

RELATIONSHIP BETWEEN HYPOPARATHYROIDISM AND THE NUMBER OF PARATHYROID GLAND PRESERVED IN THYROIDECTOMY

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Background/Purpose: Parathyroid glands (PTGs) are infrequently found in the surgical specimen of thyroidectomy. The relationship between the number of PTGs preserved and hypoparathyroidism is not well evaluated. We evaluated the clinical characteristics and the frequency of hypoparathyroidism according to the number of PTGs preserved during thyroidectomy, and determined the adequate number of PTGs that needs to be preserved to prevent hypoparathyroidism.

Methods: A retrospective review was performed of 454 patients who underwent transcervical total thyroidectomy for papillary thyroid carcinoma. We analyzed patient and tumor characteristics, number of PTGs found incidentally in the surgical specimen. Hypoparathyroidism was defined as any drop in serum parathyroid hormone level below the normal limit.

Results: PTGs included in the surgical specimen were one gland in 17.6%, two glands in 1.5%, three glands in 0.7%. Presence of PTG in the specimen was an independent risk factor for transient hypoparathyroidism (TH) on multivariate analysis, and N positive tumor on TNM classification was the sole risk factor for permanent hypoparathyroidism (PH). The incidence of TH increased when the number of preserved PTGs was 3 or less than when all of 4 PTGs were preserved. However, the number of preserved PTGs did not influence the incidence of TH. There was no relationship between the number of preserved PTGs and PH.

Discussion & Conclusion: PTG incidentally excised during thyroidectomy increases the incidence of TH, but does not correlate with PH. During total thyroidectomy, at least preserving one PTG with intact blood supply is sufficient to prevent PH.