Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

647

Clinical analysis of Hidroacanthoma simplex

N Wang and Y Zheng *Department of Dermatology, the Second Affiliated Hospital of Xi"an Jiaotong University, Xi'an, Shaanxi, China*

Objective: To investigate the clinical, histopathological findings, immunohistochemical features and therapeutic methods of hidroacanthoma simplex (HS). Methods: The clinical presentation, histological findings, immunohistochemical features and therapeutic methods of 5 patients with HS diagnosed between January 2015 and August 2020 in the Second Affiliated Hospital of Xi"an Jiaotong University and 17 patients with HS reported in the literature searched in CNKI were retrospectively analyzed. Results: Mean age at onset of the skin eruption was 62 years (range 36-86 years), 14 patients (63.6%) were female, and the skin lesion had been present for a mean of 7.84 years (range 5 months-50 years). Typical clinical findings were keratotic plaques mainly distributed the lower extremities and the trunk. Skin biopsy specimens from 22 patients showed the "Jadassohn phenomenon" and was composed of bland basaloid cells that were smaller than neighboring epidermal keratinocytes. Intracytoplasmic glycogen and occasional ductal structures within the nests of cells were also found. And one case (4.5%) was diagnosed as malignant HS. Immunohistochemically, the cytoplasm of some tumor cells showed a positive reaction to EMA and the normal ductal structure showed a positive reaction of CEA. Most patients (81.8%) chossed surgical resection and no recurrence and malignant transformation in follow-up. Conclusion: HS is a rare intraepidermal benign tumor, but it has risk of malignant transformation. And this disease mostly occurs in female patients, which is different from previous literature reports. For dermatologists, it is extremely important to correctly recognize and diagnose this disease.

648

Dermoscopic findings and HPV genotypes of genital keratotic lesions: Bowenoid papulosis, seborrheic keratosis, and condyloma acuminatum

M Jang, S Seong, J Jung, D Kwon, K Lee, J Park and K Suh *Kosin University, Busan, Korea (the Republic of)*

Dermatologists often encounter keratotic lesions in the genital area. Although making a clear diagnosis can be difficult, it is important for the treatment and prognosis closely related to the patient's quality of life. Dermoscopy has proven to be a useful, non-invasive tool. However, there is still a lack of dermoscopic data comparing bowenoid papulosis (BP), seborrheic keratosis (SK), and condyloma acuminatum (CA). More than 40 human papillomaviruses (HPV) genotypes infect the genital area and manifest as various intraepithelial neoplasms. This study is conducted to find distinctive dermoscopic features and HPV genotype distribution of BP, genital SK, and CA. Dermoscopically, glomerular vessels were predominant in BP that appeared in 7 cases (70.0%). Hairpin vessels were the most common vascular structures that accounted for 12 cases of CA (66.7%). SK was the least vascular-patterned disease as no vessel was observed in eight cases of SK (66.7%). Mucosal pigmentation was observed in 6 cases (60.0%) of BP. Seven cases of BP (70.0%) were classified into 'flat'. SK showed cerebriform appearance in seven cases (58.3%). Most CA cases had knob-like or finger-like appearance and whitish halo. All of BP ad CA presented positive results in HPV DNA detection, while seven cases (58.3%) of SK had positive results. For the high-risk genotype, principally HPV 16, BP showed the highest detection rate with 90.0%. SK and CA showed 58.3% and 44.4%, respectively. For the low-risk genotype, principally HPV 6 followed by HPV 11, CA presented the highest detection rate, with 88.9%. BP and SK showed 40.0% and 8.3% detection rate, respectively. The coexistence of the high-risk and the low-risk HPV was seen in three cases (30.0%) of BP, one case (8.3%) of SK, and six cases (33.3%) of CA. Dermoscopy can be useful for differentiating the entity of genital keratotic lesions ahead of an invasive method and a physician should consider the morphologic plasticity of HPV-related keratosis in the genital area or the genital wart in the expanded concept.

