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The impact of prurigo nodularis on quality of life: A systematic review and meta-analysis

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Background: Prurigo nodularis (PN) is a chronic pruritic disease that can be debilitating. Previous studies found that chronic pruritus in general negatively affects patients' quality of life (QoL). However, previous studies found conflicting results about the impact of PN on QoL.

Objective: To assess the QoL burden of PN.

Methods: A systematic review was conducted in June 2019 of all published studies that assessed QoL measures in PN. OVID Medline, Embase, Scopus, and Web of Science were searched. Pooled meta-analysis (means) was performed by using random-effects weighting.

Results: Overall, 7 studies met inclusion criteria. All studies identified QoL reductions in patients suffering from PN compared with control groups. The most common QoL instruments used were the Dermatology Life Quality Index (DLQI; n = 6 studies; pooled mean [95% confidence interval]: 13.0 [11.6-14.5] denoting a very large effect) and ItchyQol (n = 3; 77.1 [73.0-81.2] denoting moderate effect). In particular, PN was associated with substantial impact on multiple domains of QoL. Mental health impact was also demonstrated using the Hospital Anxiety and Depression Scale (HADS) anxiety (n = 3; 5.1 [2.4-7.8] denoting mild anxiety symptoms) and depression (6.4 [5.3-7.5] denoting mild depression symptoms) scores.

Conclusions: QoL is negatively impacted in PN. Future studies are necessary to determine the best instruments of measuring QoL in patients with PN, to better understand this association, and to assess the impact in males and females separately.

Commercial disclosure: None identified.

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PD-1, PD-L1, and BIM as predictors of sentinel lymph node metastasis in primary cutaneous melanoma

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Here we tested whether the expression of the immune checkpoint program cell death protein 1 (PD-1), its ligand PD-L1, or its downstream effector Bcl-2 interacting mediator of cell death (BIM) in primary cutaneous melanoma (PCM) diagnostic biopsy tissue is associated with PCM metastasis to sentinel lymph nodes (SLN). We obtained a cohort of 754 patients with thin and intermediate thickness PCM who underwent SLN biopsy within 90 days of diagnosis. We then used real-time quantitative PCR to quantify gene expression in diagnostic biopsy tissue. We found that the expression of BIM but not PD-1 or PD-L1 was significantly associated with SLN metastasis ($P = .004$). The absence of a significant association between PD-1 and PD-L1 expression in PCM diagnostic biopsy tissue and SLN metastasis was confirmed by immunohistochemistry in a cohort subset. Predictive models that considered the clinicopathologic variables Breslow depth and age were not significantly improved by adding the gene expression variables BIM, PD-1, or PD-L1. In contrast, a highly significant improvement in the predictive ability among the 754 studied patients was observed with the CP-GEP model from SkylineDx. We conclude that while the PD-1/PD-L1 immune checkpoint drives immune tolerance and disease progression its global expression in PCM diagnostic biopsy tissue is not associated with regional metastasis.

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A retrospective review of delay in diagnosis, severity of disease, and dermatology visits characterized by race in patients with hidradenitis suppurativa in a Midwestern population

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Hidradenitis suppurativa (HS) is an inflammatory skin condition that disproportionately affects African Americans. We searched the Medical College of Wisconsin and Froedtert Health i2b2 electronic data warehouse, including more than 1.3 million patients in Southeast Wisconsin, for patients with an HS diagnosis and ≥3 encounters for HS using ICD9 705.83 and ICD10 L73.2 codes. We randomly characterized 373 of 1190 identified patients by retrospective chart review, excluding patients without an encounter for HS treatment. 51.1% (190) of patients were Black or African American (B/AA), 47.0% (175) were White or Caucasian (W/C), 1.9% (7) were other, and 1 patient lacked data. Age at initial presentation was documented in 271 B/AA or W/C patients with a mean age of 27.49 (n = 146) for B/AA and 31.03 (n = 125) for W/C patients. Of 249 patients with documentation of both year of symptom onset and year of diagnosis, the mean delay in diagnosis was 4.34 years (n = 132) for B/AA and 3.18 years (n = 117) for W/C patients. 135 B/AA or W/C patients had documentation of disease severity/stage. 29.5% (23) of B/AA patients had Hurley I as the worst documented stage, 25.6% (20) Hurley II, and 44.9% (35) Hurley III. 43.9% (25) of W/C patients had Hurley I as the worst documented stage, 28.1% (16) Hurley II, and 28.1% (16) Hurley III. 44.2% (84/190) of B/AA patients had seen dermatology for HS, compared with 60.0% (105/175) of W/C patients. Our data suggest B/AA and W/C populations may differ in HS characteristics for reasons that must be further explored.

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Granulomatous reaction to microneedling

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A 49-year-old Caucasian female with a history of type two diabetes mellitus and essential hypertension presented for outpatient evaluation for pruritic tender erythematous scaling plaques on the face that arose abruptly 7 days after a microneedling session to the corresponding areas. The microneedling was performed in a medical spa and a hyaluronic acid, glycerin, zinc, and copper containing serum was applied before the treatment session. The patient had minimal relief of symptoms with BID application of triamcinolone acetonide 0.1% cream for 7 weeks that was prescribed by per primary care provider. The patient denied any systemic symptoms. A 4-mm punch biopsy was performed and the patient was initiated on minocycline 100 mg bid orally, clobetasol 0.05% cream bid × 7 days followed by triamcinolone acetonide 0.1% cream bid × 7 days, then iodoquinol 1%-hydrocortisone 1% cream bid × 7 days, then tacrolimus 0.1% ointment bid. The punch biopsy revealed a granulomatous dermatitis with no foreign body observed with polarized light. Systemic and cutaneous sarcoidosis and infectious etiologies were ruled out before a diagnosis of granulomatous reaction to microneedling was reached. Traditionally, granulomatous hypersensitivity reactions have followed inoculation of metallic elements, silica, zirconium or collagen. Granulomatous hypersensitivity reactions secondary to dermal inoculation of antigenic cosmeceutical products during microneedling is likely severely underreported. The majority of products applied before microneedling sessions are not FDA approved for intradermal injection. This case hopes to bring awareness to adverse reactions to microneedling.

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