Dr. Fernández-Fernández and Dr. Sesma reply

To the Editor:

We thank Dr. Park and colleagues¹ for their interest in our letter². They note another mechanism by which N-acetylcysteine might be useful as adjuvant therapy for patients with antineutrophil cytoplasmic antibody (ANCA)-associated vasculitis. The studies that they cite^{3,4,5}, along with those that we mentioned^{6,7}, could be the basis to evaluate the hypothetical potential of high-dose acetylcysteine as an anti-vasculitic drug in randomized, placebo-controlled trials in humans. Meanwhile, the IFIGENIA trial (Idiopathic Pulmonary Fibrosis International Group Exploring N-Acetylcysteine I Annual study)⁸ revealed an interesting finding for patients treated with azathioprine that may have been overlooked. The dose of azathioprine in this trial was similar to doses used in patients with ANCA-associated vasculitis, and the bone marrow toxicity was significantly less frequent with acetylcysteine than with placebo. We believe that this lower hematologic toxicity justifies the study of high-dose acetylcysteine in patients with ANCA-associated vasculitis treated with azathioprine, regardless of a hypothetical anti-vasculitic action.

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REFERENCES

1. Park SJ, Pai KS, Kim JH, Shin JI. Beneficial effect of N-acetylcysteine on antineutrophil cytoplasmic antibody-associated vasculitis [letter]. *J Rheumatol* 2012;39:186.

2. Fernández-Fernández FJ, Sesma P. Acetylcysteine as adjuvant therapy for vasculitis associated with antineutrophil cytoplasmic antibody. *J Rheumatol* 2011;38:785.
3. Spapen H, Zhang H, Demanet C, Vleminckx W, Vincent JL, Huyghens L. Does N-acetyl-L-cysteine influence cytokine response during early human septic shock? *Chest* 1998;113:1616-24.
4. Hsieh SC, Yu HS, Cheng SH, Li KJ, Lu MC, Wu CH, et al. Anti-myeloperoxidase antibodies enhance phagocytosis, IL-8 production, and glucose uptake of polymorphonuclear neutrophils rather than anti-proteinase 3 antibodies leading to activation-induced cell death of the neutrophils. *Clin Rheumatol* 2007;26:216-24.
5. Willems J, Joniau M, Cinque S, van Damme J. Human granulocyte chemotactic peptide (IL-8) as a specific neutrophil degranulator: Comparison with other monokines. *Immunology* 1989;67:540-2.
6. Wu Z, Turner DR, Oliveira DB. Antioxidants inhibit mercuric chloride-induced early vasculitis. *Int Immunol* 2002;14:267-73.
7. Guilpain P, Servettaz A, Batteux F, Guillemin L, Mouthon L. Natural and disease associated anti-myeloperoxidase (MPO) autoantibodies. *Autoimmun Rev* 2008;7:421-5.
8. Demedts M, Behr J, Buhl R, Costabel U, Dekhuijzen R, Jansen HM, et al for the IFIGENIA Study Group. High-dose acetylcysteine in idiopathic pulmonary fibrosis. *N Engl J Med* 2005;353:2229-42.

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