Dear Professor,

We would like to express our gratitude for your thorough review of our manuscript. Furthermore, we sincerely appreciate the opportunity you've given us to resubmit our revised manuscript. We have diligently addressed the revisions based on your valuable feedback, as outlined below.

Reviewer 1:

1. **It is recommended to discuss the synergistic impact and the interaction of selenium and vitamin D.**

R: Thank you for your professional guidance. We have reviewed all relevant literature and added a paragraph in the manuscript describing the synergistic impact of vitamin D and selenium. The added content is as follows: *In addition to the optimal dosage and duration, the existence of synergy between vitamin D and selenium also remains unclear, as does its mechanism. In one aspect, some evidence suggests that selenium enhances the effect of vitamin D in treating HT. Krysiak R et al.[14] included 47 female HT patients who had normal thyroid function but were deficient in vitamin D. Of these, 23 patients had been treated with selenomethionine for 12 months prior to treatment, while the other 24 patients had not received selenium treatment. They found that after six months of vitamin D treatment, the levels of TPOAb and TGAb in HT patients significantly decreased, and these changes were more pronounced in patients who had received selenomethionine treatment[14]. This indicates that selenium supplementation may enhance the therapeutic effect of vitamin D on HT. In another aspect, although a nutritional study indicated that vitamin D promotes selenium absorption, it is not clear whether vitamin D enhances the efficacy of selenium in treating HT[15]. In summary, there may be a synergistic effect between vitamin D and selenium, but its strength and formation mechanism need to be further explored.*

2. **The manuscript needs to be summarized.**

R: Thank you for your valuable suggestion. We have added a summary at the end of
the manuscript. The added content is as follows: In conclusion, this study highlights the potential benefits of vitamin D and selenium supplementation in improving thyroid function, reducing thyroid antibodies, and optimizing blood glucose and lipid levels in patients with T2DM and HT. Based on current research, we recommend a daily regimen of 4,000 IU of vitamin D and 100-200 μg of selenium for a duration of three to six months. Although our findings are promising, they need to be validated in larger, randomized controlled trials to confirm their efficacy and safety. Future research should focus on the potential synergistic effects of these supplements and further elucidate the long-term impacts on patients with concurrent T2DM and HT.

3. The manuscript contains several grammatical errors and awkward phrasings that detract from its readability. A thorough proofreading and editing process is recommended to improve the overall quality of the writing.

R: Thank you for your reminder. We have invited language editors to polish the grammar and wording of the manuscript to improve its readability.

Reviewer 2:

1. You have to apply the dose regimen on more large sample size.

R: Thank you for your professional guidance. We acknowledge the importance of validating our findings with a larger sample size. To address this, we have added this content to the summary of the manuscript as follows: Although our findings are promising, they need to be validated in larger, randomized controlled trials to confirm their efficacy and safety. Future research should focus on the potential synergistic effects of these supplements and further elucidate the long-term impacts on patients with concurrent T2DM and HT.

We are immensely grateful for your guidance, which has significantly contributed to the refinement of our manuscript.

If there are still issues that we did not notice in this study, please do not hesitate to
inform us. Thank you.

Best regards,

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