

## Recovery of parathyroid function after total thyroidectomy

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### Abstract

A case is reported with a prolonged recovery of parathyroid function after a total thyroidectomy

### Introduction

A case is reported with a prolonged recovery of parathyroid function after a total thyroidectomy.

### Short Case Report

This 36-year-old male patient had a total thyroidectomy for goiter and bilateral thyroid nodules on March 30, 1988. He was receiving thyroid hormone for hypothyroidism the physical examination confirmed the presence of nodules on both thyroid lobes. The anti-thyroglobulin antibody test was normal, excluding the presence of Hashimoto's disease. He denied any other diseases or allergies. Following the operation, he developed hypoparathyroidism requiring calcium and vitamin D replacement. Since then, he has been followed by his endocrinologist.

The surprising thing is that in 2019, 31 years after the operation the calcium and PTH levels returned to normal. According to the pathologists the parathyroids were not present in the surgical specimen. So apparently, the parathyroid glands along the years obtained circulation from the adjacent tissues and micro vessels restoring its function. The patient is presently taking only one calcium tablet per day, no vitamin D.

The patient is now 59 years old and works as a supervisor chemist in a laboratory of the Power Authority of Puerto Rico in San Juan, Puerto Rico.

### Discussion

Hypocalcemia is an inherent complication after total thyroidectomy for benign or malignant thyroid lesions, it happens in 3-5 % of the cases. If the parathyroids are preserved, they might be de-vascularized but eventually they recover its blood supply from the adjacent tissues and recover their function. It usually takes from six months to a year for the parathyroids to recover its functioning. A high number of patients with hypoparathyroidism recover within six months.

During my over fifty years of practice as a general surgeon with a particular interest in endocrine surgery I performed more than 10,000 operations of the thyroid glands and over 750 parathyroid glands surgeries.

The calcium and vitamin D replacement to correct the hypoparathyroidism should not be too aggressive, the calcium should be at 7.5 to 8.0 mg/dl, not higher to allow the remaining parathyroid glands to start producing the parathyroid hormone. At those levels the numbness and tingling disappear. His last calcium is 8.6 mg /dl and the PTH is 22.75 pg/ml, (Normal 14-65 pg/ml)

This is probably the patient ever reported with the longer period for recovery of parathyroid function after a total thyroidectomy.