Mepolizumab for the Treatment of Eosinophilic Cystitis: Reply

Trefond L[1,2], Kahn JE[3]
[1]*Service de Médecine Interne, CHU Gabriel Montpied, Clermont-Ferrand, France*
[2]*Université Clermont Auvergne, Inserm U1071, M2iSH, USC-INRA 1382, Clermont-Ferrand, France*
[3]*National Reference Center for Hypereosinophilic Syndromes, CEREO, France; Université Paris-Saclay, Assistance Publique - Hôpitaux de Paris, Department of Internal Medicine, Ambroise Paré Hospital, Boulogne-Billancourt, France*

J Investig Allergol Clin Immunol 2024; Vol. 34(4): 278-279
doi: 10.18176/jiaci.0980

Key words: Hypereosinophilic syndrome. Eosinophilic cystitis. Mepolizumab.

Palabras clave: Síndrome de hipereosinofílico. Cistitis eosinofílica. Mepolizumab.

To the Editor:

We read with interest the publication by Wang et al [1] on the off-label use of mepolizumab for the treatment of eosinophilic cystitis in a 77-year-old man. The authors presented a new case of idiopathic eosinophilic cystitis in a patient who was successfully treated with mepolizumab. We appreciate the authors' reference to our publication on the first 2 cases of eosinophilic cystitis (EC) successfully treated with mepolizumab [2].

In their report, Wang et al [1] highlighted an initial biological inflammatory syndrome, with C-reactive protein of 40 mg/L and an erythrocyte sedimentation rate of 25 mm/h, while in the literature review of 135 patients with EC in 2000 [3], only 7% of patients had an elevated erythrocyte sedimentation rate. The 2 patients we report [2] did not have inflammatory syndrome. We also lack details on the eosinophil infiltration rate in the biopsy in the case reported by Wang et al. In our case, the patients had counts of 200/HPF and 180/HPF, that is, significantly higher than the cutoff of 15/HPF in eosinophilic esophagitis [4]. Another surprising aspect is the absence of imaging abnormalities in the study of Wang et al, whereas in our cases, imaging facilitated diagnosis and provided clear evidence of improvement under treatment.

Nevertheless, the case is compelling and aligns with an organ-restricted presentation without hypereosinophilia, similar to patient 1 in our report [2].

The Table summarizes the key elements from these 3 cases [1,2].

Despite the limited follow-up in the report of Wang et al [1], there have been no reported relapses. This supports the notion, as we previously suggested, that mepolizumab is a promising option for the off-label treatment of idiopathic EC.

Table. Characteristics of 3 Cases of Eosinophilic Cystitis Successfully Treated With Off-Label Mepolizumab

	Case 1[a]	Case 2[a]	Case 3[b]
Country	France	France	China
Age, y	69	15	77
Symptoms	Hematuria, dysuria, urinary frequency	Abdominal pain, pollakiuria, dysuria	Difficulty in urination, frequent urination
Eosinophilia, $\times 10^9$/L	660	3000	850
IgE	1500 kU/L	1800 kU/L	175 IU/mL
CRP, mg/L	<5	<5	40
Urine eosinophils	90/100 cells		
Biopsy	200/HPF	180/HPF	Eosinophilic infiltration
Treatment before mepolizumab	Prednisone	Prednisone	Methylprednisolone and *Tripterygium wilfordii*
Other organ	-	Eosinophilic gastroenteritis	-
Type of HES[c]	Organ-restricted without HE	Multi-organ involvement with severe HE	Organ-restricted without HE
Relapse	-	-	-
Follow up	1 y	15 y	6 mo

Abbreviations: CRP, C-reactive protein; HE, hypereosinophilia; HES, hypereosinophilic syndrome; HPF, high-power field.
[a]Reference [2].
[b]Reference [1].
[c]Reference [5].

Funding

The authors declare that no funding was received for the present study.

Conflicts of Interest

J.-E. Kahn reports consulting fees for advisory boards from AstraZeneca and GSK, research funding from AstraZeneca and GSK, and participation in clinical trials sponsored by AstraZeneca. The remaining author declares that he has no conflicts of interest.

References

1. Wang G, Zhuo N, Liu Z. Off-label Use of Mepolizumab: A Potential Therapeutic Option for Eosinophilic Cystitis. J Investig Allergol Clin Immunol. 2024;34(4):305-6.
2. Trefond L, Guy L, Darcha C, Gallon A, Thomas-Monier R, Berdugo K, et al. Efficacy of mepolizumab for the treatment of eosinophilic cystitis: a report of two cases. J Investig Allergol Clin Immunol. 2023 Oct 17:0. doi: 10.18176/jiaci.0954. Epub ahead of print. PMID: 37850410.
3. Van den Ouden D. Diagnosis and management of eosinophilic cystitis: a pooled analysis of 135 cases. Eur Urol. 2000 Apr;37(4):386-94.
4. Attwood S, Epstein J. Eosinophilic oesophagitis: recent advances and practical management. Frontline Gastroenterology. 2021 Dec 1;12(7):644-9.
5. Valent P, Klion AD, Roufosse F, Simon D, Metzgeroth G, Leiferman KM, et al. Proposed refined diagnostic criteria and classification of eosinophil disorders and related syndromes. Allergy. 2023 Jan;78(1):47-59.

Manuscript received November 29, 2023; accepted for publication December 7, 2023.

Ludovic Trefond

Université Clermont Auvergne, Inserm U1071, M2iSH, USC-INRA 1382
Service de Médecine Interne
CHU Gabriel Montpied Clermont Ferrand
63000 Clermont Ferrand, France
E-mail: ltrefond@chu-clermontferrand.fr