : 3a

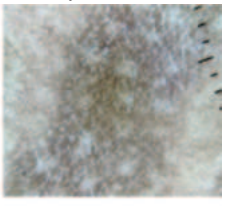

FIGURE : 3b

Lichen Planus Pigmentosus :

Lichen planus pigmentosus is a macular variant of lichen planus, which presents as diffuse ill-defined violaceus to grayish-black macules predominantly on the sun-exposed areas that gradually extend to the trunk and limbs. Lichen planus pigmentosus inversus is a variant of LPP, where brownish, bluish gray to black pigmentation is seen over the flexural areas.

On Dermoscopy LPP shows Hem-like distribution of cluster of pigment, Perifollicular and Perieccrine pigment deposition, bluish to slate gray globules which represent dermal melanophages, larger as compared to pigmented contact dermatitis.

Dermoscopy aids in the differentiation of LPP, pigmented contact dermatitis, erythema dyschromicum perstans (EDP), and exogenous ochronosis with particular patterns, as these illnesses share overlapping clinical and HPE characteristics.

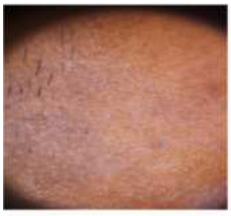

FIGURE : 4a

FIGURE : 4b

Pigmented Purpuric Dermatoses :

The most prevalent form of pigmented purpuric dermatoses is Schamberg's disease, characterized by petechiae, purpura, and pigmentation. It is usually asymptomatic, mild pruritus may be present, lesions occur commonly over the lower limbs. Causative factors include venous stasis, exercise, capillary fragility which leads to erythrocyte extravasation into the dermis resulting in characteristic pigmentation.Drugs like acetaminophen, aspirin, hydralazine, amlodipine can cause this condition.

On Dermoscopy it shows red dots and globules with coppery red pigmentation and brown reticular network. Other features include annular and comma shaped vessels.

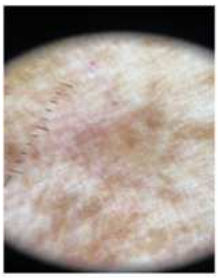

FIGURE: 5a

FIGURE: 5b

Post Inflammatory Hyperpigmentation :

Post inflammatory hyperpigmentation (PIH) is an acquired hyper melanosis developing secondary to any skin trauma, injury (thermal/chemicals) or any inflammatory disorders like (acne, eczema, psoriasis, lichen planus, etc.). It is more common and severe in individuals with darker skin type, aggravates with sun exposure. It occurs after an epidermal injury or inflammation stimulating melanin synthesis and subsequent transfer of melanin to surrounding keratinocytes resulting in hyperpigmentation.

On Dermoscopy it shows dark brown, gray dots, and/or blotches or mixed pattern, based on the type (epidermal, dermal,mixed) of pigmentation. other features specific to the original lesion are usually seen.

CONCLUSION:

This study has shown that dermoscopy is an essential adjunct in the evaluation of hyperpigmentary disorders of the skin, as each hyperpigmentary disorder presents with its own characteristic features on dermoscopy. Hence, Dermoscopic findings should be evaluated without a fail, as it helps in the diagnosis, to monitor the progression of the disease and to evaluate the response to therapy.

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