

Hypopigmented patches in an 8-year-old boy

Malek KA, Kamal WW

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Authors:

Khasnur Abd Malek

(Corresponding author)
MBChB, MFamMed (UM)
Faculty of Medicine, Universiti
Teknologi MARA, Selayang Campus
Selangor, Malaysia.
E-mail: Melkay03@gmail.com

Wan Syameen Afira Wan Ahmad Kamal

MRCP (UK), Adv. M Derm (UKM)
Faculty of Medicine, Universiti
Teknologi MARA, Sungai Buloh
Campus, Selangor
Malaysia.
E-mail: syameen.afira@gmail.com

Case summary

An 8-year-old boy presents with asymptomatic hypopigmented patches on his bilateral cheeks which have been worsening for two weeks. The patches are oval in shape and have spared other parts of the body. There is no preceding erythematous rash. Similar lesions appeared two years ago which took several months to resolve. There are no recent triggers, such as personal care products. He has no history of atopy, but his mother has a recent history of atopic eczema. There is no known history of thyroid problems in the family. He was prescribed a topical cream from a general practitioner, but the patches persisted, and new patches appeared. He is otherwise well and actively participating in outdoor physical activities with frequent sun exposure.

On examination, he is afebrile. There are three oval-shaped patches on the right cheek, with one showing fine scales at its edges. There is one round-shaped patch on the left cheek. The patches vary in size, with the largest measuring 1.5 cm in diameter. The edges are ill-defined with no distinctive margins. Sensation is present. There are no rashes seen on other parts of the body. There is no pitting of the nails.



Figure 1. The hypopigmented lesions at presentation.

Questions

1. What is the most likely diagnosis?
2. What are the differential diagnoses?
3. What are the relevant investigations to be conducted?
4. What is the prognosis?
5. What is the management?

Answers:

1. The most likely diagnosis for this clinical presentation is pityriasis alba (PA), a condition related to atopic dermatitis. This clinical variant of the classic pityriasis alba

(CPA) is most common among children, and it is characterized by hypopigmented macules and patches with ill-defined margins and fine, scaly edges. PA commonly occurs on the face of primary school children. The number of macules and patches range from 1 to 5 with diameters measuring between 0.5 and 5cm. Main risk factors for acquiring PA include being younger than 15 years old, having a darker skin phenotype, and personal or family history of atopy. It can also be associated with over-exposure to the sun and activities that reduce the skin's protective barrier, such as frequent bathing and taking hot baths.¹

2. An approach to determining differential diagnoses can be based on the age of onset, character and extension of the patches, and a pertinent medical history.²

Hypopigmentation is a feature of pityriasis versicolor,³ although its scaling macules can also be salmon-coloured or hyperpigmented. Unlike pityriasis alba, which occurs in primary schoolers, pityriasis versicolor is prevalent among children 15 years old and younger. While pityriasis alba is localized to the sun-exposed area of the face, the latter has a predilection towards seborrhoeic areas of the head, trunk, and upper back. Clinically, pityriasis versicolor display circular patches with fine scaling which can appear discreetly. They can also coalesce to form large, irregular patches, which are not present in this case. In approximately one out of three patients with pityriasis versicolor, a yellow–green fluorescence is visible when the lesions are shone on with a Wood's light.⁴ Pityriasis alba does not have this feature.

Post-inflammatory hypopigmentation due to eczema is not uncommon. This is usually associated with chronic eczema and corresponds to the exact sites. The initial presentation would include signs of eczema, such as pruritus and scaly erythematous papules or patches, which are not present in this case.^{3,5}

Other hypopigmented conditions, such as tinea faciei, vitiligo, and Hansen's disease, are potential differential diagnoses, but all of these are unlikely. All four conditions have distinct, well-demarcated margins,^{3,6} with tinea faciei exhibiting annular pink erythematous patches with raised borders and central clearing.⁶ Vitiligo can masquerade as pityriasis alba, especially when it affects the face of a child less than 10 years old. Vitiliginous patches are depigmented with a milky-white appearance and no scaling.^{3,7}

In endemic areas, tuberculoid leprosy, or Hansen's disease, should be suspected. The anaesthetic patches usually have a truncal distribution and increase in size peripherally. Hansen's disease is also associated with thickened peripheral nerves.⁸ Therefore, Hansen's disease is unlikely in this case.

Mycosis fungoides (MF), a low-grade

lymphoproliferative disorder, is rare in children, but it is an important differential diagnosis which not to be missed. The classical form can be distinguished from pityriasis alba at an early stage when the lesions manifest much as in eczema or psoriasis, with ill or well-defined patches, which then progress to form plaques and nodules. However, hypopigmented MF, a variant of atypical MF, is rare, but it is more often seen in children with darker skin tone and can be a great imitator and misinterpreted as pityriasis alba. It can present with irregular hypopigmented patches with variably distinct borders preferentially located on the trunk and extremities. Erythema, scaling, and central area of normal pigmentation may be observed. The hypopigmentation develops without preceding skin changes and occasionally with complete depigmentation. In this case, the authors believe that the diagnosis of atypical MF is unlikely at this stage as the hypopigmented patches are localized to the face without central normal pigmentation.^{9,10}

3. Pityriasis alba is a clinical diagnosis. There is no need for further investigation. The fine scaly edges of PA do not commonly yield any positive fungal skin scraping or culture results. If *Malassezia* is suspected, a skin scraping of the scales mixed with potassium hydroxide can be taken. Microscopic examination showing hyphae and spores resembling 'spaghetti and meatball' confirms *Malassezia furfur*.⁴
4. Pityriasis alba is benign and will usually resolve without treatment. It may take months to years for the lesions to disappear, but PA tends to relapse. During the prolonged course of recovery, PA may be more visible in dry weather, after tanning, and among those with atopic dermatitis.¹ These may raise aesthetic concerns for patients and parents.¹⁰
5. Use of protective cover to reduce sun exposure and emollient therapy were given. We prescribed hydrocortisone cream 1% BD to tackle the inflammatory symptoms of underlying eczema. We used a low-potency topical steroid and limited the application by giving several breaks from use to avoid long-term skin atrophy. Other modalities of treatment, such as topical tacrolimus or pimecrolimus (macrolide

immunosuppressive therapy), topical calcipotriol (vitamin D analogue), or psoralen plus ultraviolet light A (PUVA) photochemotherapy, should be considered in refractory cases.

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How does this paper make a difference to general practice?

- Pityriasis alba (PA) is a common skin condition among the paediatric population consulting general practitioners and is commonly misdiagnosed.
- The step-by-step approach to ascertaining the most likely diagnosis, differential diagnoses, investigation(s), prognosis, and treatment in relation to PA will help general practitioners to structure their thinking in approaching hypopigmented patches, in particular PA.
- Particular attention is given to thorough history taking and examination in ascertaining the diagnosis.
- This paper will aid GPs in reflecting on their current practice in handling paediatric patients with PA who present with hypopigmented skin patches on the face.

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