

In Vivo Reflectance Confocal Microscopy in China

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In vivo Reflectance Confocal Microscopy (RCM) has been used in Dermatology for more than ten years, and more diagnostic criterias have been established in recent years. Although the RCM was used in China only for three years, we identified quite a few new indications for RCM. The clinical applications of RCM in China were mainly reflected in clinical diagnosis and differential diagnosis, the histological classification, and the follow-up observation of the evolution of some skin diseases.

Diagnosis and differential diagnosis

The significance of RCM is to provide the dermatologist with clues to diagnosis or differential diagnosis. For example, some Seborrheic Keratosis (SK) takes on the architecture that can produce a clinical picture indistinguishable from verruca plana (VP). Although histopathology could distinguish these two kinds of lesions, the invasive character reduces the patients' compliance. The RCM could easily distinguish these two kinds of lesions in real-time. The RCM, a non-invasive method was in great need especially in the diagnosis of the lesion in exposal area. The listed below were the most widely used areas: 1)Hyper- or hypo- pigmentation skin lesions; 2)Inflammatory skin lesions; 3)Infectious skin diseases; 4)Skin tumors; 5)Others

Histological Classification

Under RCM imaging, the location of pigment of skin conditions could easily be detected, we found pigment located in epidermis, dermis, or epidermis and superficial dermis compared with around normal skin, according to which we could classify some skin diseases, for example, classification of melasma and cellular nevus could be easily and non-invasively determined with RCM in few minutes without biopsy.

Follow-up Observation

Due to the non-invasive and real-time imaging characters of RCM, the follow-up observation of the evolution of skin diseases could be realized. We performed consecutive investigation to observe changes of psoriasis and vitiligo. And interesting results has been found. When doing laser skin rejuvenation, the changes of collagen could also be detected with RCM.

Generally, the RCM has been widely investigated in clinical Dermatology in China, and we believe that the application of RCM in Dermatology would be further enlarged in China.