Descriptive Study of Nutritional Deficiencies and Core Demographics of Pyoderma Gangrenosum Cases Presenting to Indiana University's Comprehensive Wound Center

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Background/Objective:

Pyoderma Gangrenosum (PG) is a rare, neutrophilic dermatosis characterized by rapidly progressing skin ulcers. PG has been associated with autoimmune inflammatory conditions. Nutritional deficiencies may impact disease progression and wound healing; however, there are no standardized nutritional assessments for PG. This study aims to characterize the clinical and biochemical profiles of patients with PG at Indiana University.

Methods:

A retrospective chart review was conducted using Cerner electronic medical records. Patients with an ICD 9/10 diagnosis of PG were included in the initial screening. Charts were reviewed to assess the accuracy of diagnosis. Collected data included demographics, clinical course, autoimmune comorbidities, and biochemical markers. Laboratory values were collected from the period of PG onset through resolution, with the date of diagnosis being prioritized. Data was entered into REDCap and analyzed descriptively in Excel.

Results:

This 148-patient cohort had a mean age of 49.2 years (SD = 19.41) and BMI of 32.5 kg/m^2 (SD = 10.46). Most patients were White (82.19%), non-Hispanic (97.30%), and Female (64.86%). 56.08% of patients had autoimmune comorbidities. Nutritional assessments were performed in 56.76% of patients. Notably, 44.44% were vitamin D deficient, and 51.28% were iron deficient by their iron saturation.

Conclusion/Potential Impact:

Our cohort is one of the largest single-center studies in the United States. Our findings reveal that PG may occur in patients that are overweight and more likely to have vitamin D deficiency; these associations are nearly as frequent as autoimmune disease associations. Towards our secondary aim of describing associations, PG is frequently associated with autoimmune conditions and metabolic comorbidities, and our study helps narrow down the rate of occurrence.

Despite increased recognition of these associations, gaps remain in the standardized evaluation of nutritional deficiencies in PG. Our findings underscore the need for future research to better define the role of nutritional factors in PG onset, progression, and healing.