# Use of reflectance confocal microscopy to diagnose occult basal cell carcinoma: 2 case reports

Simone Cappilli, MD, Francesca Perino, MD, Valeria Coco, MD, Alessandro Di Stefani, MD, and Ketty Peris, MD
*Rome, Italy*

***Key words:*** actinic keratosis; basal cell carcinoma; reflectance confocal microscopy.

## INTRODUCTION

Clinical and dermoscopic diagnosis of facial pigmented and nonpigmented lesions is sometimes challenging. Face and scalp are chronic sun-exposed sites, and signs of photoaging[1] can be associated with the development of precancerous or malignant lesions.[2-4] Noninvasive imaging techniques such as reflectance confocal microscopy (RCM) allow us to better diagnose and monitor equivocal melanocytic and nonmelanocytic lesions, particularly on specific sites such as the face.[5]

We report 2 cases of facial basal cell carcinoma (BCC) first diagnosed clinically and dermoscopically as actinic keratoses (AKs). These lesions were resistant to topical treatment and therefore were also evaluated with RCM, which showed features of BCC. Histopathologic examination confirmed the diagnosis of BCC.

*Abbreviations used:*

AK: actinic keratosis
BCC: basal cell carcinoma
RCM: reflectance confocal microscopy

## CASE 1

A 60-year-old woman presented with an erythematous, 1.2-cm, asymptomatic patch with scales, located on the glabella (Fig 1, *A*). Dermoscopic examination found an erythematous background with overlying dotted vessels and scales (Fig 1, *B*). The lesion was diagnosed as an AK and treated with piroxicam cream 0.8% twice daily for 2 months. Physical examination did not find other suspicious lesions, and the patient denied previous skin cancers. The treatment with piroxicam was not effective; therefore, the lesion was examined by RCM, which found honeycomb pattern with some focal bright dendritic cells in the epidermis and small hyporefractile islands at the dermoepidermal junction and papillary dermis appearing as a dark silhouette surrounded by highly refractile reticular fibers (Fig 1, *C*). These findings were diagnostic for BCC. The lesion was surgically excised, and histologic examination confirmed the diagnosis of superficial BCC (Fig 1, *D*).

## CASE 2

A 42-year-old man was examined for an erythematous macule with peripheral light brown pigmentation located on the right malar region (Fig 2, *A*). The lesion measured 1 cm, had developed 1 year before, and slowly increased in size. Dermoscopic examination found wavy vessels and brown dots on an erythematous background (Fig 2, *B*). The lesion was diagnosed as pigmented AK and treated with diclofenac 3% twice daily for 3 months with no clinical benefit. RCM was performed after treatment showing hyporefractive and hyperrefractive islands with a typical peripheral palisading at the level of dermoepidermal junction and upper dermis (Fig 2, *C*). The lesion was surgically excised, and histopathologic examination was diagnostic of superficial BCC (Fig 2, *D*)

From the Institute of Dermatology, Department of Dermatology, Catholic University of the Sacred Heart.
Funding sources: None.
Conflicts of interest: None disclosed.
Correspondence to: Simone Cappilli, MD, Catholic University of Sacred Heart, Rome, 1, Largo Francesco Vito, 00168 Rome, RM, Italy. E-mail: simo.cappilli@gmail.com.

