□ LETTERS TO THE EDITOR □

Role of Systemic Inflammation in the Relationship between Metabolic Syndrome and Cigarette SmokingLuca Mascitelli¹ and Francesca Pezzetta²**Key words:** metabolic syndrome, cigarette smoking, inflammation**(DOI: 10.2169/internalmedicine.46.6315)**

To the Editor Miyatake and colleagues found that cigarette smoking is closely linked to metabolic syndrome in the Japanese population (1). We suggest that an ongoing inflammatory response may be contributing to this association. Increasing levels of inflammatory biomarkers have been shown to be elevated in subjects with metabolic syndrome (2, 3). On the other hand, levels of C-reactive protein, the classic marker of systemic inflammation, have been shown to be substantially higher in smokers than in non-smokers (4, 5). Thus, the activation of inflammation may be a potential mechanism by which tobacco smoke increases the risk of metabolic syndrome, as in that of type 2 diabetes (6).

References

1. Miyatake N, Wada J, Kawasaki Y, Nishii K, Makino H, Numata T. Relationship between metabolic syndrome and cigarette smoking in the Japanese population. *Intern Med* **45**: 1039-1043, 2006.
2. Ridker PM, Buring JE, Cook NR, Rifai N. C-reactive protein, the metabolic syndrome, and risk of incident cardiovascular events: an 8-year follow-up of 14,719 initially healthy American women. *Circulation* **107**: 391-397, 2003.
3. Devaraj S, Rosenson RS, Jialal I. Metabolic syndrome: an appraisal of the pro-inflammatory and procoagulant status. *Endocrinol Metab Clin North Am* **33**: 431-453, 2004.
4. Tracy RP, Psaty BM, Macy E, et al. Lifetime smoking exposure affects the association of C-reactive protein with cardiovascular disease risk factors and subclinical disease in healthy elderly subjects. *Arterioscler Thromb Vasc Biol* **17**: 2167-2176, 1997.
5. Woodward M, Rumley A, Lowe GDO, Tunstall-Pedoe H. C-reactive protein: associations with haematological variables, cardiovascular risk factors and prevalent cardiovascular disease. *Br J Haematol* **122**: 135-141, 2003.
6. Mascitelli L, Pezzetta F. Tobacco smoke, systemic inflammation and the risk of type 2 diabetes. *J Intern Med* **259**: 332, 2006.

© 2007 The Japanese Society of Internal Medicine
<http://www.naika.or.jp/imindex.html>

¹ Sanitary Service, Comando Brigata alpina Julia, Udine, Italy and ² Cardiology Service, Ospedale di San Vito al Tagliamento, San Vito al Tagliamento, Italy

Received for publication October 16, 2006; Accepted for publication December 5, 2006

Correspondence to Dr. Luca Mascitelli, lumaschi@libero.it