**LITERATURE SURVEY**

AI-based localization and classification of skin disease with erythema

**Author name**: Sarah G. Fitzpatrick

**Year of publishing:**2018

**Description:**Ulcerated lesions of the oral cavity have many underlying etiologic factors, most commonly infection, immune related, traumatic, or neoplastic. A detailed patient history is critical in assessing ulcerative oral lesions and should include a complete medical and medication history; whether an inciting or triggering trauma, condition, or medication can be identified; the length of time the lesion has been present; the frequency of episodes in recurrent cases; the presence or absence of pain; and the growth of the lesion over time. For multiple or recurrent lesions the presence or history of ulcers on the skin, genital areas, or eyes should be evaluated along with any accompanying systemic symptoms such as fever, arthritis, or other signs of underlying systemic disease. Biopsy may be indicated in many ulcerative lesions of the oral cavity although some are more suitable for clinical diagnosis. Neoplastic ulcerated lesions are notorious in the oral cavity for their ability to mimic benign ulcerative lesions, highlighting the essential nature of biopsy to establish a diagnosis in cases that are not clinically identifiable or do not respond as expected to treatment. Adjunctive tests may be required for final diagnosis of some ulcerated lesions especially autoimmune lesions. Laboratory tests or evaluation to rule out systemic disease may be also required for recurrent or severe ulcerations especially when accompanied by other symptoms. This discussion will describe the clinical and histopathologic characteristics of a variety of ulcerated lesions found in the oral cavity.

**Author Name:**Hashemi DA

**Year of publishing:**2019

**Description:**Necrobiotic xanthogranuloma (NXG) is a non-Langerhans cell histiocytosis classically associated with paraproteinemia attributable to plasma-cell dyscrasias or lymphoproliferative disorders. Despite the morbidity of NXG, the literature is limited to case reports and small studies, and diagnostic criteria . To evaluate the characteristics of NXG and propose diagnostic criteria.Design, setting, and participants: This multicenter cross-sectional study was conducted at tertiary academic referral centers and followed by a systematic review and a consensus exercise. The multicenter cohort included patients with NXG diagnosed at the Brigham and Women's and Massachusetts General Hospitals (2000-2018), the University of Iowa Hospitals and Clinics (2000-2018), and the University of Pennsylvania Health System (2008-2018). The systematic review was conducted in 2018 and included patients with NXG identified in the Cochrane, Ovid EMBASE, PubMed, and Web of Science databases. The consensus exercise was conducted by 8 board-certified dermatologists to identify diagnostic criteria.Main outcomes and measures are Demographic factors, comorbidities, clinical features, and treatment response.

**Author:**S Astner

**Year of passing:**2018

**Description:**This study was undertaken to investigate the ethnic susceptibility to irritant contact dermatitis induced by a common dishwashing liquid using noninvasive technologies.A total of 30 participants (15 Caucasian, 15 African American) were patch tested to graded concentrations of a common household irritant and evaluated using clinical scoring, reflectance confocal microscopy, transepidermal water loss, and fluorescence excitation spectroscopy.At 24 hours, the concentration thresholds for clinically perceptible irritancy were significantly higher for African American compared with Caucasian participants. Reflectance confocal microscopy showed stratum corneum disruption, parakeratosis, and spongiosis; these features were more severe in Caucasian participants (P ≤ .002). Mean values for transepidermal water loss were significantly higher in the Caucasian group at comparable clinical scores (P ≤ .005). Fluorescence excitation spectroscopy showed a broad excitation band at 300 nm (emission 340 nm) and values in both groups returned to baseline by day 7.Clinical evaluation, reflectance confocal microscopy, and transepidermal water loss showed significant differences in the cutaneous irritant response between both groups suggesting a superior barrier function of African American skin. Fluorescence excitation spectroscopy on the other hand demonstrated no differences in the hyperproliferative response after irritant exposure and indicated similar kinetics for the two groups.

**Author:**M Rajadhyaksha

**Year of Passing:**1999

**Description:**we reported the construction of a video-rate scanning laser confocal microscope for imaging human skin in vivo. Since then, we have improved the resolution, contrast, depth of imaging, and field of view. Confocal images of human skin are shown with experimentally measured lateral resolution 0.5–1.0 μm and axial resolution (section thickness) 3–5 μm at near-infrared wavelengths of 830 nm and 1064 nm; this resolution compares well to that of histology which is based on typically 5 μm thin sections. Imaging is possible to maximum depth of 350 μm over field of view of 160–800 μm. A mechanical skin-contact device was developed to laterally stabilize the imaging site to within ± 25 μm in the presence of subject motion. Based on these results, we built a small, portable, and robust confocal microscope that is capable of imaging normal and abnormal skin morphology and dynamic processes in vivo, in both laboratory and clinical settings. We report advances in confocal microscope instrumentation and methods, an optimum range of parameters, improved images of normal human skin, and comparison of confocal images with histology.

**Author:**AC Halpern

**Year Of Passing:**2003

**Description:**Whole body photography (WBP) has been used for decades by some specialized pigmented lesion clinics as an aid to early melanoma detection in high-risk persons. The recent advent of digital imaging systems for acquiring and archiving whole body skin images has resulted in greater dissemination of this technique. This in turn has led to the recent establishment of a Category III Current Procedural Terminology code for WBP. Here we present a proposed set of standardized body poses for WBP on the basis of the extant literature and the experience of a panel of experts in the field. The proposed poses were developed with consideration of patient comfort and technical efficiency. The poses were optimized to comply with a predetermined set of desirable technical parameters as assessed in a series of 20 consecutive patients. The resulting set of poses is presented as a first step toward the increased standardization of dermatologic WBP.

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