JAAD Case Reports 2018;4:599-601.
2352-5126

https://doi.org/10.1016/j.jdcr.2018.03.026

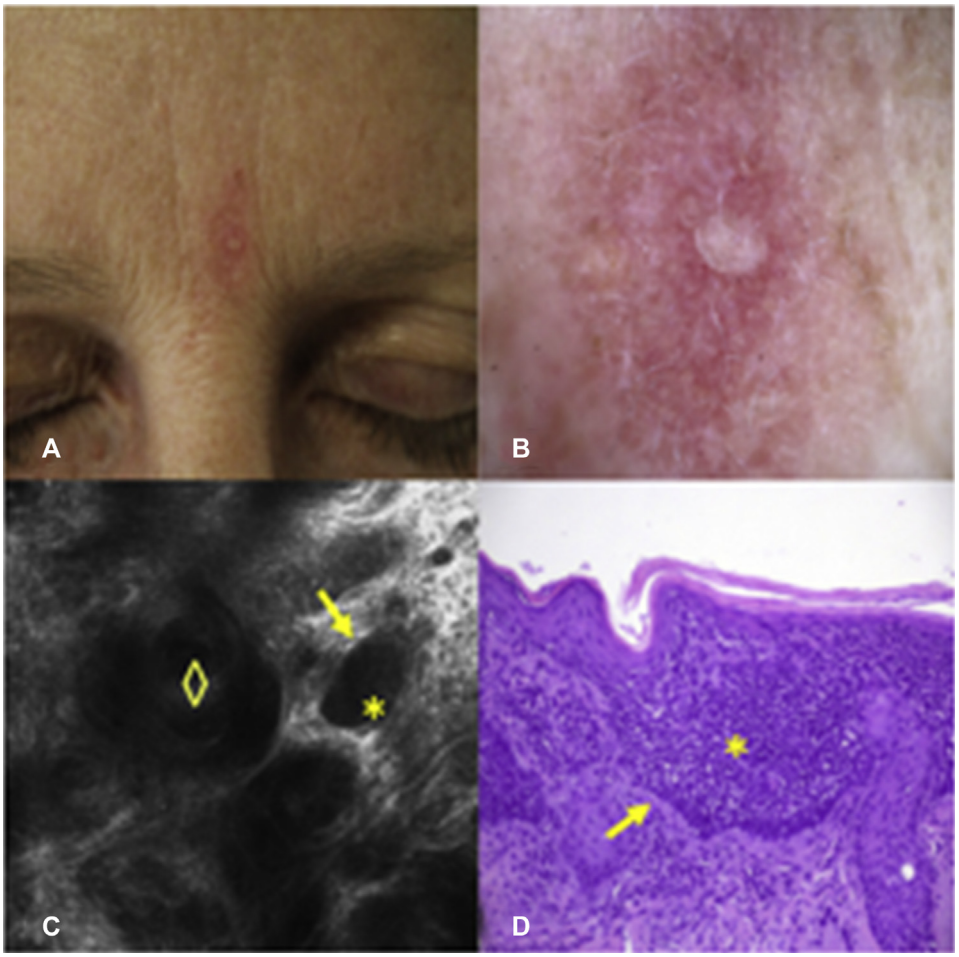


**Fig 1.** **A**, Clinical image: erythematous scaly patch on the glabella. **B**, Dermoscopy shows red pseudonetwork and superficial scales. **C**, RCM image at the level of papillary dermis shows dark silhouettes (*asterisk*) surrounded by bright bundles (*arrow*). Tumoral islands should be differentiated from follicles (*diamond*). **D**, Histopatology features show basaloid cells (*asterisk*) and peripheral palisading (*arrow*). A high-resolution version of this slide for use with the Virtual Microscope is available as eSlide: VM04849.

## DISCUSSION

Both BCCs and AKs are keratinocytic neoplasms that typically develop on sun-damaged skin of elderly individuals. Physical examination and dermoscopic evaluation are useful to differentiate AKs from BCCs in most cases allowing the most appropriate therapeutic approach. In some patients, both clinical and dermoscopic features can be equivocal, as in the 2 cases reported herein. In both patients' lesions, we observed the presence of an erythematous background associated with wavy vessels and superficial scales highly suggestive of AKs. The persistence of unspecific dermoscopic aspects after AK treatment led us to perform RCM to establish the final diagnosis. Several studies found that RCM is a useful noninvasive procedure to diagnose melanocytic and nonmelanocytic lesions including AKs and BCCs, providing a near-histologic accuracy.[6-8] This accuracy is a crucial aspect, as the use of RCM allows avoidance of unaesthetic scars, particularly on the face. In our cases, the final diagnosis was indeed supported by RCM, which showed typical features of BCC as bright dendritic cells in the upper layers and presence of hyporefractile and hyperrefractile tumor islands with peripheral palisading of the nuclei, surrounded by a peripheral cleft and high refractile collagen bundles at the level of dermoepidermal junction and dermis.

The use of RCM should be highly recommended in all equivocal lesions and in lesions with no response to topical treatment, avoiding prolonged or repeated treatment cycles and progression of the neoplasia.

