

# Scaly Pink Patches: Differentiating Psoriasis From Basal Cell Carcinoma

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## PRACTICE POINTS

- Dermoscopy has been largely utilized for the evaluation of malignant lesions. It also is gaining traction in the evaluation of inflammatory dermatoses.
- Early distinction between basal cell carcinoma and psoriasis is important for both treatment options and health care costs.

Dermoscopy, commonly used to analyze skin tumors, has more recently been used to evaluate inflammatory dermatoses. We performed a systematic review of the literature to assess the role of dermoscopy in evaluating psoriasis, and briefly reviewed the findings with an emphasis on the specificity or sensitivity of the dermoscopic findings of psoriasis. We also describe the case of a 63-year-old man with a history of psoriasis and basal cell carcinoma (BCC) who presented with a new scaly pink patch on the back. This case highlights the importance of dermoscopy in differentiating patches and plaques of psoriasis from BCC.

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Dermoscopy increases diagnostic accuracy in the analysis of skin growths.<sup>1,2</sup> Recently the use of dermoscopy has broadened to include inflammatory dermatoses and skin infections.<sup>3</sup> To substantiate the value of dermoscopy in assessing psoriasis, we performed a systematic review of the literature and briefly reviewed 31 articles. We also report a case that highlights the differences between psoriasis and basal cell carcinoma (BCC) under dermoscopic examination, and we discuss the literature on the dermoscopic findings of psoriasis with an emphasis on the relative sensitivities and specificities of dermoscopic findings for psoriasis and for BCC.

## Case Report

A 63-year-old man with psoriasis and a history of BCC presented for follow-up of psoriasis, which was well-controlled on etanercept. The physical examination was remarkable for scaly pink papules scattered on the trunk and extremities. A new larger red-pink patch was located on the left lower back (Figure 1). Dermoscopic evaluation of the new patch revealed shiny white lines and branching blood vessels (Figure 2). Pathology results of a shave biopsy revealed superficial BCC. The skin cancer was treated with electrodesiccation and curettage.

## Comment

The clinical morphology of psoriasis and BCC can be similar, and dermoscopy can help in differentiating between the 2 conditions.

*Literature Search on Dermoscopy and Psoriasis—* We performed a PubMed search of articles indexed for

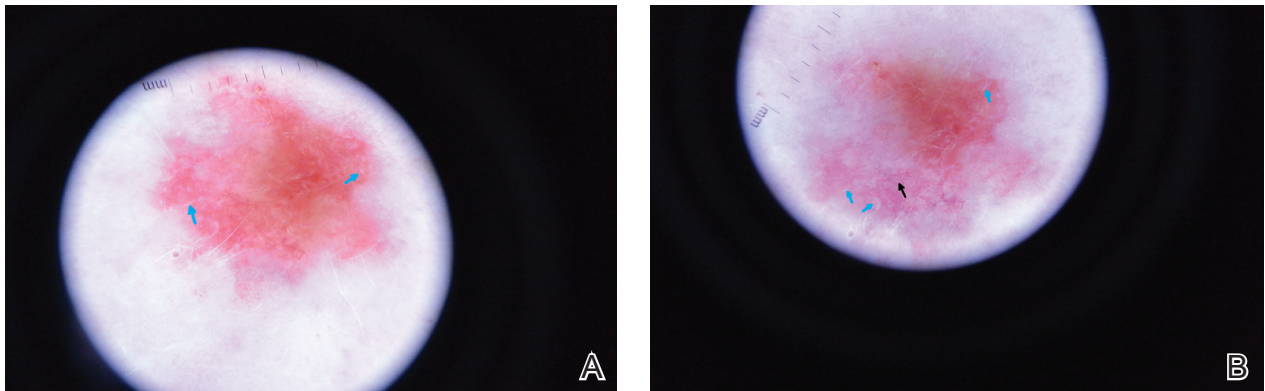


**FIGURE 1.** Scaly pink papules of psoriasis (black arrows), and a new scaly red-pink patch of basal cell carcinoma (blue arrow).

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**FIGURE 2.** Shiny white lines of basal cell carcinoma (blue arrows)(A and B) and branching vessel (black arrow)(B) of basal cell carcinoma.

