

POST ACNE HYPERPIGMENTATION: A BRIEF REVIEW HIPERPIGMENTACJA POTRĄDZIKOWA: KRÓTKI PRZEGLĄD

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Sir,

Postinflammatory hyperpigmentation, or PIH, is the medical term given to discoloration of the skin that follows an inflammatory wound. It is the skin's natural response to inflammation. PIH presents itself as a flat area of discoloration on the skin (macule) ranging from pink to red, purple, brown or black, depending on skin type and depth of the discoloration. PIH is characterized by an acquired increase in cutaneous pigmentation secondary to an inflammatory process. Excess pigment deposition may occur in the epidermis or in both the epidermis and the dermis [1].

PIH is very common among acne sufferers. It can occur in all skin types, although it is more common in darker skin types. It affects both men and women equally. PIH is not a true scar. Postinflammatory hyperpigmentation may be a sequela of conditions such as acne, allergic reactions, drug eruptions, papulosquamous disorders, eczematoid disorders, and vesiculobullous disorders etc [2,3].

PIH is caused by 1 of 2 mechanisms that result in either epidermal melanosis or dermal melanosis. The epidermal inflammatory response results in the release and subsequent oxidation of arachidonic acid to prostaglandins, leukotrienes, and other products. These products of inflammation alter the activity of both immune cells and melanocytes. Specifically, these inflammatory products stimulate epidermal melanocytes, causing them to increase the synthesis of melanin and subsequently to increase the transfer of pigment to surrounding keratinocytes. Such increased stimulation and transfer of melanin granules results in epidermal hypermelanosis. On the contrary, dermal melanosis occurs when inflammation disrupts the basal cell layer, causing melanin pigment to be released and subsequently trapped by macrophages in the papillary dermis, also known as pigmentary incontinence [1].

In case of Acne, papules and pustules, infection may spread to deep skin layer called dermis. Infected area produces more melanin than normal causing unusual darkness. Thus, infection of hair follicles and sebaceous glands are the real causes of Hyperpigmentation. In most cases, if acne is not severe, it does not leave Hyperpigmentation. Squeezing and popping the pimples also produce Hyperpigmentation. Sun exposure is a leading cause of acne and Hyperpigmentation. Melanocytes are activated by sun light (ultra violet rays) to produce excessive melanin [4].

PIH will fade away over time, even without treatment. It can take three to 24 months for PIH to fully fade, although in some cases it may take longer. The length of time it takes for PIH to fade depends on how dark the PIH macule is compared to skin tone. The bigger the contrast between the macule and natural skin tone, the longer it will take to fade.

There are various treatment options available to help fade postinflammatory hyperpigmentation more quickly [5]. However, acne should be under control before beginning any treatment for PIH. Otherwise, each new pimple could cause another PIH macule, reducing the effectiveness of treatment. Whatever treatment option, improvement will take time of months rather than weeks.

Firstly - avoid sun exposure

Ultra Violet light can cause hyper-pigmented areas to darken further and thus prolong them. Use non-comedogenic facial moisturisers or facial sunscreens which contain a high SPF of at least 15+.

Topical Treatments for PIH

Typically treatments for PIH bleach pigment OR block pigment formation OR accelerate the rate of exfoliation OR a combination.

Bleaches pigment OR block pigment formation

Hydroquinone
Kojic Acid
Benzoyl peroxide
Retinoids
Azeliac Acid
Steroids

Accelerate the rate of exfoliation

The Tape Method of Exfoliation
The Vinegar Method of Exfoliation
Alpha Hydroxy Acid (i.e. Lactic Acid, Malic Acid, Fruit Enzyme etc.)
TCA, GA, SA chemical peels
Mandelic Acid

Non-topical Treatments for PIH

Microdermabrasion and non ablative lasers are being used specifically for treating pigmentation problems. These treatments may be unsuitable for people who suffer from active acne. Laser treatment is generally expensive and carries a risk of causing new acne, PIH and scarring.

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Conclusion

Post inflammatory Hyperpigmentation usually occurs after severe acne has healed. It may take years to disappear if acne is not properly treated immediately. Squeezing the acne spread infection up to dermis. The deeper the infection, the darker the pigmentation will be. Vinegar is the safest and most effective natural treatment for Hyperpigmentation. With all topical and laser treatments for PIH there is a some risk of causing new outbreaks, new pigmentation problems and possibly even new scarring. Risk of these occurrences will probably grow with increasing strength or invasiveness of topical or laser procedures. Some treatments are NOT suitable for people with active acne, sensitive skin or darker skin tones. There is no single treatment that works for everyone. The effectiveness of each treatments varies and treatments may have to be used in conjunction with each other.