Hyperparathyroidism Caused by a Supernumerary Parathyroid Gland: A Case Report and Literature Review with Considerations for Challenging Management

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Abstract

OBJECTIVES: 1) To present the management difficulties when primary hyperparathyroidism is caused by an anatomic variant in a supernumerary parathyroid gland (SPG) and 2) to offer the authors' conclusions in the management of this situation based on this experience and a literature review.

METHODS: An individual patient's clinical records were examined and the pertinent literature was reviewed.

RESULTS: We describe a case of primary hyperparathyroidism in a 60-year-old man with critically elevated iCa of 2.09 mmol/L and iPTH of 1164 pg/mL. Preoperative localization studies were negative. A right superior adenoma was identified intraoperatively, but the right inferior gland and left superior glands were found to be grossly enlarged as well and the patient underwent total parathyroidectomy with ½ gland autotransplantation. The iPTH level dropping from 1111 pg/mL to 96 pg/mL after 1 hour of operation and 76 pg/mL after 24 hours. Operative results were in keeping with a supernumerary hyperfunctioning gland.

CONCLUSION: The presence of a supernumerary parathyroid gland (SPG) has been found as an anatomic variant in up to 13% of the population. While the majority of the population have four parathyroid glands, the remaining 13% have additional parathyroid glands. Supernumerary parathyroid glands are responsible for 1.1% of initial operative failures. The presence of a supernumerary parathyroid gland complicates the management of primary hyperparathyroidism. Diagnostic imaging and literature review are necessary in the setting of a total or subtotal parathyroidectomy when an SPG cannot be identified.