Scaly hyperpigmented patches on a patient with skin of colour

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CASE

A man of Zimbabwean background, aged 55 years, presented with a 3-year history of gradually progressive, asymptomatic hyperpigmented patches on his upper back. The lesions slowly enlarged without preceding rashes or associated pruritus. He remained otherwise systemically well and had not received any prior medical treatment. There was no significant medical or family history, and no regular medication use. The patient worked as an information security officer. On examination, he had Fitzpatrick skin phototype VI, with multiple well-demarcated, hyperpigmented patches with fine scale affecting the upper back (Figure 1).

QUESTION 1

What are the differential diagnoses for this patient?

QUESTION 2

How can this patient be diagnosed clinically?

QUESTION 3

What initial investigations can confirm the diagnosis?

ANSWER 1

The favoured diagnosis was pityriasis versicolor (PV). Differential diagnoses included confluent and reticulated papillomatosis, patch-stage mycosis fungoides, seborrhoeic dermatitis, pityriasis rosea and erythrasma. Differential diagnoses for hypopigmented PV included pityriasis alba and vitiligo. Clinical features of these differential diagnoses are summarised in Table 1.

ANSWER 2

PV can usually be diagnosed clinically on the basis of the characteristic hypopigmented, hyperpigmented or erythematous macules and patches with fine scale, typically distributed over the trunk and proximal limbs.[1] Gentle stretching of the affected skin might accentuate the fine scale, a finding known as the evoked scale sign.[2] This sign is considered diagnostic for PV and helps distinguish it from other pigmentary disorders such as post-inflammatory hyperpigmentation, which typically lack scale. In addition, Wood's lamp examination might demonstrate a characteristic yellow–orange fluorescence.[3]

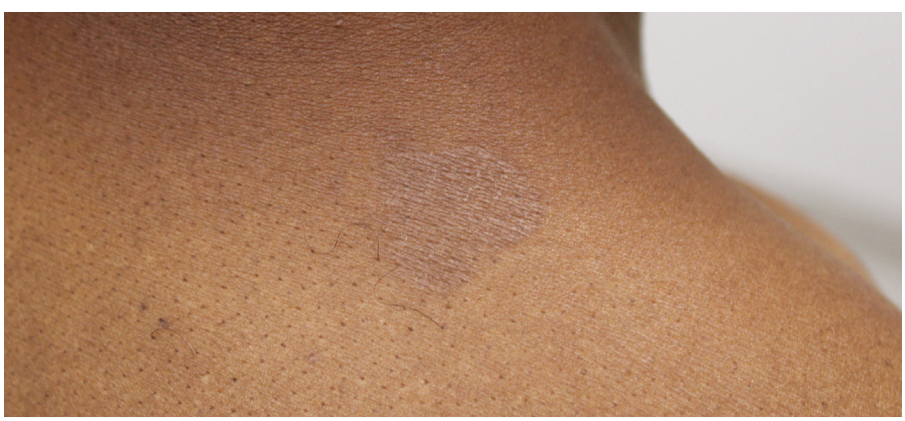

Figure 1. A hyperpigmented patch with fine scale.

Table 1. Clinical features of the differential diagnoses of pityriasis versicolor[1]

Condition	Clinical features
Pityriasis versicolor	Hyperpigmented, hypopigmented or erythematous macules and patches with fine scale, typically distributed over the trunk and proximal limbs
Confluent and reticulated papillomatosis	Reticulated hyperpigmented scaly patches usually affecting the trunk and neck
Patch-stage mycosis fungoides	Erythematous patches with fine wrinkling, resembling 'cigarette paper', commonly involving the trunk in a bathing suit distribution
Seborrhoeic dermatitis	Erythematous plaques with greasy yellow scale; affects seborrhoeic areas such as the trunk, scalp, eyebrows and nasolabial folds
Pityriasis rosea	Erythematous macules and patches with a collarette of scale, in a 'Christmas tree-like' distribution, often preceded by a herald patch. Typically self-resolving
Erythrasma	Well-demarcated erythematous or hyperpigmented patches typically seen in the intertriginous areas, such as the axillae and groin, showing coral pink fluorescence under Wood's lamp
Pityriasis alba	Hypopigmented macules and patches with fine scale, commonly seen on the face and upper limbs of children
Vitiligo	Well-demarcated depigmented macules and patches without scale

ANSWER 3

Direct microscopy of skin scrapings with potassium hydroxide (KOH) preparation can confirm the diagnosis, demonstrating fungal hyphae and spores with the characteristic 'spaghetti and meatballs' appearance.[2] This simple and minimally invasive test is preferable to a skin biopsy, which might leave scars, particularly in patients with skin of colour.

