

PERSISTENT PRIMARY HYPERPARATHYREOIDISM

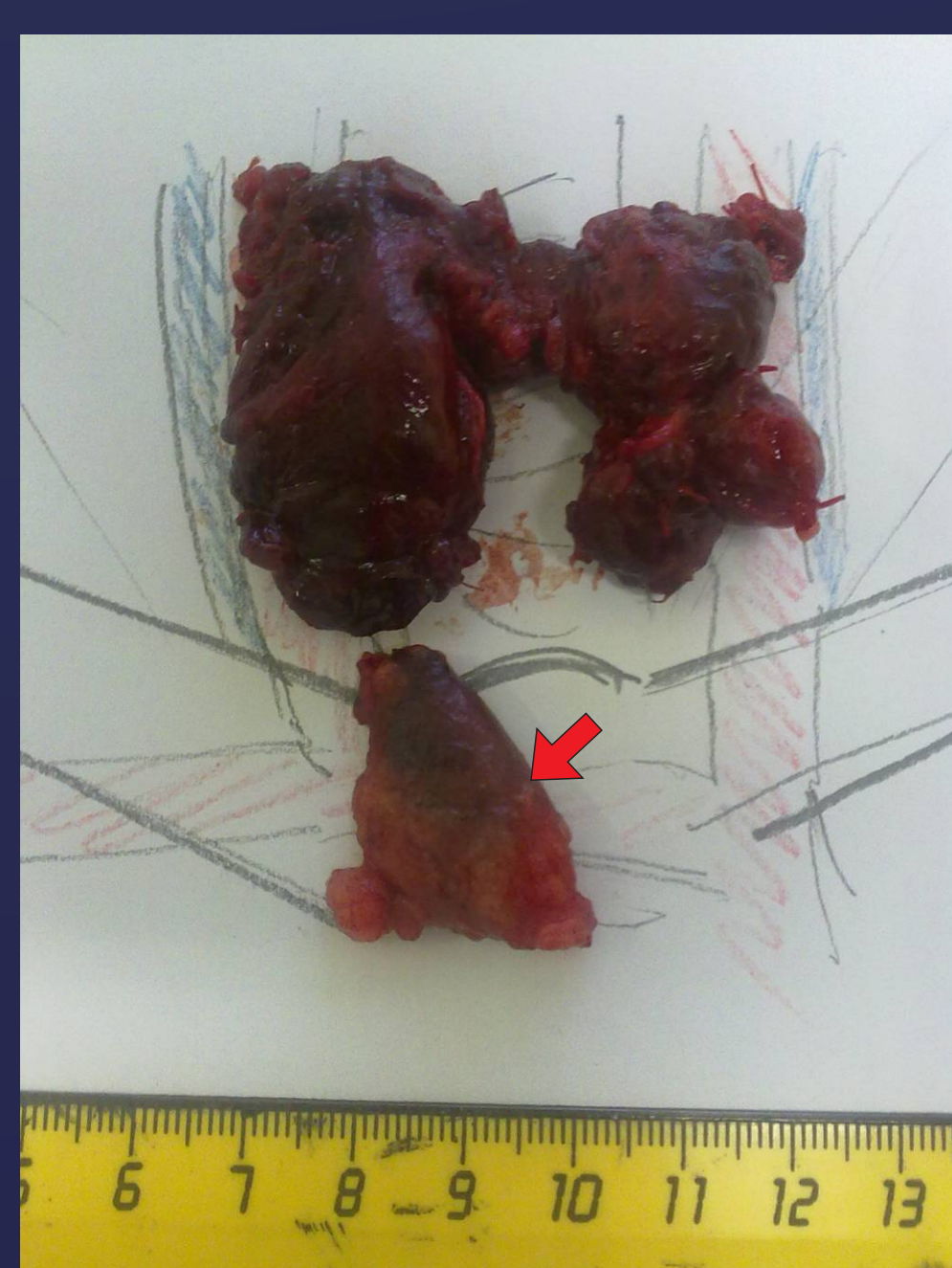
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Introduction: Achievement of stable normocalcemia (88-98.8%) is considered a criterium of efficiency of surgical operations for primary hyperparathyroidism (PHPT) (P.Goudet et al, 2001; M.A. Zeiger, 1997). In 1-15% of cases, persistence of PHPT is noted (Mariani G. et al, 2003; C. Mariette et al, 1998).

Description of methods: In 110 of 175 patients (aged 14-72 years), parathyroid adenoma was verified, in 57 – hyperplasia, and in 8 – parathyroid cancer. All patients underwent determination of total and ionized calcium levels, blood parathyroid hormone (PTH) levels, ultrasound imaging, PTG scintigraphy with 99mTc-sestamibi or single photon emission computed tomography (SPECT) as well as roentgen computed tomography.