649

Validation of the Optimal Psoriasis Assessment Tool (OPAT) as a method of assessing psoriasis severity and impact from physician and patient perspectives

C Leonardi[1], RB Warren[2], K See[3], R Burge[3], G Gallo[3], M McKean-Matthews[4], S Park[3], C de la Cruz[5], M El Sayed[6] and B Strober[7,8] *1 Central Dermatology, St Louis, Missouri, United States, 2 Dermatology Centre, SRFT, University of Manchester, United Kingdom, 3 Eli Lilly and Company, Indianapolis, Indiana, United States, 4 Syneos Health Inc, Raleigh, North Carolina, United States, 5 Clinica Dermacross, Santiago, Chile, 6 Ain Shams University, Cairo, Egypt, 7 Yale University, New Haven, Connecticut, United States and 8 Central Connecticut Dermatology Research, Cromwell, Connecticut, United States*

OPAT is a simple tool to assess psoriasis severity using two measures: one clinical (body surface area (BSA)) and at least one of the following patient reported outcomes (PRO) – itch, skin pain, or patient global assessment of disease severity (PatGA). Previous results show that OPAT provides a straightforward and practical alternative to the Psoriasis Area and Severity Index (PASI) assessment, which is mostly used in research settings but rarely adopted in clinical practice due to its complexity. Furthermore, PASI does not capture patient perspectives. A correlation between OPAT scores and Dermatology Life Quality Index (DLQI) has also been shown. This analysis aimed to validate OPAT scores using PASI and DLQI data from the IXORA-R trial. Patients with moderate-to-severe plaque psoriasis (N=1027) were randomized to receive guselkumab (N=507) or ixekizumab (N=520). Pearson correlations were calculated for BSA and PRO measures versus PASI and DLQI at baseline, weeks 4, 8, and 12. The results from regression analysis for PASI using two measures, BSA and one PRO assessment, at week 12 showed high correlation (0.80 (PatGA), 0.78 (skin pain), 0.78 (itch)). Sensitivity analyses for OPAT versus PASI scores confirmed the results with a PASI75 sensitivity of 88.0% for the BSA and PatGA model and 85.5% for the BSA and itch model. The sensitivity of PASI90 was 87.9% for the BSA and PatGA model and 84.0% for the BSA and itch model. OPAT provides a simple alternative to assess psoriasis severity, utilizes both physician and patient perspectives, and can be easily adopted into routine clinical practice.

650

Improving surveillance for merkel cell carcinoma patients: A web-based tool to interpret sequential merkel cell polyomavirus antibody test results

K Lachance[2], DS Hippe[1], K Cahill[2], T Akaike[2], AS Fonseca[2] and P Nghiem[2] *1 Fred Hutch, Seattle, Washington, United States and 2 Univ. of WA, Seattle, Washington, United States*

Merkel cell carcinoma (MCC) is a rare skin cancer with a ~40% recurrence rate. In the US, MCC is causally linked to the Merkel cell polyomavirus (MCPyV) in ~80% of cases, while the remaining 20% are caused by UV-induced mutations. About half of MCC patients produce antibodies to MCPyV oncoproteins at diagnosis. Sero-positive patients can be tracked with a clinically available MCPyV antibody test (titer rises if disease recurs, falls if not) allowing recurrence detection that is both more sensitive and specific than imaging studies. This antibody test has been in clinical use since 2014 and is included in national cancer guidelines for MCC. Although this test is widely used in the MCC community, there are no available tools to facilitate the clinical interpretation of test results which can be challenging. For example, there is enormous patient-to-patient variability in the antibody titer, with some patients' baseline positive titers being below 100 and others being above 100,000. Here, we sought to create a web-based model that uses antibody test results to determine whether or not a patient's MCC has recurred. Our cohort consisted of 268 sero-positive patients with 1,613 antibody tests. Median follow-up was 2.9 years and 82 patients had a recurrence. A Cox model was developed using continuous, time-varying covariates. This model quantifies the absolute risk of recurrence based on the diagnosis date, current test date, previous titer and most current titers. The change in titer was strongly predictive of recurrence (HR: 1.77 for each 2-fold increase of titer, 95% CI: 1.47-2.12, $p<0.001$), independent of the current titer and time from diagnosis. This web-based tool should improve interpretation of antibody test results to guide patient-specific surveillance plans. We are currently assessing whether established baseline risk factors (stage, age, sex, and immune status) could further improve the performance of this antibody test interpretation model.

