

Health-related quality of life of patients with thyroid disease after thyroidectomy

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INTRODUCTION

Quality of life post-thyroidectomy is important as such a condition is both prevalent and chronic. Quality of life outcomes have been known to be affected amongst such patients. After thyroid surgery, certain subsets of patients require thyroid supplementation in order to ensure that their thyroxine levels are kept within physiological ranges. TSH and free T4 are the commonly measured biochemical tests which are referenced to in order to titrate the level of synthetic thyroxine given to the patient. However, in previous literature [1-4] and in our centres, we noted that patients were still complaining of quality of life symptoms despite having their thyroxine levels within a physiological range. In our centres, we noted that when patients were having a high-euthyroid level of free T4, as compared to having a low-euthyroid level of free T4, such complaints were reduced. This was initially noticed in a subset of patients who were receiving thyroid hormone suppressive therapy.

OBJECTIVE

To evaluate with a quantitative questionnaire, the abovementioned clinical observation. If results showed significant differences in quality of life outcomes between patients with and without synthetic thyroxine supplementation, to further investigate the cause of the difference. If positive, the results of this study will be part of a larger study as we postulate if synthetic thyroxine has an equal biochemical action as organic thyroxine, and if it is converted into triiodothyronine as effectively as organic thyroxine. This will then allow us to explore novel treatment strategies and their effects in treating thyroid disease after thyroidectomy.

METHODOLOGY

116 post-thyroidectomy patients from two centres were recruited from follow-up appointments at clinics from 2019 to 2020 and tasked to complete a validated health-related quality of life questionnaire (ThyPRO)[5]. These patients were on a stable thyroxine dose for 3 months, if on supplementation, and were at least 6 months post-surgery. They also were screened to ensure that they did not have any significant comorbidities and were either ECOG status 0 or 1. The patients were then divided into two groups, with one population having total thyroidectomies on synthetic thyroxine and the control group having subtotal and hemithyroidectomies without synthetic thyroxine supplementation. The results from the two cohorts were then compared.

ANALYSIS

The results from the questionnaire were then compiled via various multilinear regressions models based on the optimisation of AIC and were compared. These models were built and analysed using R programming.

RESULTS

Multilinear regressions revealed significant findings ($p < 0.05$) that patients with total thyroidectomies that required synthetic T4 supplementation tended to report an impaired daily life, and that low-euthyroid levels tended to be associated with cognitive symptoms, fatigue symptoms, emotional susceptibility and goitre symptoms. A younger patient age tended to be associated with more cosmetic complaints whereas malignancy was associated with an impaired social life and anxiety symptoms.

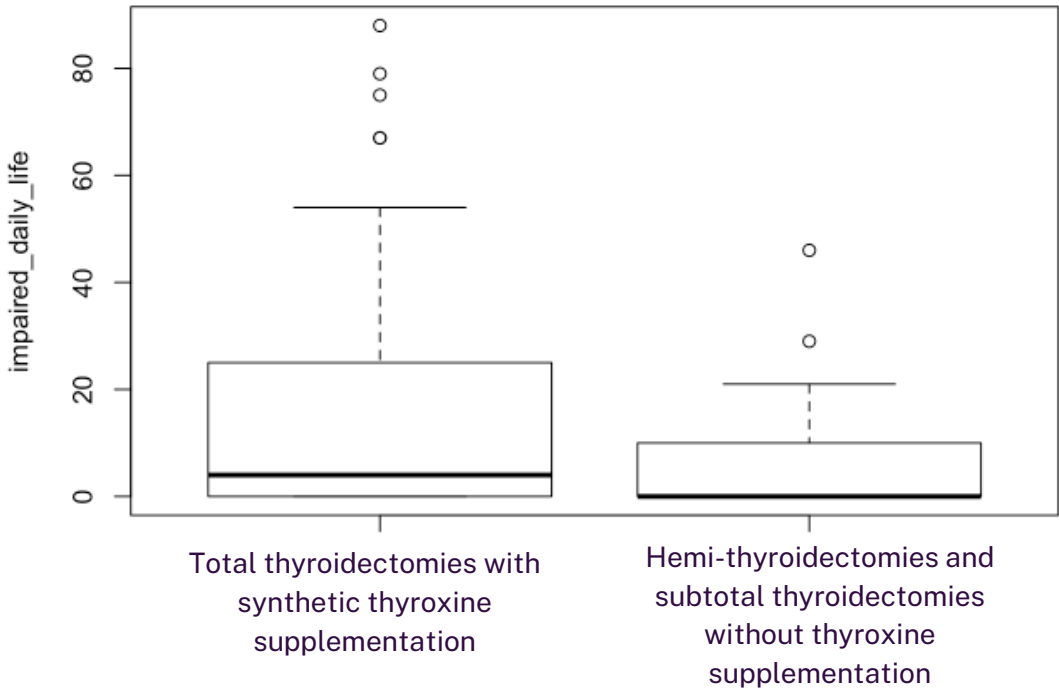


Figure showing Box Plot of Overall Impaired Quality of Daily life in both the case and control groups.

CONCLUSION

Our findings showed that patients who were supplemented with synthetic thyroxine with total thyroidectomies tended to have more quality of life symptoms as compared to the controls who did not require synthetic thyroxine supplementation. The controls tended to have better quality of life outcomes when their ThyPRO Questionnaire results were tabulated. Further studies should be carried out to evaluate a management strategy of suprathreshold levels in patients with total thyroidectomies in order to improve quality of life outcomes of such patients.

RELATED LITERATURE

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