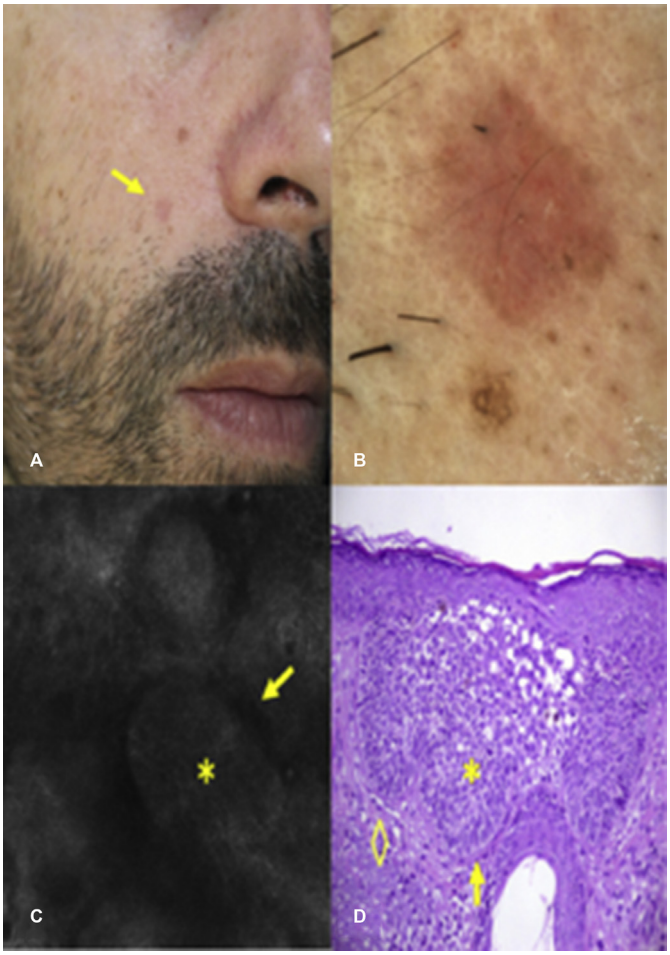


**Fig 2.** **A**, Clinical image: erythematous macule (*arrow*) on the malar region. **B**, Dermoscopy shows wave vessels on erythematous background and superficial scales. **C**, RCM image at the level of upper dermis shows hyporefractive islands (*asterisk*) surrounded by dark spaces (*arrow*). **D**, Histopathology shows multiple basaloid islands (*asterisk*) with peripheral palisading (*arrow*) and surrounded by fibromyxoid stroma dislocating solar dermal elastosis downward, with initial clefting formation (*diamond*). A high-resolution version of this slide for use with the Virtual Microscope is available as eSlide: VM04850.

## REFERENCES

1. Isik B, Gurel MS, Erdemir AT, et al. Development of skin aging scale by using dermoscopy. *Skin Res Technol*. 2013;19(2):69-74.
2. Kelati A, Baybay H, Moscarella E, et al. Dermoscopy of pigmented actinic keratosis of the face: a study of 232 cases. *Actas Dermosifiliogr*. 2017;108(9):844-851.
3. Tschandl P, Rosendahl C, Kittler H. Dermatoscopy of flat pigmented facial lesions. *JEADV*. 2015;29(1):120-127.
4. Zalaudek I, Giacomel J, Schmid K, et al. Dermatoscopy of facial actinic keratosis, intraepidermal carcinoma, and invasive squamous cell carcinoma: a progression model. *J Am Acad Dermatol*. 2012;66(4):589-597.
5. Wurm EM, Curchin CE, Lambie D. Confocal features of equivocal facial lesions on severely sun-damaged skin: four case studies with dermatoscopic, confocal, and histopathologic correlation. *J Am Acad Dermatol*. 2012; 66(3):463-473.
6. Kadouch DJ, Leeflang MM, Elshot YS. Diagnostic accuracy of confocal microscopy imaging vs. punch biopsy for diagnosing and subtyping basal cell carcinoma. *Eur Acad Dermatol Venereol*. 2017;31(10):1641-1648.
7. Pellacani G, Pepe P, Casari A, et al. Reflectance confocal microscopy as a second-level examination in skin oncology improves diagnostic accuracy and saves unnecessary excisions: a longitudinal prospective study. *Br J Dermatol*. 2014;171(5):1044-1051.
8. Longo C, Lallas A, Kyrgidis A, et al. Classyfing distinct basal cell carcinoma subtype by means of dermatoscopy and reflectance confocal microscopy. *J Am Acad Dermatol*. 2014;71(4):716-717.