

LETTER

Comment on “Are erythema multiforme and urticaria related to a better outcome of COVID 19?” Eosinophil count in seven patients with COVID-19 and urticarial rash

Dear Editor,

We read with interest the article by Dastoli et al,¹ in which they hypothesize the possible association of erythema multiforme and urticaria with systemic eosinophilia in patients affected with Coronavirus disease-2019 (COVID-19). There is increasing evidence about the role of eosinophils in the pathophysiology of COVID-19. Eosinopenia is a frequent finding in COVID-19 patients and may have a prognostic value for more severe cases.^{2,3} In contrast, resolution of eosinopenia may be related to better overall outcomes.³ In this respect, Dastoli et al suggest that COVID-19 patients who develop urticaria or erythema multiforme might have systemic eosinophilia, and therefore a possible better outcome of the disease.¹ Herein, we present a series of seven COVID-19 patients with urticarial exanthems, in which we retrospectively review their eosinophil levels and severity of the disease.

A total of seven patients with COVID-19 pneumonia who developed an urticarial exanthem were included. Median age was 58 years (range 32-84), and four patients were female. All patients had pneumonia secondary to SARS-CoV-2 infection, confirmed by real-time reverse transcriptase-polymerase chain reaction from a nasopharyngeal swab. Except for patient 5, all patients were admitted and developed cutaneous manifestations during hospitalization. Absolute and relative counts of Eosinophil before and after the appearance of the urticarial exanthem were retrieved in five patients, whereas two patients only had this investigation after the cutaneous lesions appeared. Overall, only two patients showed eosinophilia by the time of urticarial exanthem, while the remaining five patients had eosinopenia. From the five patients with both investigations (before and after urticaria), only one patient switched from eosinopenia to eosinophilia. We also retrieved the CURB-65 score of the seven patients. CURB-65 is a five-point score, commonly used in the emergency department to stratify the mortality risk and improve management of patients with pneumonia.⁴ Although the low number of patients prevented a statistical analysis, we did not find that eosinophilia was related to a lower CURB-65 score in patients with an urticarial rash. Conversely, eosinophilia was present in two patients with a CURB-65 score of 1, while the two patients with the lower CURB-65 (score 0) did have eosinopenia (Table 1).

TABLE 1 Demographic, clinical, and laboratory data of patients with COVID-19 and urticarial rash

Patient	Sex, age	CURB-65 score ^a	Eosinophils before urticarial rash, 10 ³ /μL (%) ^b	Eosinophils after urticarial rash, 10 ³ /μL (%)
1	F, 32	0	-	0.01 (0.28%)
2	F, 49	1	0.01 (0.08%)	0.05 (0.33%)
3	M, 58	1	0.06 (0.67%)	0.64 (6.84%)
4	F, 59	1	-	0.73 (8%)
5	M, 46	0	0.01 (0.17%)	0.05 (0.85%)
6	M, 75	2	0.02 (0.30%)	0.02 (0.04%)
7	F, 84	1	0.30 (7.03%)	0.01 (0.08%)

^aCURB-65 is a score to estimate mortality risk in patients with pneumonia based on five points (Confusion, blood Urea nitrogen >7 nmol/L, Respiratory rate ≥30, systolic Blood pressure <90 mmHg, or diastolic Blood pressure ≤60 mmHg, and Age ≥65).

^bAbsolute count in 10³/μL, reference value 0.1-0.6 × 10³/μL; relative count in %, reference value 1% to 4%. Values with eosinophilia are marked in bold.

In conclusion, we find very interesting the hypothesis that the presence of eosinophilia in patients with urticarial rash might be related to a better outcome of COVID-19. However, our observation in this small case series does not support this theory and it needs further investigation.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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