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Short Communication

Importance of proper diet after thyroidectomy in diabetic patients: A short communication

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ABSTRACT

Thyroidectomy is a surgical technique used to treat cancer, noncancerous thyroid enlargement, goiter, and hyperthyroidism. It is a procedure to remove all or sections of the thyroid gland. Most importantly, some common complications are often observed, like weight gain, loss of libido, and vocal cord paresis or paralysis after thyroidectomy. After surgery, diabetic patients are more prone to comorbidities such as kidney disease, eyes health issues, hypertension, obesity, etc. This study highlighted the probable diet and essential home-based nutrition for post thyroidectomy complications. Weight gain is the common complaint of most patients who underwent surgery. Currently, there are insufficient data that do not provide clear conclusions about post-surgery diet plan. However, low carbohydrate, low fat but high veg-protein-rich diet are altogether helpful for weight loss, diabetes, and related complication. More research is needed in the medical nutrition therapies segment to get more dietary options for such patients.

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1. Introduction

There are growing cases with thyroidectomy, a surgical procedure to remove whole or partial thyroid gland often observed in postmenopausal women. There is also a matter to think about post-surgery proper nutrition to get all nutrients in a balanced diet. In addition, diabetes is a significant concern when the same patient is also undergoing to do thyroidectomy.

Mullur et al. (2014) explained that patients with hyperthyroidism often gain weight after thyroid surgery. Low levels of free T4 and T3 are thought to cause weight gain, counteracting the weight-loss effects of higher thyroid hormones. Rotondi et al. (2014) discussed that patients usually become obese after thyroid surgery, even when they have euthyroidism measuring the biochemical parameters. Most of the studies show such issues with mixed results, and some of the papers also have selection bias either at

intervention or sampling grounds.¹

The highest observation on weight gain was seen in menopausal women patients who did their thyroidectomy. Such postmenopausal patients reported more weight than premenopausal women. While there is no other alternative except the removal of the thyroid gland due to thyroid cancer, Graves' disease, or a multinodular goiter that causes pressure symptoms, then in these cases, replacement therapy may restore normal levels of TSH, T4, and T3.² Thyroid damage can also occur due to other factors. Antibodies directed against thyroid tissue antigens and antibodies that react with the thyrotropin receptor by binding to the receptor characterize the aberrant immune response. Some of these antibodies stimulate the thyroid gland by acting as agonists. It is thought that this condition is caused by an anomaly in the management of autoimmune responses, which leads to the development of large amounts of autoantibodies, which may stimulate the thyroid or, in the worst-case scenario, cause thyroid damage and cell death.^{3–5}

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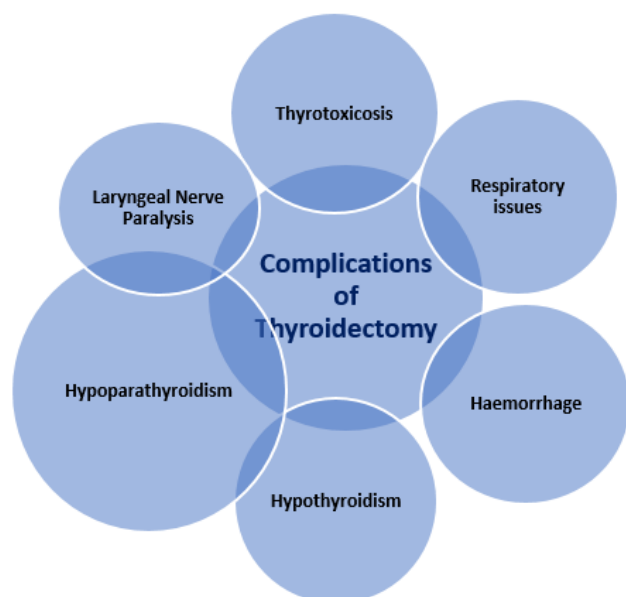


Fig. 1: Post thyroidectomy, the significant complications

In their research study, Chung et al. (2019) showed that diabetes patients exhibited considerably more significant rates of concomitant chronic pulmonary illness, hypertension, obesity, and anemia at the start of the study. Patients with DM were more likely than non-DM patients to have vocal cord paresis or paralysis after thyroid surgery (2% vs. 1.3%; P value=.001).⁶ Katamadze and Marshania (2017) presented a case report in which a diabetic 56-year-old patient underwent thyroidectomy due to papillary microcarcinoma. The patient complained of erectile dysfunction after many days of thyroidectomy. Early detection of ED is critical for successful therapy, particularly in men with ED and several significant endocrine problems. In this example, the patient had a thyroidectomy and soon after the visited clinic.⁷

The best nutrition shall be eating soft meals such as pudding, gelatin, mashed potatoes, apple sauce, or yogurt in more or less quantity subject to patients. Constipation can be solved by eating high-fiber foods and drinking plenty of fluids. Some web content found in google that the keto diet may be helpful; however, a simple low carbohydrate, low fat, and protein-rich diet would manage the excess weight in case of weight gain at post thyroidectomy.^{8,9}

Similar to the 'Western-pattern,' the 'animal food pattern' includes red meats and eggs. Intake of both processed and unprocessed red meat has been linked to an increased risk of obesity. Other features of the 'Western' pattern, fried and fast foods, are not found in this 'animal food pattern'. Furthermore, several items that load firmly on the 'Prudent' practice, such as fish, are also part of the animal food pattern and have been linked to lower weight gain compared to meat intake.¹⁰ Other research, on the other hand, has discovered primarily animal-food trends.