651

Moisturizer prevents skin barrier damage induced by prolonged face mask usage

L Feng[1], Q Zhang[1], N Ruth[1], Y Wu[2], C Saliou[1] and M Yu[1] *1 Global Clinical & Consumer Science, Estee Lauder Companies, New York, New York, United States and 2 Department of Dermatology, Peking University First Hospital, Beijing, Beijing, China*

Prolonged wearing of face masks, a new daily practice for people due to the COVID-19 pandemic, introduces high levels of humidity locally to facial skin, which may have unexpected skin health consequences. An IRB approved double-blinded, randomized, split-face clinical study was conducted to investigate skin properties after repeated prolonged mask usage by comparing skin inside and outside of the mask-covered areas. Twenty-one healthy female volunteers wore face masks for at least 6 hours every day for one week, with one side of their face treated with a moisturizer three times daily. On day 8, and after 5 hours of wearing the mask, facial skin properties (sebum, hydration and TEWL) were assessed at 15, 60, and 120 min post-mask removal, followed by barrier disruption and recovery evaluations. Mask usage compromised facial skin properties compared to uncovered areas, including significantly larger reduction of skin hydration ($p < 0.02$ at 15 min) and a weakened stratum corneum barrier in response to tape strip challenge ($p < 0.03$ after stripping). Sebum production also increased significantly ($p < 0.01$ at 15 min). Notably, applying a daily moisturizer mitigated these effects by significantly increasing and maintaining two-fold more hydration ($p < 0.01$) and strengthening barrier integrity against barrier challenge. Daily and prolonged usage of a facial mask, which is an essential personal and public health practice due to the Covid-19 pandemic, can create a high-humidity microenvironment, which may negatively impact skin properties. However, facial moisturization can help maintain skin homeostasis under the mask.

652

Using implementation science to understand teledermatology during the COVID-19 pandemic

S Briggs[1], J Lipoff[3] and S Collier[2] *1 University of Washington, Seattle, Washington, United States, 2 University of Washington, Seattle, Washington, United States and 3 University of Pennsylvania, Philadelphia, Pennsylvania, United States*

Implementation science (IS) has been recognized for its potential to improve the integration of evidence-based practices into routine dermatology care. The COVID-19 Pandemic led to rapid telemedicine implementation by dermatologists worldwide. We aimed to use tools from IS to identify factors associated with the successful implementation of telemedicine during the COVID-19 crisis. An anonymous, online survey was distributed to Association of Professors of Dermatology (APD) members. It incorporated sub-scales from the Organizational Readiness to Change Assessment, a validated measure of organizational characteristics that predict implementation success. A total of 35 dermatologists responded with 91.4% in academic practice. All respondents (100%) implemented or scaled-up telemedicine during the pandemic. Most agreed or strongly agreed that they had sufficient training (68.6%), financial resources (57.1%), and facilities (57.2%). However, only 42.8% agreed or strongly agreed that they had adequate staffing support. All providers agreed that telemedicine reduced travel time and expense for patients; additional COVID-19 specific advantages included continued patient care, avoiding risk of infection, and work flexibility (from home). Barriers to telemedicine implementation included technology issues (62.9%) and challenges caring for elderly patients (51.4%). Overall, the hybrid model of synchronous video/audio visits with stored digital photographs was the most favored telemedicine modality (65.7%), and 90.6% of providers reported telemedicine was acceptable for existing patients and medication monitoring. Importantly, 94.3% of respondents plan to use telemedicine after the pandemic. This study revealed that despite the advantages of telemedicine for dermatologists during the pandemic, there were clear limitations. In sum, our survey used IS research methods to identify organizational factors that can be optimized to improve future telemedicine implementation efforts in dermatology.