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32 Reflectance confocal microscopy vs. standardized skin surface biopsy for measuring the density of Demodex mites.

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ABSTRACT

BACKGROUND: Reflectance confocal microscopy (RCM) has been recently shown to be effective for measuring the Demodex mite density. **OBJECTIVES:** To compare and demonstrate the advantages and disadvantages of standardized skin surface biopsy (SSSB) and RCM for measuring the density of Demodex mites.

MATERIALS AND METHODS: Forty-eight patients (30 female, 18 male) and 47 healthy controls (30 female, 17 male) were enrolled in the study. The patients diagnoses were pityriasis folliculorum (n = 40), papulopustulary rosecea (n = 7) and erythema-telengiectatic rosacea (n = 1). The area with the most intense erythema on the right cheek was selected for imaging with RCM (VivaScope 3000) and SSSB. **RESULTS:** Forty-two patients demonstrated high Demodex density [(Dd) > 5 mites/cm2] with SSSB (85.7%). RCM identified demodicosis in 48 patients (100%). The mean Dd measured with RCM (409.8 ± 209.2) was significantly higher than SSSB (15.33 ± 18.1) ($P < 0.001$). In the patients, RCM demonstrated the mean number of mites 40.90 ± 20.9 and 4.11 ± 6.4 in the controls per 10 mm2 area. The corresponding mean number of 2.63 ± 0.77 mites was detected in the infested follicles per area of view compared to a mean of 0.77 ± 0.98 mites in the infested follicles in the controls ($P < 0.001$).

CONCLUSION: Reflectance confocal microscopy is a fast, direct and noninvasive method for Demodex-associated diseases and it is superior to SSSB for Demodex mite detection.