

Giant intrathyroidal parathyroid cystic adenoma

Madam, hypercalcaemia due to primary hyperparathyroidism is commonly associated with parathyroid adenoma or hyperplasia. Both cystic parathyroid adenoma and parathyroid carcinoma are rare causes of hypercalcaemia in primary hyperparathyroidism.¹

We came cross a 35-year old male patient who was admitted to our hospital with the main complaint of aching joints and fatigue. He had no history of any surgery, drug or alcohol usage or any diagnosed disorder. On physical examination a palpable mass at his right thyroid lobe was found. Relevant laboratory findings were serum calcium level 12.3 mg/dL, phosphorus 1.6 mg/dL, albumin 3.8 g/dL, TSH 2.1 μ U/ml, alkaline phosphatase 164 UI/L (normal range 40-100 UI/L), intact PTH (iPTH) 285 pg/ml (normal range 15-65 pg/ml), and 25 OH vitamin D levels of 18 ng/ml (normal range 14-39.3 ng/ml). Haemogram and renal function values were normal. Ultrasonographic examination was reported as a 5 x 3 x 2cm cystic nodule at right thyroid lobe (Figure.1a). Technetium-99 (Tc-99) sestamibi scintigraphy revealed an area of increased tracer uptake at the nodule, which was suggestive of its parathyroid origin. A surgical exploration was planned. During operation a giant parathyroid adenoma was excised (Figure.1b). Thyroid gland was normal.

Primary hyperparathyroidism is most commonly caused by either a parathyroid adenoma or parathyroid hyperplasia. Primary hyperparathyroidism caused by functional parathyroid cysts is exceedingly rare. Parathyroid cysts are subdivided based on size and function. A parathyroid macrocyst refers to a fluid-filled lesion that is 1 cm or larger. Parathyroid microcysts are less than 1 cm and are often incidental findings in normal aging parathyroid glands².

Parathyroid adenomas account for most cases of primary hyperparathyroidism. Certain symptoms and biochemical abnormalities alert the surgeon to their presence, since these benign tumors are rarely evident on physical examination. Moreover, because they are usually very small, preoperative localization using sestamibi scanning or ultrasonography is required to avoid bilateral neck exploration³. Parathyroid adenomas rarely attain huge proportions.

The criteria that define a functional parathyroid cyst

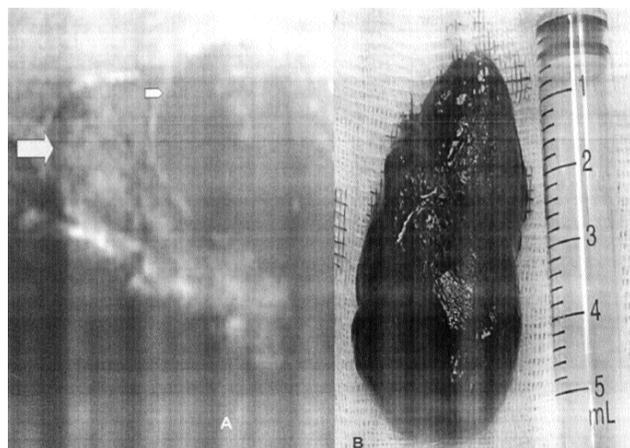


Figure: A- Ultrasonographic appearance of the cystic parathyroid adenoma. Right thyroid lobe (arrow) and parathyroid cystic adenoma (little arrow) can be seen. B- Postoperative photograph of the specimen.

include preoperative biochemical and clinical evidence of hyperparathyroidism, identification of normal remaining parathyroid glands, histologic evidence of parathyroid tissue within the cyst wall, and postoperative correction of hypercalcaemia. A functional parathyroid cyst is often associated with acute haemorrhage, which has been implicated as a cause of hypercalcaemic crisis⁴. This finding supports the hypothesis that a functional parathyroid cyst results from a cystic degeneration of a parathyroid adenoma⁴.

It was shown in a previous retrospective study that scan-directed unilateral cervical exploration for primary hyperparathyroidism can be carried out without an increase in the incidence of persistent or recurrent hypercalcaemia³. In our case, we found the adenoma by scan-directed unilateral cervical exploration, too.

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