



## Pityriasis Alba

### ABSTRACT

Pityriasis alba is a common, benign skin condition that primarily affects children and adolescents, characterized by hypopigmented patches and scaly plaques on the face and other areas of the body. It is likely a manifestation of post-inflammatory hypopigmentation from subtle or subclinical inflammation. Diagnosis is typically based on history and clinical presentation. Management involves the use of emollients and low-potency topical steroids to improve skin hydration, reduce inflammation, and alleviate symptoms such as pruritus. Pityriasis alba typically becomes less apparent as the patients age, but reassurance and symptomatic relief are critical components to managing the condition.

**KEYWORDS:** Pityriasis alba, atopy, hypersensitivity, scaling, hypopigmentation, asymptomatic



### Introduction

Pityriasis alba (PA) is a common dermatological condition typically seen in children and adolescents. It can also be occasionally diagnosed in adults. It is often associated with a history of atopy, and in many cases, coexists with atopic dermatitis.<sup>1,2</sup> The Greek term “pityriasis” means bran, which manifests as fine scale present in the plaques, and “alba” refers to the paleness from hypopigmentation. Around a century ago, PA was recognized as a localized disorder distinct from and less noticeable than vitiligo. It is asymptomatic and does not require definitive treatment.<sup>3</sup> It is generally a self-limiting condition, with symptoms resolving spontaneously over months to years. These pale areas on the skin are more noticeable in patients with darker skin, resulting in higher reported incidence in patients with darker skin types.

### Epidemiology

The prevalence of PA is higher in the pediatric population, predominantly affecting children aged 3 to 16, with most cases in those younger than 12.<sup>4</sup> Pityriasis alba is more commonly seen in patients with a history of atopy, and often co-occurs with atopic dermatitis. However, it can be seen in non-atopic individuals as well.<sup>5</sup> It affects males and

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females roughly equally,<sup>6</sup> with some literature suggesting a higher prevalence in males.<sup>5</sup>

Although PA is distributed worldwide, its occurrence varies across geographic regions. Egypt and Mali have pediatric prevalences of 18% and 20%. In the United States, 5% of children are affected by PA.<sup>4</sup> The condition is frequently reported in tropical areas, potentially due to the higher visibility in individuals with darker skin. Patients with Fitzpatrick skin types III to VI have more notable PA.

Lower socioeconomic backgrounds, particularly in developing regions of the world, is associated with an increased prevalence of PA.<sup>3,7</sup> Atopic dermatitis-related PA is often linked to post-inflammatory hypopigmentation. People with sensitive skin may be more prone to developing the condition, as their skin may be easily affected by environmental factors or irritants. Although some studies suggest that deficiencies in certain micronutrients, such as zinc or vitamin D, may play a role in the development of PA, the clinical research is still exploratory.<sup>8,9,10</sup>

## Pathophysiology

Pityriasis alba is associated with young age, darker skin, and atopic dermatitis. Relationships between other microbiologic factors and parasitic factors and the presentation of PA have not been confirmed. Some clinical evidence has

demonstrated that UV radiation can cause excessive skin irritation and inflammation, inducing PA.<sup>5</sup> Skin dryness with long, hot showers or baths can also be a contributory factor.<sup>11</sup> Exfoliation and frequent baths can disrupt the skin barrier and reduce defensins levels. In early stages of PA, the skin can show signs of inflammation with erythema and scale. Once erythema subsides, the scales can be left behind, with clearly defined areas of depigmentation. In this stage, there can be regression of keratotic aggregates in hair follicles, while still having compact areas of keratin buildup around sweat glands. Mild acanthosis can be observed in the stratum spinosum, with slight spongiosis around hair follicles and epidermal exocytosis. Hair follicles can be surrounded by mild swelling, due to the inflammatory infiltration of lymphocytes and histiocytes.<sup>12</sup>

