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THE EFFECT OF GHRELIN ON INFLAMMATORY MARKERS IN APNEIC PATIENTS WITH/WITHOUT CORONARY HEART DISEASE

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Objectives Inflammation is proven to be associated with obstructive sleep apnoea (OSA), as well as coronary heart disease (CHD). Ghrelin, as an anti-inflammatory factor, may play a key role in mediating the inflammation in apneic patients with/without CHD. Therefore, the aim of this study was to investigate ghrelin and pro-inflammatory cytokines in apneic patients with/without CHD and assess the effects of ghrelin on these cytokines.

Methods Plasma levels of ghrelin, interleukin-6 (IL-6) and tumour necrosis factor α (TNF- α) were measured in 63 patients with newly diagnosed OSA and/or CHD. These patients were classified into three groups (21 with OSA, 21 with OSA and CHD, and 21 with CHD), matched for age, sex, body mass index, and the severity of OSA or CHD.

Results Plasma ghrelin levels were increased, while IL-6 and TNF- α were decreased in OSA patients with or without CHD, when compared with similar clinical characteristics CHD controls. Specifically, the differences were statistically significant between patients with OSA alone and CHD alone ($p < 0.05$). Furthermore, plasma ghrelin levels were positively correlated with AHI and negatively correlated with plasma TNF- α ($p < 0.05$). These correlations remained after adjustment for waist and neck circumferences. However, there was no significant correlation between ghrelin and IL-6 ($p < 0.05$).

Conclusions In conclusion, our study found that increased plasma ghrelin levels might be associated with decreased TNF- α , independent of body fat distribution, suggesting that higher ghrelin may partially negate the pro-inflammatory effects of OSA. Further large-scale and prospective studies are needed to confirm these effects.