Comparing histamine intolerance and non-clonal mast cell activation syndrome

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The work of Schnedl et al.¹ which assesses diagnostic clinical symptoms for histamine intolerance (HI) is an important step towards furthering the understanding of this clinical entity. What is clear from their publication, however, is that the predictive values of clinical symptoms alone are generally poor. Although they suggest assessing circulating levels of the enzyme diamine oxidase for diagnostic purposes, most patients with clinical HI do not have a deficiency of this enzyme.^{2,3} Overall, the clinical presentation of HI is generally confusing. It is of note that much of the published literature on this topic arises from central Europe.

The clinical symptomatology of HI, although diverse and hence confusing, has a remarkable similarity to non-clonal mast cell activation syndrome (NC-MCAS) which is gathering increasing attention, but especially in North America.⁴⁻⁷ Whereas patients with severe NC-MCAS are a more definitive subset, the majority of patients with the NC-MCAS diagnosis are difficult to understand, and the entity is considerably heterogeneous from a clinical perspective.⁸ NC-MCAS can be relapsing or indolent, but not as severe as more aggressive forms of mastocytosis.

In both HI and NC-MCAS, dietary factors may have relevance in onset and management of disease.⁹ In both HI and NC-MCAS, reliable diagnostic laboratory markers are not rec-

ognized for most patients.¹⁰ As syndromic and spectral diagnoses, there is considerable overlap for these diseases, and both clearly concern the actions of histamine in the least. These features beckon the need for researchers in these 2 domains to come together in search of commonalities for causation, reliable laboratory markers, and treatment. Given the similarity of these 2 entities, it would seem essential for Schnedl et al.¹ to consider whether their patients, some or all, could be considered within the NC-MCAS spectrum. Likewise, it would be imperative for researchers who publish on the topic of NC-MCAS to consider whether their patients may have HI.

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CONFLICT OF INTEREST

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REFERENCES

1. Schnedl WJ, Lackner S, Enko D, Schenk M, Holasek SJ, Mangge H. Evaluation of symptoms and symptom combinations in histamine intolerance. *Intest Res* 2019;17:427-433.
2. Maintz L, Novak N. Histamine and histamine intolerance. *Am J Clin Nutr* 2007;85:1185-1196.
3. Schwelberger HG. Histamine intolerance: a metabolic disease? *Inflamm Res* 2010;59 Suppl 2:S219-S221.
4. Hamilton MJ, Hornick JL, Akin C, Castells MC, Greenberger NJ. Mast cell activation syndrome: a newly recognized disorder with systemic clinical manifestations. *J Allergy Clin Immunol* 2011;128:147-152.
5. Cardet JC, Castells MC, Hamilton MJ. Immunology and clinical manifestations of non-clonal mast cell activation syndrome. *Curr Allergy Asthma Rep* 2013;13:10-18.
6. Frieri M. Mast cell activation syndrome. *Clin Rev Allergy Immunol* 2018;54:353-365.
7. Hamilton MJ. Nonclonal mast cell activation syndrome: a growing body of evidence. *Immunol Allergy Clin North Am* 2018;38:469-481.
8. Valent P, Akin C. Doctor, I think I am suffering from MCAS: differential diagnosis and separating facts from fiction. *J Allergy Clin Immunol Pract* 2019;7:1109-1114.
9. Castells M, Butterfield J. Mast cell activation syndrome and mastocytosis: initial treatment options and long-term management. *J Allergy Clin Immunol Pract* 2019;7:1097-1106.
10. Valent P, Bonadonna P, Hartmann K, et al. Why the 20% + 2 tryptase formula is a diagnostic gold standard for severe systemic mast cell activation and mast cell activation syndrome. *Int Arch Allergy Immunol* 2019;180:44-51.