Systemic Immune-Inflammation Index (SII) As A Marker Of Inflammation In Pyoderma Gangrenosum

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INTRODUCTION

Pyoderma gangrenosum (PG) is a neutrophilic dermatosis characterized by a high inflammatory burden, whose etiology involves complex interactions between genetic, immune, and environmental factors. [1]

The systemic immune-inflammation index (SII) is a novel biomarker, that is increasingly being used in clinical practice. SII is calculated from three parameters (platelet count, lymphocyte count, and neutrophil count in peripheral blood) and serves as an indicator of both inflammatory status and immune response. [2,3,4,5] This study aims to investigate the SII levels in PG patients.

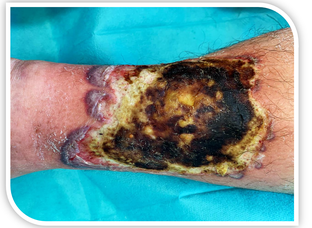
METHODS

A retrospective analysis was conducted on 16 patients affected by PG, without inflammatory comorbidities. Blood samples were collected during the inflammatory phase of PG. Concomitant infections were excluded. SII was calculated using the formula: (platelet count x neutrophil count) / lymphocyte count..

RESULTS

The population includes 11 females (68.75%) and 5 males (31.25%), the average age is 59,68 with a standard deviation of 9. SII mean value is 6.689 with a standard deviation of 500.555.

Parameter	Value
Total number of patients	16
Females	11 (68.75%)
Males	5 (31.25%)
Average age	59.68 (±9)
SII mean value	6.689 (±500.555)



DISCUSSION

The data from our retrospective analysis highlight the markedly elevated SII in PG (mean value 6.689). Althogh SII is also elevated in other inflammatory diseases such as psoriasis, atopic dermatitis, and rheumatoid arthritis, our results show higher values in PG. [2,3,4] One possible explanation is the neutrophilic and platelet-driven inflammatory burden in acute PG lesions, which often correlates with extensive tissue damage and higher overall disease severity. The finding that SII levels in PG can rise well above 6000 underscores the systemic nature of this dermatosis, suggesting a potential role for SII in monitoring disease progression and treatment efficacy. Other conditions, including hidradenitis suppurativa, also demonstrate a link between greater SII and worse clinical outcomes, suggesting the utility of this biomarker across a spectrum of immune-mediated disorders. [5] By integrating SII alongside traditional clinical markers, clinicians may achieve a more comprehensive assessment of inflammatory activity, enabling tailored therapeutic approaches and earlier intervention in severe cases. Although larger multicenter studies are needed to establish uniform cutoff values, our observations support the use of SII as a practical and cost-effective tool for evaluating systemic inflammation in PG and related disorders.

References

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