CASE CONTINUED

Gentle stretching of the skin accentuated the fine scale, consistent with the evoked scale sign (Figure 2). Fluorescence staining of skin scrapings revealed fungal hyphae and spores with a characteristic 'spaghetti and meatballs' appearance (Figure 3), confirming a diagnosis of PV.

QUESTION 4

How does PV present differently in patients with skin of colour?

QUESTION 5

What is the management of PV?

ANSWER 4

Although some studies have shown that hypopigmented PV is more common in patients with skin of colour, both hypopigmented and hyperpigmented variants can occur.[1,4] In patients with skin of colour, hyperpigmented lesions tend to appear dark brown to grey–black, whereas the lesions are more often light tan or salmon-coloured in patients with lighter skin colour.[5] In addition, post-inflammatory pigmentary changes might persist after clearance of infection and can be a significant source of concern in patients with skin of colour.[6]

ANSWER 5

It is important to optimise risk factors for PV, including maintaining good hygiene practices such as showering after exercise and washing clothes regularly.[6,7] Patients should be reassured that PV is not contagious. According to Therapeutic Guidelines, the first-line treatment for PV includes econazole 1% solution once daily at night for 3 nights, ketaconazole 2% shampoo daily for 5 days or selenium sulphide 2.5% shampoo daily for 7–10 days.[7] Econazole 1% solution should be applied after showering to the affected

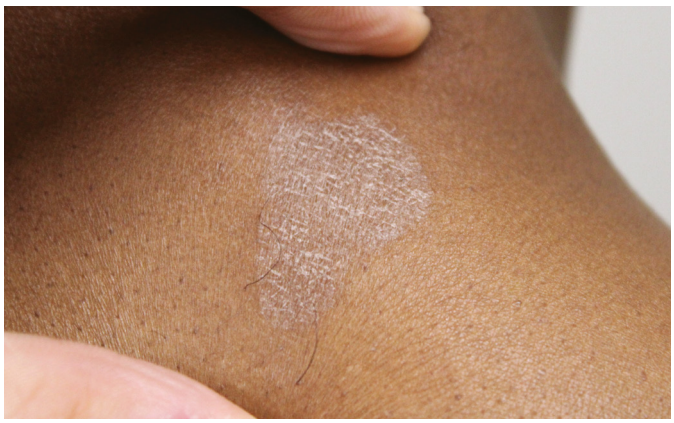

Figure 2. Gentle skin stretching accentuated the fine scale, consistent with the evoked scale sign.

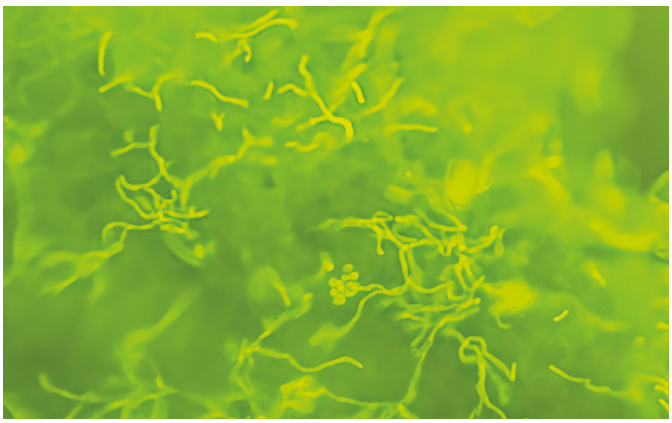

Figure 3. Fluorescence staining of skin scrapings revealed a 'spaghetti and meatballs' appearance, which is diagnostic of pityriasis versicolor.

area and left on overnight, then washed off the next morning. Medicated shampoos should be applied to damp skin and left on for 5–10 minutes before rinsing off.

A stat dose of 400 mg oral fluconazole might be considered in severe, treatment-resistant cases.[7] Of note, treatment with griseofulvin and terbinafine is ineffective for PV.[7] Patients should be counselled that the endpoint of treatment is resolution of scale rather than disappearance of pigmentary change, as pigmentary alteration might persist for many months after successful treatment, particularly in patients with skin of colour.[6] Recurrence of PV is common, with relapse rates reported as high as 80%, highlighting the importance of maintenance treatment.[6] Preventive regimens include the intermittent use of anti-fungal shampoos or soaps containing selenium sulphide, zinc pyrithione or ketoconazole.[6]

CASE CONTINUED

The patient's condition resolved with topical econazole nitrate 1% treatment, applied nightly for 3 days. Remission was maintained with ketoconazole 2% shampoo twice weekly as maintenance therapy.

Key points

- The evoked scale sign is a useful bedside finding that is diagnostic of PV.
- Patients should be counselled that the treatment endpoint is resolution of scale, whereas pigmentary changes might persist, particularly in patients with skin of colour.
- Maintenance therapy with anti-fungal shampoo is important to reduce relapses.

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