

Subclinical Cushing's Syndrome and Metabolic Disorder

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The concept of subclinical Cushing's syndrome stands on the presence of adrenocorticotrophic hormone-independent subclinical hypercortisolism without a clear Cushingoid phenotype and may be observed in patients with an incidentally found adrenal adenoma [1]. Kim et al. [2] found that the prevalence of subclinical Cushing's syndrome in Korean patients with adrenal incidentaloma was 7.1% (19 of 268 patients), which suggests that subclinical hypercortisolism is commonly found in patients with this disorder. Moreover, the presence of subclinical hypercortisolism in these patients was also associated with an increased prevalence of cardiovascular disease risk factors such as diabetes and hypertension [2]. As findings shown in Kim's study, subclinical hypercortisolism is the most common hormonal abnormality in patients with adrenal incidentaloma [3] and even a very low excess of cortisol in patients with subclinical Cushing's syndrome may contribute to the development of metabolic disorders such as obesity, diabetes, hypertension, and osteoporosis [1,4]. Thus, there has been a recent rise in interest regarding the diagnosis and management of subclinical Cushing's syndrome.

A recent study by Di Dalmazi et al. [5] observed that the incidences of cardiovascular events and mortality were higher in patients with subclinical Cushing's syndrome compared to those with non-secreting adrenal incidentalomas over a mean follow-up period of 7.5 years. These authors suggested that this difference might be attributable to the relationship between subclinical cortisol excess and cardiovascular disease risk factors. The finding that subclinical hypercortisolism can harm patients implies that the management of subclinical Cushing's syndrome

would be a beneficial strategy to mitigate the effects of this disease. However, there is insufficient evidence to conclude which management strategy may be most effective [1]. To date, the majority of studies investigating this issue have been conducted using retrospective and cross-sectional designs with small sample sizes and a variety of definitions. Only one prospective study has been published showing that laparoscopic adrenalectomy is more beneficial than conservative management for the improvement of cardiovascular disease risk factors [6].

Thus, it is necessary to conduct a high-quality prospective study of the long-term outcomes of patients with subclinical Cushing's syndrome, including their natural histories and the impending complications and/or risk factors. Furthermore, prospective studies should evaluate the effects of different management strategies on cardiovascular disease events and mortality in patients with adrenal incidentaloma and subclinical Cushing's syndrome [1,6]. Currently, a multicenter, randomized, controlled prospective study assessing the long-term metabolic effects of adrenalectomy in Korean patients with adrenal incidentalomas and subclinical Cushing's syndrome is underway (Clinicaltrial.gov: NCT01383420). The findings of this study will provide further insight into the effects of the management of subclinical Cushing's syndrome on metabolic disorders.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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