



Association between Lymphocytic Infiltration and Hypothyroidism in Post Thyroidectomy Patients

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Abstract

Hypothyroidism is a known complication after thyroidectomy. There is no method to predict the development of hypothyroidism, In our study we have tried to correlate lymphocytic infiltration and incidence of hypothyroidism. we have studied 100 patients .Among this 62 without lymphocyticinfiltration.38 with lymphocytic infiltration. Of the 38 patients 34 become hypothyroid after 6 months.

Introduction

Thyroidectomy is part of general surgeons'arsenals for the welfare of the patients for more than 100 years. Different indication ranging from benign to malignant condition cured by operation. Known complication including hypothyroidism, hypocalcemia, laryngeal nerve palsy. one of the main complication of thyroidectomy is hypothyroidism.post operative hypothyroidism is poorly studied. Total thyroidectomy inevitably produce hypothyroidism. subtotal thyroidectomy rarely produce hypothyroidism because we are keeping approximately 8 gm of tissue on both sides. In hemithyroidectomy also we retains adequate thyroid tissue. Histopathological examination is routine after thyroidectomyso this study is to predict which patients develop hypothyroidism by assessing lymphocytic infiltration in the specimens.

Materials and Methods

Patients admitted in surgery department of government medical college Kozhikode. Its cohort study with 12 months duration

Inclusion Criteria

Patients undergone hemithyroidectomy and subtotal thyroidectomy in our institution

Exclusion Criteria

Patients with preoperative hypothyroidism and malignancy

Results

The age distribution from 20 to76 .Among the 100 patients 82 were euthyroid and 18 were hyperthyroid Among the 100 patients 62 without lymphocytic infiltration 38 with lymphocytic infiltration. we have assessed the thyroid status of the patients after 1`month the result was 66 euthyroid 34 were hypothyroid. After 3 month the thyroid status is 51 euthyroid 49 hypothyroid. After 6 months euthyroid was 40 hypothyroid was 60 patients .After 6 months patients with

lymphocytic infiltration total number of patients was 38. Among 38 patients 34 were hypothyroid and 4 patients were euthyroid. that is about 89% hypothyroid with lymphocytic infiltration. 11% euthyroid with lymphocytic infiltration. Among the 62 patients without lymphocytic infiltration 36 were euthyroid that is about 58%. 26 patients were hypothyroid that is about 41%. I shows clearly that patients with lymphocytic infiltration more prone to develop hypothyroidism. Even if hypothyroidism depends the surgical technique and amount of thyroid tissue left behind, pathophysiology of goiter. Our study compared lymphocytic infiltration in the specimen and postoperative hypothyroidism. Lymphocytic infiltration is a part of diseases like hashimotos diseases, and other various nonspecific inflammatory condition

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Thyroid status after one month

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid eu	66	66.0	66.0	66.0
d hypo	34	34.0	34.0	100.0
Tota	100	100.0	100.0	
l				

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Thyroid status after 3 months

	Frequency	Percent	Valid Percent	Cumulative Percent
eu	51	51.0	51.0	51.0
hypo	49	49.0	49.0	100.0
Tota	100	100.0	100.0	
l				

Thyroid status after 6 months/ final status

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid eu	40	40.0	40.0	40.0
d hypo	60	60.0	60.0	100.0
Tota	100	100.0	100.0	
l				

Conclusion

Lymphocytic infiltration usually seen hashimotos thyroiditis. riedels thyroiditis. graves disease, But it is seen in colloid goiter and in multinodular goiter also. lymphocytic infiltration produce a extensive inflammatory reaction that leads to fibrosis, follicular space shrink, colloid become absent. deposit of dense material representing IgG found along the basement membrane. both B lymphocyte and T lymphocyte equal in number. T cells cause thyroid dysfunction directly via cytotoxicity or indirectly through cytokines that induce apoptosis of thyroid follicular cells. B cells produce auto antibodies directed against thyroglobulin, thyroid peroxide, TSH-R. these antibodies can either stimulate or inhibit thyroid function. Factors responsible for lymphocytes recruitment and retention in the thyroid is uncertain. Migration of T lymphocytes appears to be regulated by inflammatory and chemokines like CXCL 8, CCL2, CCL 3, CCL 4, CXCL 10. Since lymphocytic infiltration producing extensive fibrosis and follicular destruction these type of patients can develop hypothyroidism after thyroidectomy.

Patients with presence of lymphocytic infiltration in histopathology have more than two times relative risk of having hypothyroidism than those who doesn't have lymphocytic infiltration. This warrant close monitoring of the patients for

hypothyroidism. So lymphocytic infiltration can be used as predictive factor for hypothyroidism after thyroidectomy

Histopathology	thyroid status		total
Lymphocytic infiltration	34	4	38
Non lympho.infiltration	26	36	62
Total	60	40	100