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Effect of Hyperthyroidism on Preventing Renal Insufficiency

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Both hyperthyroidism and hypothyroidism affect the glomerular filtration rate (GFR), tubular function, and electrolyte homeostasis; these effects are reversible after restoring euthyroidism [1]. Many studies have shown that hypothyroidism has a definite effect on renal function. However, only a few clinical studies have investigated the effect of hyperthyroidism on renal function, most likely due to the low prevalence of hyperthyroidism. Furthermore, most previous studies recruited a limited number of patients with a relatively short-term follow-up period. To fill in the missing pieces, we need a large-scale epidemiological study with long-term follow-up investigating the effect of hyperthyroidism on renal dysfunction.

As described in their article published in this issue, Cho et al. [2] have found a piece of the puzzle, answering a key question: "Do patients with Graves' disease (GD) have a higher risk for developing end-stage renal disease (ESRD)?"

Cho et al. [2] retrospectively analyzed claims-based data from the Korean National Health Insurance Database and biannual health checkup data to determine the risk of developing ESRD in the GD population compared with matched healthy controls (over 400,000 subjects in each group). They found that GD patients had an almost 50% lower risk of developing ESRD than matched controls. They also showed supporting data from subgroup analyses. A higher baseline GFR, a longer treatment duration, and a higher cumulative dose of medication for GD were significant protective factors against ESRD.

This is the first epidemiological study investigating the effect of GD on renal dysfunction with long-term follow-up. I hope that this study will clarify directions for further clinical studies to prove the benefit of levothyroxine treatment for those who are susceptible to renal insufficiency, such as elderly patients and those with diabetes or hypertension.

CONFLICTS OF INTEREST

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

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REFERENCES

1. Iglesias P, Bajo MA, Selgas R, Diez JJ. Thyroid dysfunction and kidney disease: an update. Rev Endocr Metab Disord 2017;18:131-44.
2. Cho YY, Kim B, Shin DW, Jang HR, Kim BY, Jung CH, et al. Graves' disease and the risk of end-stage renal disease: a Korean population-based study. Endocrine Metab 2022;37:281-9.

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