
Dermoscopy and confocal microscopy clues in the diagnosis of psoriasis and porokeratosis

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CLINICAL PRESENTATION

Case 1

Multiple red, roundish, small papules with fine superficial scaling suddenly appeared on the lower limbs of a 35-year-old man after a streptococcal infection (Fig 1, A).

Case 2

Numerous roundish, red to pink papules and plaques on the lower limbs of a 79-year-old man persisted after several topical treatments and phototherapy (Fig 1, B).

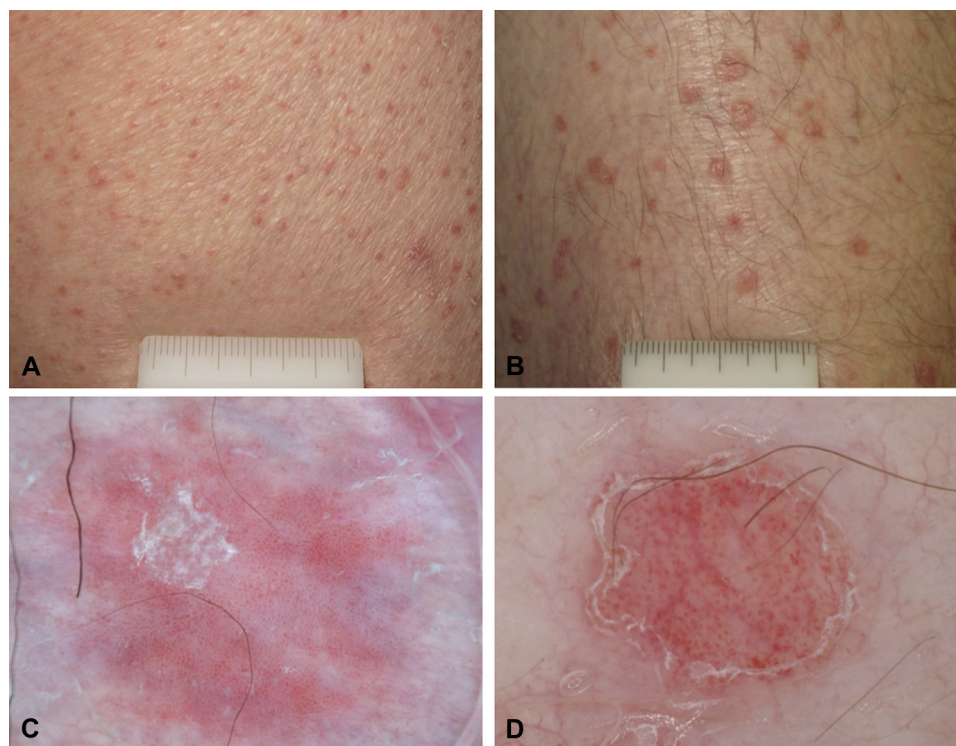


Fig 1. Multiple red, roundish, small papules with fine superficial scaling on the lower limbs of a 35-year-old man (case 1; **A**) and a 79-year-old man (case 2; **B**), respectively. **C**, Dermoscopy of case 1 revealing dotted vessels over a pinkish background and superficial white scales. **D**, The dermoscopic examination of case 2 revealed the presence of a peripheral white rim in conjunction with multiple dotted and linear irregular vessels.

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Conflicts of interest: None declared.

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DERMOSCPIC APPEARANCE

The dermoscopic examination of case 1 revealed dotted vessels over a pinkish background and superficial white scales (Fig 1, C). In case 2, the dermoscopic examination revealed the presence of a peripheral white rim in conjunction with multiple dotted and linear irregular vessels (Fig 1, D).

CONFOCAL MICROSCOPY APPEARANCE

A reflectance confocal microscopy (RCM) examination of case 1 revealed the presence of parakeratosis at the level of the corneal layer, a regular honeycomb pattern of the spinous layer, and multiple horizontally oriented vessels transversing the dermal papillae (Fig 2, A-C). In case 2, a RCM examination revealed a well demarcated lesion with a distinct hyperrefractile border at the level of the corneal layer, an atypical honeycomb pattern, and architectural disarray (Fig 3, A-C).

