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Letter to the Editor

Hypertensive crisis following mepolizumab in a patient with severe eosinophilic asthma: a letter to the editor

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Dear Editor,

Mepolizumab, an IL-5 targeting humanized monoclonal antibody, has become a key treatment option for patients with severe eosinophilic asthma by effectively reducing eosinophilic inflammation and asthma exacerbations.[1-3] Although generally considered safe, its full adverse effect profile remains to be fully characterized. Herein, we report a rare but potentially serious adverse event not previously documented in the literature.

We describe a 52-year-old female with a longstanding history of asthma and idiopathic thrombocytopenic purpura (ITP), who developed a hypertensive crisis shortly after receiving her first dose of mepolizumab. Her maintenance therapy included inhaled corticosteroids and long-acting beta-agonists. Initial lab results showed a white blood cell count of

Table 1. Laboratory findings on admission

White blood count (x10^9/L)	7.22
Neutrophil (x10^9/L)	4.63
Lymphocyte (x10^9/L)	1.9
Eosinophil (x10^9/L)	0.22
Hemoglobin (g/dl)	12.6
Platelets (x10^9/L)	184

Within 15 minutes of administration, the patient experienced dyspnea, chest pain, and elevated blood pressure (140/90 mmHg). She was treated with 10 mg of amlodipine, and her ECG was unremarkable. However, within an hour, her blood pressure escalated to 180/100 mmHg, accompanied by unilateral blurred vision and headache. Neuroimaging with cranial CT and diffusion MRI showed no abnormalities. Notably, her eosinophil count had decreased to 10/mm^3.

Treatment with 4 mg doxazosin at 30 and 60 minutes post-injection resulted in gradual normalization of blood pressure and clinical recovery. The patient was monitored for 24 hours before discharge (Table 2).

Table 2. Post-treatment blood pressure monitoring

Time	Blood pressure (mmHg)	Treatment
15. minutes	140/90	Amlodipin 10 mg
30. minutes	155/90	Doxazosin 4 mg
45. minutes	170/95	
60. minutes	180/100	Doxazosin 4 mg
120. minutes	155/90	
240. minutes	130/80	

Common side effects of mepolizumab reported in previous studies include headache, injection site reactions, back pain, and fatigue.[4,5] There are also rare reports of non-cardiac chest pain.[6] To our knowledge, this is the first report describing hypertensive crisis accompanied by transient visual symptoms immediately following mepolizumab administration.

This case underscores the importance of vigilant cardiovascular monitoring, particularly within the first hour after injection. Although the exact mechanism remains uncertain, potential interactions between eosinophil depletion and vascular regulation merit further research.

We recommend clinicians to closely monitor blood pressure after mepolizumab administration, especially in patients with risk factors for hypertension or cardiovascular disease.

ETHICAL DECLARATIONS

Informed Consent

Written informed consent was obtained from the patient for the publication of this correspondence and any related clinical details.

Peer Review Process

This letter was externally peer-reviewed.

Conflict of Interest

The authors declare no conflicts of interest.

Financial Disclosure

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Author Contributions

All authors contributed to the conceptualization and drafting of this correspondence and approved the final version for publication.

REFERENCES

1. McGregor MC, Krings JG, Nair P, Castro M. The role of biologics in asthma. *Am J Respir Crit Care Med*. 2019;199(4):433-445. doi:10.1164/rccm.201810-1944CI
2. Fricker M, Harrington J, Hiles SA, Gibson PG. Mepolizumab depletes inflammatory but preserves homeostatic eosinophils in severe asthma. *Allergy*. 2024;79(11):3118-3128. doi:10.1111/all.16267
3. Kallieri M, Papaioannou AI, Loukides S. Mepolizumab for severe eosinophilic asthma. *Expert Rev Respir Med*. 2025:1-13. doi:10.1080/17476348.2025.2545571
4. Fala L. Nucala (mepolizumab): the first IL-5 antagonist monoclonal antibody approved by the FDA for maintenance treatment of severe asthma. *Am Health Drug Benefits*. 2016;9(Spec Feature):106-110.
5. Pelaia C, Calabrese C, Vatrella A, et al. Benralizumab: From the basic mechanism of action to its potential use in the biological treatment of severe eosinophilic asthma. *Biomed Res Int*. 2018;2018:4839230. doi:10.1155/2018/4839230
6. Korbitz PM, Gallagher JP, Bhogal N, Manatsathit W. A unique case of non-cardiac chest pain caused by mepolizumab: case report and review of the literature. *J Neurogastroenterol Motil*. 2020;26(1):162-163. doi:10.5056/jnm19175