DERMOSCOPY AND SKIN IMAGING

HIGH DYNAMIC RANGE IMAGING IN DERMOSCOPY OF GENERAL DERMATOLOGY CONDITIONS

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Introduction: Dermoscopy is being increasingly used as a tool to assess stage of evolution and disease activity in vitiligo. Converting normal dermoscopy images to High Dynamic Range (HDR) images has been described to improve the quality of imaging in the context of pigmented skin tumours. We have been using HDR enhancement for dermoscopy of vitiligo for some time now.

Objectives: We aimed to evaluate the effectiveness of HDR conversion in improving visualization of dermoscopy features in general non-malignant, dermatological conditions

Materials and methods: Fifteen lesions were included in the study (The studied conditions included viral wart, corn, lichen planus, onychomycosis, psoriasis, scabies, vitiligo, angiomas, melasma and different types of alopecias). Dermoscopy images (polarized 10X)were captured using a Dermlite® Foto ii Pro dermoscope attached to a Canon® 650D digital SLR camera. HDR images using Topaz® software to convert the original dermoscopy image to HDR.. All editing work was done using Adobe Photoshop CS6 ® (HDR software was used as a plug-in) . Conversion parameters were kept uniform for all sets of image
Dermoscopy images were viewed by six dermatologists, who were blinded to the label and for each image the quality of visualization of dermoscopy features was graded on a global scale of 1 to 5 (1 lowest quality to 5 highest quality). For statistical analysis, Mann-Whitney U test was used to compare mean ratings across the four groups

Results: The mean rankings for the HDR converted images were higher than that of the original images.The difference was statistically significant ($p < 0.001$)

Conclusion: HDR conversion of dermoscopy images is a technique, which can be effective in improving quality of visualization of dermoscopic features in general dermatology