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Reflectance confocal microscopy characteristics of eight cases of pustular eruptions and histopathological correlations.

Debarbieux S, Depaepe L, Poulalhon N, Dalle S, Balme B, Thomas L.; Skin Res Technol. 2012 Aug 31. doi: 10.1111/j.1600-0846.2012.00662.x.

ABSTRACT

BACKGROUND: Reflectance confocal microscopy (RCM)'s interest has been well established for the non-invasive diagnosis of skin cancers, especially melanocytic, and in the differential diagnosis between benign and malignant cutaneous lesions. However, its diagnostic interest in inflammatory skin diseases still needs to be demonstrated. Our purpose was to evaluate the correlation between RCM and conventional histopathology in a series of pustular eruptions of different pathogeny.

METHODS: Reflectance confocal microscopy analysis was performed in eight consecutive unselected patients in whom the diagnoses of pustular psoriasis, bacterial sur-infection, herpes-type virus skin sur-infection, Sneddon-Wilkinson subcorneal pustulosis and Hailey-Hailey disease have been made and images were compared to conventional histopathology.

RESULTS: Neutrophils within the epidermis exhibited never reported earlier specific features, with either a shiny granular sludge or polylobated particules with a bright granular content. Moreover, some specific etiologies could be identified, such as acantholysis and herpes-type virus-infected keratinocytes.

CONCLUSION: Our studies show a good correlation between RCM and conventional histopathology in pustular eruptions. Reflectance confocal microscopy may play an important role in the differential diagnosis of pustular eruptions; as most of the pathologic clues are epidermal, narrow thickness of the field of imaging, its main technical limitation, is indeed of lesser importance.