## Differential Diagnosis for Pityriasis Alba

- Post-inflammatory hypopigmentation following atopic dermatitis or psoriasis
- Pityriasis versicolour
- Nevus depigmentosus
- Nevus anemicus
- Hypopigmented mycosis fungoides (cutaneous T-cell lymphoma)
- Vitiligo
- Leprosy
- Nummular eczema
- Steroid atrophy

## History

A comprehensive medical history should be obtained to rule out other diseases. The timing of the hypopigmentation is important as PA can be more obvious during seasons of higher sun exposure, as the surrounding unaffected skin darkens. Patients should be asked about external causes of skin irritation such as occupational and hobby-related exposures to chemicals. Medications such as continuous use of potent topical steroids may also cause hypopigmentation in the form of steroid atrophy. Other topical creams can trigger irritant or allergic contact dermatitis with subsequent post-inflammatory

tory hypopigmentation, and often can be confused with the hypopigmentation observed in PA.

Progression and regression versus stability can distinguish several acquired and inherited conditions. For example, congenital and stable hypopigmented areas can be due to nevus depigmentosus which is present from birth, or nevus anemicus which results from localized vasoconstriction. Neither of these conditions will have changes in size or number of hypopigmented areas over time. Persistence and progressive changes in shape or colour can suggest mycosis fungoides. Pityriasis alba typically has gradual onset with potential for spontaneous resolution as lesions wax and wane. Travel history can support the diagnosis of leprosy, such as travelling to areas in South Asia, Africa, or Brazil, where there is exposure to armadillos, or pityriasis versicolor, such as travelling or living in tropical or subtropical climates.

Personal and family history may include asking about atopic dermatitis, allergic rhinitis, or asthma, as PA is linked to atopy.

## Physical Examination

Round or oval hypopigmented macules, patches and plaques are typically found on the face and may also affect the trunk, and upper limbs (Figure 1). Prior to the development of hypopigmentation, there



**Figure 1:** Hypopigmented patches over the right cheek of a 4 ½-year-old male



may be mild erythema and scaling (Figure 2). There are usually between 4 and 20 lesions, between 0.5 to 5cm in size.<sup>6</sup> The lesions are usually asymptomatic but can be mildly pruritic.

Patients should be examined for features of atopic dermatitis, including infraorbital folds, infraorbital darkening, and eczematous dermatitis, particularly in the flexures.

## Investigations

Under a Wood's lamp, the lesions should not fluoresce. There should be no fungal elements present on potassium hydroxide preparation. A skin biopsy is usually unnecessary. However, if performed, histopathology will reveal slight spongiosis, acanthosis, and hyperkeratosis as nonspecific findings. The current literature on the etiology and histopathology of PA is not entirely clear.<sup>12</sup> The epider-

mis can show a marked decrease in pigment without a significant reduction in melanocyte count, as ultrastructural studies have demonstrated. However, degenerative changes, and fewer melanosomes within keratinocytes have also been noted. Dermoscopy of PA shows dull white areas with unclear edges, indicating a loss of melanin in the basal layer of the epidermis.<sup>13,14</sup>

White scaling, caused by excess keratin, often appears polygonal or follows the skin's natural lines. In darker skin types, a faint light-brown pigment network is visible in the background. A distinctive feature in skin of colour is the presence of perieccrine semicircles, showing pigmentation arranged in a semicircular pattern around sweat gland openings. This suggests a partial resistance to melanin exfoliation. Moreover, darker skin types may also display satellite white areas and brown dots.<sup>14</sup>

## Management

The initial step in managing PA often involves education and reassurance, especially for patients and caregivers who may be concerned about the appearance of the skin lesions. Patients are typically informed that this is a benign and self-limiting condition that does not cause any long-term health issues and tends to improve over time. The hypopigmented patches eventually fade away, usually self-resolving within a year. The pri-



**Figure 2:** Mild erythema and scale with underlying hypopigmentation over the right cheek of a 3-year-old female



# SUMMARY OF KEY POINTS

- Pityriasis alba presents as patches and plaques of hypopigmentation, which is more identifiable in darker skin types (Fitzpatrick skin types III to VI).
- Pityriasis alba is a benign and self-limiting skin condition that often improves with time.
- Pityriasis alba is often associated with atopic dermatitis and the atopic triad.

