The role of reflectance confocal microscopy as an aid in the diagnosis of collision tumors.


**ABSTRACT**

**BACKGROUND:** The term 'collision tumor' refers to the association of 2 or more different neoplasms within the same lesion. The association of a benign neoplasm with a malignant neoplasm is of particular significance and warrants diagnostic accuracy. **OBJECTIVE:** The purpose of our study was to see if reflectance confocal microscopy (RCM) was a valuable tool when dealing with collision tumors. **METHODS:** We retrospectively evaluated 24 histologically confirmed cases of collision tumors, which were initially assessed using dermoscopy and RCM. **RESULTS:** The malignancy most commonly detected in association with collision tumors was basal cell carcinoma (BCC) (n = 13), followed by melanoma (n = 5, of which 2 collided with BCC) and squamous cell carcinoma in situ (n = 4). Seborrheic keratoses were the most common benign neoplasms found in association with collision tumors (n = 18), followed by nevi (n = 7). Dermoscopy revealed the malignant component in 14 out of 20 lesions compared to RCM, which revealed a malignant component in 19 out of 20 neoplasms. There was excellent concordance between RCM and histopathology with regard to the identification of a malignant component within a tumor (kappa value >0.9). **CONCLUSION:** The dermatoscope and the reflectance confocal microscope, when used in conjunction, are valuable tools aiding in the diagnosis of collision tumors.