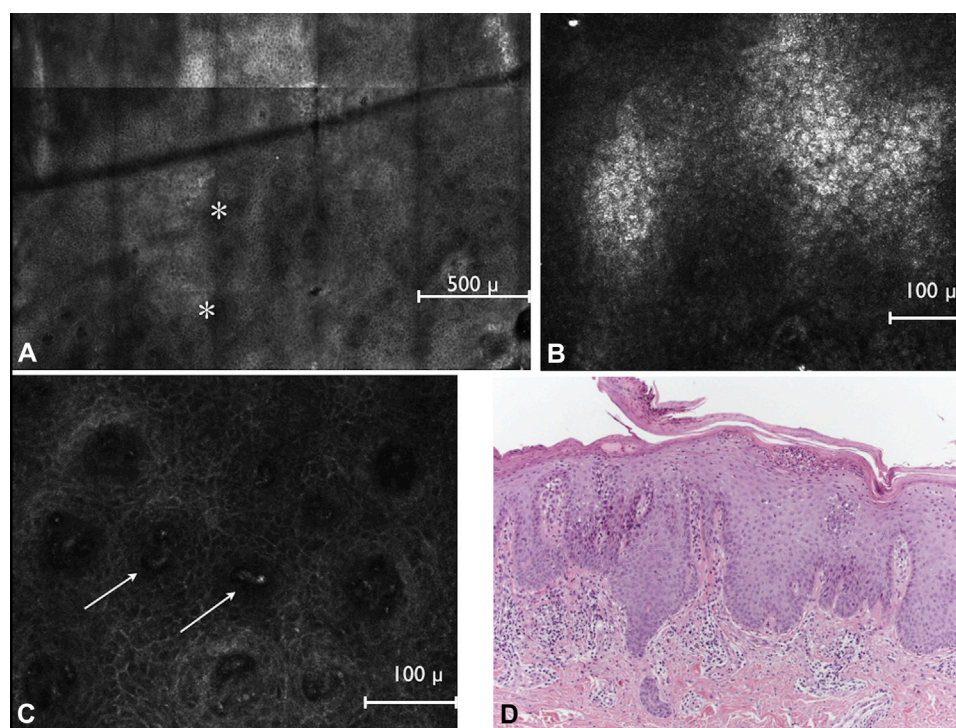


Fig 2. Reflectance confocal microscopy (RCM) and histopathologic results of case 1. **A**, Mosaic image (2.5×2 mm) revealing a regular honeycomb pattern of the spinous layer; focal areas of spongiosis are visible (*asterisk*). **B**, RCM image of parakeratosis at the level of the corneal layer with multiple, bright refractile keratinocytes. **C**, Multiple horizontally oriented vessels transversing the dermal papillae. **D**, The epidermis shows well developed psoriasiform hyperplasia with multiple parakeratotic mounds and neutrophilic aggregates (Munro microabscesses). A mild inflammatory infiltrate is present in the papillary dermis.

HISTOLOGIC DIAGNOSIS

The histologic examination was compatible with plaque psoriasis in case 1 (Fig 2, D) and disseminated superficial actinic porokeratosis (DSAP) in case 2 (Fig 3, D).

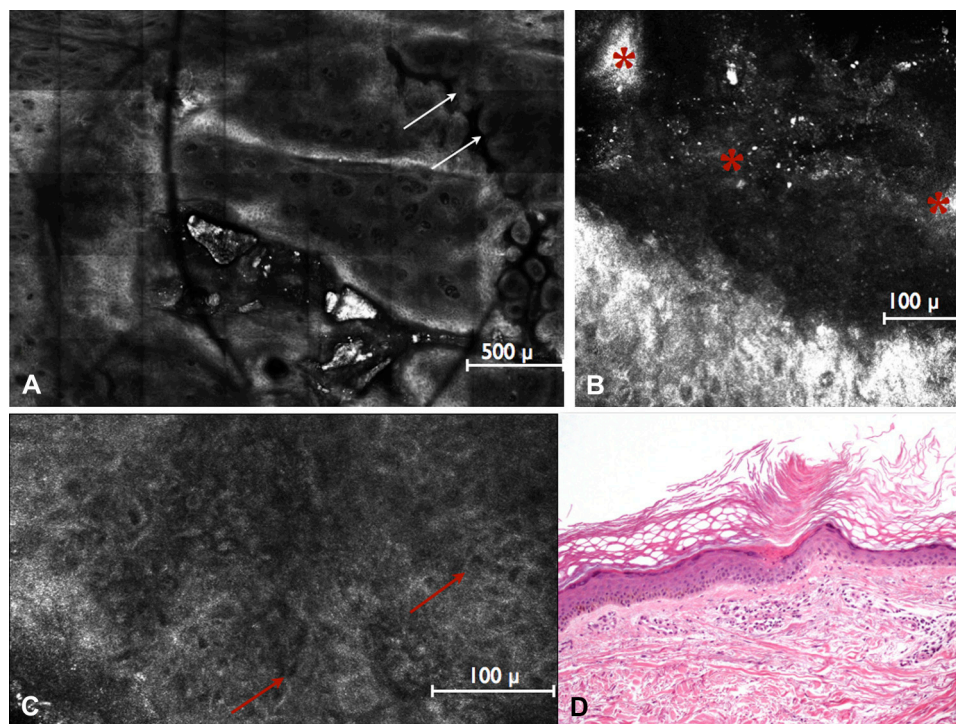


Fig 3. Reflectance confocal microscopy (RCM) and histopathologic results of case 2. **A**, Mosaic image (3.5×2.5 mm) taken at the level of the dermoepidermal junction revealing a well demarcated lesion (*white arrows* indicating the border). **B**, Close-up RCM image of a cornoid lamella at the level of the corneal layer (*asterisk*). **C**, RCM image at the level of spinous layer. Multiple irregular keratinocytes are visible and are different in shape and dimension. **D**, A cornoid lamella comprised of an angulated tier of parakeratosis is evident in the center of the field.

KEY MESSAGE

Several erythematous skin diseases share similar clinical characteristics, and differentiation among them is troublesome. In this context, a dermoscopic examination might be significantly valuable because it might reveal criteria specifically associated with a certain diagnosis. RCM imaging reveals microscopic details in vivo at a level of resolution close to conventional histology. Clues for the dermoscopic diagnosis of psoriasis are the presence of dotted vessels that are regularly distributed over a pinkish background and superficial white scales. A peripheral white rim, corresponding to the cornoid lamella, is the dermoscopic hallmark of prokeratosis.