Primary goal of treatment is to limit the triggering factors and to limit tanning of the surrounding skin.

Treatment with emollients and low-potency topical steroids can be beneficial, with moisturizing helping to hydrate the skin barrier, and topical steroids if the lesions are itchy, as this will reduce inflammation. An alternative to topical corticosteroids are topical calcineurin inhibitors (0.03 or 0.1% tacrolimus ointment and 1% pimecrolimus cream).<sup>15</sup> In one observational study, targeted phototherapy induced complete remission in some of the participants with mod-

erate to severe facial PA.<sup>16</sup> However, this is rarely needed.

## Conclusion

Pityriasis alba is common in pediatric populations around the world, and especially notable in individuals of darker skin types. Pityriasis alba presents as round or oval hypopigmented, scaly patches, most commonly on the face, especially on the cheeks. However, it can also be found on the upper arms and on other parts of the body. Early in the disease course plaques are dry and scaly and can appear slightly pink around the edges.



# CLINICAL PEARLS

- Diagnosis of pityriasis alba is made on history and exam and the exclusion of other conditions (e.g. fungal infections, atopic dermatitis, and psoriasis). Skin biopsy, laboratory tests, and Wood's lamp examination are not necessary, but can be performed if other conditions are suspected.
- The hypopigmentation in pityriasis alba does not result from reduction in melanocyte count.
- Patient reassurance, education and lifestyle management is often sufficient, but emollients, low-potency topical steroids, and topical calcineurin can also be used.

**Pityriasis alba is usually asymptomatic and does not cause any significant itching or pain, although some patients report mild itching. Pityriasis alba affects males and females approximately equally, and some risk factors include sensitive skin and darker skin types.**

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## Key Points for the Practitioner

### History (key points to cover)

- Family or personal history of atopy
- Assess timing and onset; pityriasis alba more noticeable during high sun-exposure seasons
- Medication history (continuous use of potent topical steroids can cause steroid atrophy)
- Skincare, detergent or chemical products (post-inflammatory hypopigmentation can occur from irritant or allergic contact dermatitis to topical creams)
- Travel history (which will help differentiate from conditions like leprosy and tinea versicolor)



### Physical Examination (key features to note)

- Examine skin type of the patient (as pityriasis alba is more common in darker skin types)
- Examine for presence of erythema and scaling
- If Wood's lamp examination performed, the skin should be not fluoresce (ruling out vitiligo)





## Information for the Patient and Family

### What is pityriasis alba?

Pityriasis alba is a common and harmless skin condition that often affects children and young adults. It appears as light-coloured, slightly scaly areas on the skin, usually on the face. Pityriasis alba is not vitiligo (the condition where the skin becomes white and stays white).

### What causes pityriasis alba?

Pityriasis alba is believed to be related to dry skin and mild eczema. The dry and irritated skin does not tan as much as the surrounding skin and becomes more noticeable when the regular skin tans.

### Is pityriasis alba contagious?

No, pityriasis alba is not contagious. It is a harmless condition and cannot be spread from person to person.

### How is pityriasis alba treated?

Using moisturizers will help take care of the dry and irritated skin. If you protect the skin from sun exposure, the surrounding skin will not tan as much and the skin will look more even. Moisturization and sun protection are good enough for most patients. Topical prescription creams may be prescribed if the skin is too red and/or itchy.

### Can pityriasis alba be prevented?

If you catch the skin early when it is scaly, you can limit how light the skin gets by moisturizing the scaly and dry areas.

### Does pityriasis alba cause any long-term effects?

Pityriasis alba is a harmless condition and usually goes away as the children get older. The patches may fade over time, leaving the skin with a normal appearance.