However, such diets may be helpful for a specific type of people but not suitable for all after thyroidectomy. The dietary patterns found in this study were dissimilar from those observed in other nations, with a clear separation between vegan and non-veg diet types emerging, with the exhibiting favorable connections with obesity and central obesity. If more research in India confirms these findings, India's dietary guidelines may propose restricting animal-food intake in favor of a primarily plant-based diet.^{11,12} Proper understanding and subsequent follow-up of low glycemic-indexed and Aggregate Nutrient Density Index (ANDI) listed food are the best ways to make a dietary model for such patients. In general, awareness of diabetic food and lifestyle modifications are the primary aims and objectives of dietitians and public health workers to make people aware of these include thyroidectomy persons.^{13,14}

2. Conclusion

There are no specific diet patterns or plans for thyroidectomy patients with or without diabetes (DM-II). The best way is to practice a low-calorie diet that contains low carbohydrates, mainly simple sugar and low fat but with enough veg protein. In this issue, more researches are needed.

3. Source of Funding

None.

4. Conflict of Interest

None.

References

1. Mullur R, Liu YY, Brent GA. Thyroid hormone regulation of metabolism. *Physiol Rev.* 2014;94(2):355–82. doi:10.1152/physrev.00030.2013.
2. Rotondi M, Croce L, Pallavicini C, Manna LL, Accornero SM, Fonte R, et al. Body weight changes in a large cohort of patients subjected to thyroidectomy for a wide spectrum of thyroid diseases. *Endocr Pract.* 2014;20(11):1151–8. doi:10.4158/EP14125.OR.
3. Available from: <https://www.endocrineweb.com/professional-research-updates/thyroid-disorders/study-shows-connection-between-thyroidectomy-weight->
4. Available from: <https://www.parathyroidandthyroidsurgeon.com.au/will-i-gain-weight-gain-on-thyroxine>.
5. 2021. Available from: <https://www.verywellhealth.com/diet-and-weight-loss-tips-for-thyroid-patients-3233060>. Accessed on 25th.
6. Chung SY, Govindan A, Babu A, Tassler A. Thyroidectomy Complications in Patients with Diabetes Mellitus. *Otolaryngol-Head Neck Surg.* 2019;161(1):46–51. doi:10.1177/0194599819835793.
7. Katamadze N, Marshania Z. Rare case of manifestation of erectile dysfunction soon after thyroidectomy because of thyroid cancer in 56-year-old man with diabetes mellitus type 2 and diabetic neuropathy. *Endocr Abstracts.* 2017;49. doi:10.1530/endoabs.49.EP797.
8. Ahmad FI, Zafereo ME, Lai SY. Management of thyroid neoplasms. In: Flint PW, Francis HW, Haughey BH, editors. *Cummings Otolaryngology: Head and Neck Surgery.* Philadelphia, PA: Elsevier; 2021.

9. Liddy W, Bonilla-Velez J, Triponez F, Kamani D, Randolph G. Principles in thyroid surgery. In: Randolph GW, editor. *Surgery of the Thyroid and Parathyroid Glands*. Philadelphia, PA: Elsevier; 2021.
10. Ospina NS, Castaneda-Guarderas A, Hamidi O, Ponce OJ, Zhen W, Prokop L, et al. Weight Changes After Thyroid Surgery for Patients with Benign Thyroid Nodules and Thyroid Cancer: Population-Based Study and Systematic Review and Meta-Analysis. *Thyroid*. 2018;28(5):639–49.
11. Mozaffarian D, Hao T, Rimm EB, Willett WC, Hu FB. Changes in diet and lifestyle and long-term weight gain in women and men. *N Engl J Med*. 2011;364(25):2392–404. doi:10.1056/NEJMoa1014296.
12. Rosell M, Appleby P, Spencer E, Key T. Weight gain over 5 years in 21,966 meat-eating, fish-eating, vegetarian, and vegan men and women in EPIC-Oxford. *Int J Obes (Lond)*. 2006;30(9):1389–96.
13. Banerjee S. Nutrition Facts, Health Benefits and Aggregate Nutrient Density Index (ANDI) of Roots and Tubers Vegetables. *Agric Food*. 2020;2(12):588–90.
14. Banerjee S. Uses of technologies & social media for diet and exercise awareness among obese, hypothyroid and pre-diabetic women - A case study in West Bengal. *J Xi'an Univ Archit Technol*. 2020;12(3):4682–8.

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