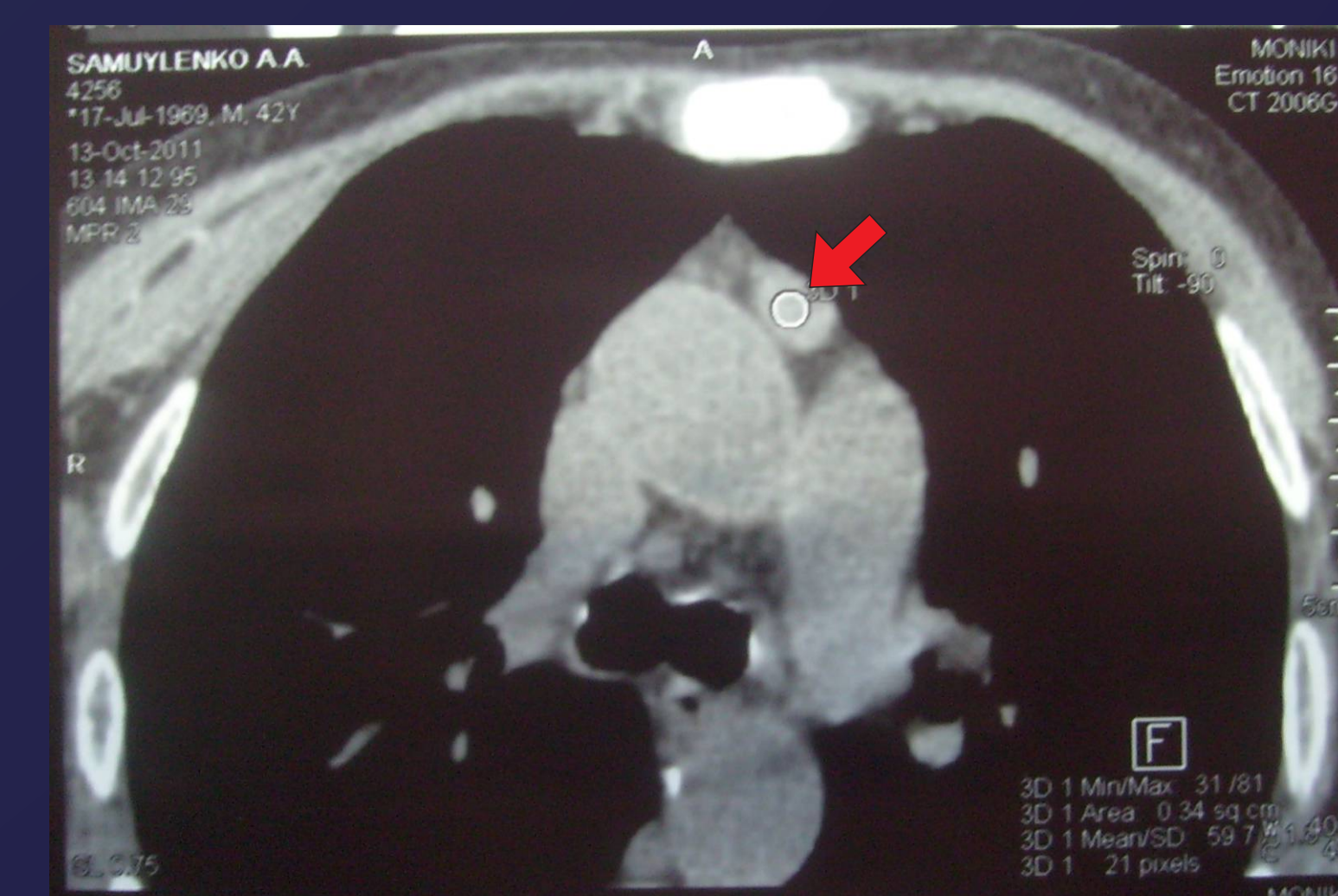
Results: In 7 patients, persistent PHPT was revealed due to insufficient operation volume in parathyroid hyperplasia. During first operation, 1 pathological gland was removed in 4 patients, 2 glands – in 2, and 3 – in 1 patient. Temporary positive effect was noticed in all patients (decrease of PTH and calcium levels). In 2 patients, hyperplastic glands missed during first operation were located in anterior mediastinum. In 1 patient, 3 pathological glands were removed and repeated operation included sternotomy and removal of 1 additional hyperplastic ectopic gland from thymus. In other (female) patient, 2 hyperplastic parathyroid glands were removed during first operation and during repeated operation – 1 additional ectopic gland from the thymic peduncle. In 2 patients, repeated operations were associated with unrevealed parathyroid ectopia into the paraesophageal space. In the other female patient, only one parathyroid gland was removed during first operation; the other neoplasms removed as PTG turned out lymphatic nodes. During repeated operation, 3 hyperplastic parathyroid glands were removed.



Hyperplastic ectopic gland from thymus.



Ectopic parathyroid gland (MIBI scan)



Ectopic parathyroid gland (CT scan)



Primary parathyroid hyperplasia (repeated operation)

Two female patients are followed up in ambulatory. In one of them, in addition to 1 hyperplastic parathyroid gland, 2 neoplasms taken first for PTG were removed but then were verified histologically as lymphatic nodes. In the second of them, 2 parathyroid adenomas were removed but histologically they turned out hyperplastic PTG. Now both patients are under additional examination.

Conclusion: PHPT persistence is caused by inadequate operation volume in cases of PTG hyperplasia. The special difficulty of intraoperative differential diagnostics of morphological PHPT forms is due to the fact that, in cases of hyperplasia, parathyroid glands become hypoplastic asynchronously, and in cases of hyperplasia, they become hyperplastic also non-simultaneously. Biopsy of visually non-enlarged PTG is necessary. Observation of double parathyroid adenomas is either mistaken or they are casuistically