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ADDITIVE EFFECTS OF OBSTRUCTIVE SLEEP APNOEA SYNDROME AND HYPERTENSION ON THE INFLAMMATORY REACTION

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Objective Obstructive sleep apnoea syndrome (OSAS) and hypertension are risk factors for cardiovascular disease. Recently, it has been shown that arteriosclerosis in OSAS patients with hypertension (HT) is much more severe than that in patients with only HT or OSAS alone. The authors hypothesize that an inflammatory reaction is involved in the pathogenesis of aggravation of arteriosclerosis of OSAS patients with HT.

Methods Based on the apnoea-hypopnoea index, 118 persons were divided into four groups: OSAS+HT group (n=58), HT group (n=20), OSAS group (n=20) and the control group (n=20). Full polysomnography monitoring was performed on all the patients. Serum levels of IL-6 (interleukin 6), sCD40L, hsCRP (high-sensitivity C-reactive protein), sICAM-1 (soluble intercellular adhesion molecule-1), and VCAM-1 (vascular cell adhesion molecule-1) were detected by enzyme linked immunosorbent assay.

Results Serum levels of IL-6, sCD40L, hsCRP, sICAM-1 and VCAM-1 in the OSAS+HT group were higher than those in the OSAS, HT and control groups ($p<0.05$). Serum levels of all the inflammatory factors in the OSAS and HT groups were higher than those of the control group. Serum levels of hsCRP, sICAM-1 and VCAM-1 were positively related with the apnoea-hypopnoea index and the degree of oxygen desaturation.

Conclusion The inflammatory reaction participates in the pathogenesis of hypertension and OSAS, and this reaction is aggravated in hypertensive patients with OSAS.