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Reflectance confocal microscopy for noninvasive examination of nonmelanocytic tumors and virus-associated skin lesions in organ transplant recipients.

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ABSTRACT

BACKGROUND: Drug-induced immunosuppression is necessary to prevent rejection of the foreign organ in transplanted patients, but neoplastic and virus-associated skin diseases are frequent complications. Reflectance confocal microscopy (RCM) recently emerged as a promising tool for the early diagnosis of skin lesions. **MATERIALS AND METHODS:** A total of 61 skin lesions, among them 20 basal cell carcinomas, six Bowen's diseases, 23 actinic keratoses, and 12 verrucae, were analyzed. All lesions were clinically evaluated followed by RCM evaluation by two independent dermatologists and histological examination. **RESULTS:** For the diagnosis of basal cell carcinoma, a sensitivity of 100% by both investigators (INV I + II) and a specificity of 100% by INV I and 80% by INV II were achieved. The sensitivity average rate for RCM features reached by both investigators ranged between 60% and 100%, and the specificity between 55% and 90%. For the diagnosis of actinic keratosis, a concordant sensitivity of 94.4% and a specificity of 80% (INV I) and 60% (INV II) were detected. The sensitivity average rate of specific RCM criteria ranged between 72.3% and 97.2%, whereas specificity ranged between 20% and 90%. Regarding verrucae, RCM confirmed the histological diagnosis with a sensitivity of 85.7% (INV I) and 100% (INV II), while specificity was 100% and 80%, respectively. **CONCLUSION:** Reflectance confocal microscopy resulted to be a reliable tool for the noninvasive diagnosis of neoplastic and virus-associated skin changes in organ transplant recipients. Nevertheless, given the frequency and diagnostic complexity of the hyperkeratotic lesions occurring post-transplantation, larger cohorts of patients are required to confirm and consolidate these findings. © 2019 The Authors. *Skin Research and Technology* published by John Wiley & Sons Ltd. **KEYWORDS:** Bowen's disease; basal cell carcinoma; epithelial skin cancer; immunosuppression; reflectance confocal microscopy; verrucae PMID: 31802548 DOI: 10.1111/srt.12813