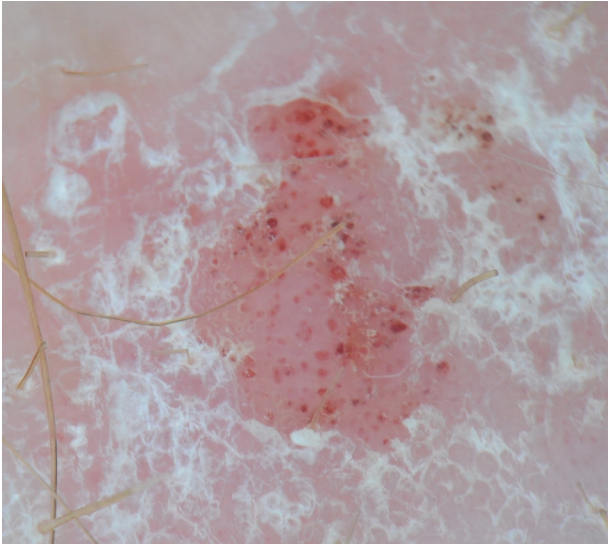
MEDLINE to review the published literature on dermoscopy and psoriasis. Two reviewers (C.H. and L.C.) searched for *psoriasis* paired with the terms *dermoscopy* or *dermatology* or *epiluminescence microscopy*. Only English-language articles published between 1996 and 2016 were included in the search. Articles that focused solely on confocal microscopy were excluded. Article titles and abstracts were evaluated and articles that omitted mention of dermoscopy and psoriasis were excluded, yielding a total of 31 articles. Of these articles, only 2 discussed the specificity or sensitivity of the dermoscopic findings of psoriasis.<sup>4,5</sup> Most of the articles were case reports and descriptive cross-sectional studies. The reports addressed multiple subtypes of psoriasis, but reports on psoriasis vulgaris and scalp psoriasis were most common (Table). Lallas et al<sup>6</sup> provided a comprehensive descriptive review of the main findings on dermoscopy for psoriasis and other inflammatory skin conditions, but it lacked a comparison between psoriasis and BCC or data on the sensitivity and specificity of the findings. Two studies reported sensitivity and specificity values for the dermoscopic findings of psoriasis.<sup>4,5</sup> Pan et al<sup>5</sup> reported a 98% diagnostic probability of psoriasis if red dots, homogeneous vascular pattern, and a light red background are all present. Additionally, they reported that the presence of 4 of 6 criteria for BCC—scattered vascular pattern, arborizing microvessels, telangiectatic or atypical vessels, milky-pink background, and brown dots/globules—yielded a diagnostic probability of 99%.<sup>5</sup> Similarly, Lallas et al<sup>6</sup> demonstrated that the presence of dotted vessels alone is not sufficient to presume a diagnosis of psoriasis, as this finding can be seen in other inflammatory skin conditions. However, “the combination of regularly distributed dotted vessels over a light red background associated with diffuse white scales was highly predictive of [plaque psoriasis] and allowed a correct diagnosis with 88.0% specificity and 84.9% sensitivity.”<sup>4</sup> Figure 3 shows a dermoscopic image of plaque psoriasis that demonstrates these findings. The remaining literature corroborated this evidence, with the most commonly reported dermoscopic findings of psoriasis being red dots, red globules,

### Reports on Dermoscopy and Psoriasis

Characteristic	No. of Reports
Article type	
Case report	10
Cross-sectional study	8
Letter	3
Review article	3
Retrospective observational study	2
Clinical trial	2
Case-control study	1
Convention report	1
Prospective cohort study	1
Total	31
Psoriasis classification	
Psoriasis vulgaris	11
Scalp psoriasis	7
Psoriasis (unspecified)	5
Nail psoriasis	3
Palmoplantar psoriasis	2
Chronic psoriasis	1
Guttate psoriasis	1
Psoriasis balanitis	1
Total	31

glomerular vessels (also known as twisted capillary loops), red globular rings, and white scale.<sup>7-12</sup>

**Dermoscopy and BCC**—Much has been published on the dermoscopic findings of BCC.<sup>5,13-15</sup> The dermoscopic findings of BCC include large blue-gray ovoid nests, leaflike areas, spoke-wheel-like areas, arborizing vessels (telangiectasia), and ulceration.<sup>15</sup> Superficial BCC is characterized by short fine or arborizing telangiectasia,



**FIGURE 3.** Dermoscopy of plaque psoriasis showing light red-pink background, red dots, and white scale.

shallow erosions, and shiny white areas.<sup>15</sup> The positive predictive value of dermoscopy in BCC is as high as 97%.<sup>16</sup> Additionally, multiple studies report a sensitivity of 95% to 99%<sup>5,13,14</sup> and a specificity of 79% to 99% in the use of dermoscopy for identifying BCC. According to Pan et al,<sup>5</sup> the most sensitive finding for BCC is a scattered vascular pattern (97%), while the most specific finding is arborizing microvessels (99%).

**Utility of Dermoscopy**—Our case of a 63-year-old man with a history of psoriasis and BCC highlights the usefulness of dermoscopy in accurately determining the features of each condition. Additionally, dermoscopy aids in differentiating between psoriasis and squamous cell carcinoma. In contrast to the dotted vessels seen in psoriasis, squamous cell carcinomas often have peripheral hairpin (glomerular) vessels.<sup>17</sup>

If future reports confirm dermoscopy's utility in accurately diagnosing psoriasis, fewer biopsies may be needed when evaluating patients with new rashes. Furthermore, dermoscopy may expedite treatment of psoriasis (as it can for malignant conditions) by obviating the wait for pathology results currently needed to initiate systemic

treatment. For patients with psoriasis who also have sun-damaged skin, dermoscopy may assist in differentiating pink patches and plaques of psoriasis from skin cancer, such as superficial BCCs, which often have shiny white lines not seen in psoriasis.<sup>15</sup>

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