

# A suspicious pigmented lesion in a transplant patient

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## Case

A man of Indian descent, 46 years of age, underwent a renal transplant two years ago for lupus nephritis. Aside from systemic lupus erythematosus, the patient had no other medical comorbidities. Immunosuppressive therapy included azathioprine 50 mg twice daily, tacrolimus 1 mg twice daily and prednisolone 5 mg daily. A 2 mm pigmented macule on his right sole was detected during a routine skin check (Figure 1). The pigmented lesion had not been noted previously. On examination with the naked eye, the lesion was unusual as it was darkly pigmented. Dermoscopy revealed a parallel ridge pattern with diffuse varying pigment and no involvement of furrows (Figure 2).

## Question 1

What are the differential diagnoses to consider in this patient?



**Figure 1.** A 2 mm pigmented macule on the right sole

## Answer 1

In this case, the top differentials include acral melanoma and acral naevus. Acral melanoma is the most frequent subtype of melanoma diagnosed in Asian populations.<sup>1-4</sup> Organ transplant recipients are also at increased risk of developing melanoma.<sup>5</sup> Acral melanoma and acral naevus usually have different dermoscopic patterns, so dermoscopy is useful in differentiating between them.<sup>2,4</sup> Given the history of immunosuppression and the signs on dermoscopy, melanoma needs to be excluded in this patient.

## Case continued

An excisional biopsy was performed, removing the entire lesion. Histopathology reported a benign acral lentigo with no evidence of atypical melanocytic proliferation, dysplasia or malignancy. It is important to note that an excisional biopsy is recommended for the removal of suspicious pigmented



**Figure 2.** Dermoscopy image showing a parallel ridge pattern and no involvement of furrows

lesions.<sup>6,7</sup> Sometimes the biopsy technique may vary depending on the size and location of the lesion. Partial biopsies of pigmented lesions are not recommended as they may lead to false negatives.<sup>8</sup>

## Question 2

In an acral naevus, what pattern of pigmentation might be observed on dermatoscopy?

## Question 3

What is a parallel ridge pattern (PRP)?

## Question 4

What is the next step if a PRP is found on examination?

## Question 5

Does a PRP sign on dermatoscopy always entail an acral melanoma?

## Answer 2

Dermoscopy of an acral naevus usually reveals pigmentation along the furrows of skin markings with lattice and fibrillar patterns.<sup>1-4</sup> A fibrillar pigment pattern denotes densely packed fine pigmentation that is arranged across the parallel skin markings.<sup>4</sup> Pigmentation that runs parallel along the furrows of the skin on hands and feet usually indicates a benign acral naevus.<sup>1,2,4</sup>

## Answer 3

In acral melanoma, pigmentation is observed in the ridges, usually extending

over the whole lesion as well as being irregular.<sup>2,4</sup> As the melanoma progresses, the pigmentation intensifies and variable shades are observed, which is usually an indicator of invasive melanoma.<sup>2,4</sup> This observation of pigmentation in the ridges is known as a 'parallel ridge pattern' (PRP) and is a very important dermatoscopic feature of malignant melanoma.<sup>4</sup> PRP is very helpful in diagnosing early acral melanomas as it has a reported 86–99% specificity.<sup>3,4</sup>

### Answer 4

Saida and colleagues have outlined a good algorithm for the diagnosis of acral naevi versus acral melanoma.<sup>2</sup> All lesions demonstrating PRP should be biopsied; if no PRP is seen, then features distinguishing an acral naevi dermatoscopically should be identified.<sup>2</sup> If fibrillar or lattice features are not present on dermoscopy and the lesion is greater than 7 mm then a biopsy is warranted, otherwise periodic review of the lesion should be organised.<sup>2</sup> If the patient has risk factors for developing skin cancer, such as being immunosuppressed, then there should be a low threshold for a biopsy.

### Answer 5

Although PRP has been reported for its high specificity in diagnosing melanoma, there are other conditions in which PRP is observed.<sup>3</sup>

These include:

- Acral subcorneal haemorrhage: Caused by trauma and may display PRP on dermoscopy.<sup>3</sup> A helpful dermatoscopic sign that may be observed in acral subcorneal haemorrhage is 'pebbles' on the ridges.<sup>3</sup>
- Hyperpigmentation on the volar skin induced by anticancer drugs: anticancer medication, such as 5-fluorouracil, may induce hyperpigmentation on acral skin, which can display PRP on dermoscopy.<sup>3</sup>
- Acral pigmented macules associated with Peutz–Jeghers syndrome: Peutz–Jeghers is an autosomal dominant disorder, which results in small

pigmented lesions displaying PRP.<sup>3</sup> These lesions are commonly found on the lips and acral areas.<sup>3</sup>

- Pigmented plantar warts may also display PRP on examination.<sup>3</sup>
- Miscellaneous causes, such as pigmentation to a dye (eg paraphenylenediamine) on acral skin, can display the PRP sign.<sup>3</sup>

Taking a good history and addressing key questions that cover the range of other conditions that produce PRP on dermoscopy can help to exclude melanoma.<sup>2,4</sup>

### Conclusion

This case addresses an interesting point that PRP on dermoscopy does not always entail melanoma and highlights other conditions in which PRP can be observed. High-risk patients, such as those who are immunosuppressed, should be examined thoroughly with a low threshold for performing biopsies on doubtful lesions. All suspicious lesions on dermoscopy exhibiting PRP should be biopsied along with a detailed history to exclude melanoma.

### Key points

- All lesions displaying a PRP on dermoscopy should be biopsied.
- Generally, excisional biopsies are recommended for suspicious pigmented lesions.

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