10.5005/jp-journals-10050-10075

CASE REPORT

Hypercalcemia due to Parathyroid Adenoma: A Delayed Diagnosis

[1]Vinish K Agarwal, [2]Kartikeya Purohit, [3]SS Bist, [4]Mamta Goyal

ABSTRACT

Hypercalcemia is a serious health problem occurring due to pathology of many organ systems including thyroid, parathyroid, kidney, and bone. Hypercalcemia due to parathyroid is usually a delayed diagnosis as parathyroid adenoma is usually discovered during surgery of thyroid gland disease. We present a case of hypercalcemia due to parathyroid adenoma, who underwent total thyroidectomy with right inferior parathyroidectomy. We conclude that a patient with features suggestive of hypercalcemia should be suspected to have parathyroid adenoma and every effort has to be made to diagnose parathyroid adenoma as this is a surgically resectable medical problem.

Keywords: Hypercalcemia, Parathyroid adenoma, Parathyroidectomy, Thyroidectomy.

How to cite this article: Agarwal VK, Purohit K, Bist SS, Goyal M. Hypercalcemia due to Parathyroid Adenoma: A Delayed Diagnosis. Int J Adv Integ Med Sci 2017;2(1):51-52.

Source of support: Nil

Conflict of interest: None

INTRODUCTION

Primary hyperparathyroidism (PHPT) is an uncommon disease with an incidence between 1 in 1,000 and 1 in 200.[1] It is caused by different pathologic lesions of the parathyroid glands.[2] Usually, patients with PHPT are symptomatic; however, a small group of patients who do not exhibit any biochemical or clinical manifestations of the disease are thought to have "subclinical" hyperparathyroidism because of the enlargement of the parathyroid glands.[2] The most common cause of PHPT is solitary parathyroid adenoma (approximately 85%).[3] Parathyroid adenoma is usually discovered during surgery of thyroid gland disease or as an incidental finding on ultrasonography of the neck.[2]

[1]Assistant Professor, [2]Senior Resident, [3]Head, [4]Associate Professor

[1-3]Department of ENT, Himalayan Institute of Medical Sciences Swami Rama Himalayan University, Dehradun, Uttarakhand, India

[4]Department of Radiodiagnosis, Himalayan Institute of Medical Sciences, Swami Rama Himalayan University, Dehradun Uttarakhand, India

Corresponding Author: Vinish K Agarwal, Assistant Professor Department of ENT, Himalayan Institute of Medical Sciences Swami Rama Himalayan University, Dehradun, Uttarakhand India, e-mail: vinish143agra@yahoo.co.in

CASE REPORT

A 53-year-old woman, a known case of diabetes mellitus since 10 years, presented to the outpatient clinic with complaint of swelling on the right side lower aspect of neck since 4 years duration (Fig. 1). On examination of the neck, there was a single oval-shaped approximately 3 × 2 cm swelling, 2 cm above the sternal end of right clavicle. The overlying skin color was normal, overlying skin temperature was normal, firm in consistency, mobile, nontender, moved with deglutition, and did not move with protrusion of tongue. Ultrasonography neck showed well-defined hypoechoic lesion measuring approximately 11 × 7 mm seen near inferior pole of right lobe of thyroid along with multinodular goiter (MNG). Fine-needle aspiration cytology revealed hyperplastic nodule on lower pole of thyroid gland with MNG. Blood investigations of patient were as follows: Euthyroid (free triiodothyronine – 2.08 pg/mL, free thyroxine – 1.30 ng/dL, thyroid stimulating hormone – 2.21 µIU/mL), serum calcium – 13.9 mg/dL, and parathyroid hormone – 188 pg/mL. Technetium 99m tetrofosmin dual-phase parathyroid scintigraphy was suggestive of right superior parathyroid adenoma (Fig. 2). Contrast-enhanced computed tomography neck showed multiple nodules in bilateral thyroid lobe with a small lesion at the inferior pole of right thyroid lobe (Fig. 3). The patient underwent total thyroidectomy with right inferior parathyroidectomy. During the procedure, right inferior parathyroid gland appeared enlarged and adherent to the inferior pole of right thyroid lobe (Fig. 4). Postoperatively, patient had hypocalcemia, which was treated conservatively. The patient was also managed for diabetes mellitus by intravenous insulin therapy. Histopathology came out as MNG with parathyroid adenoma.

DISCUSSION

We present a case of parathyroid adenoma of right inferior parathyroid as a cause of PHPT in association with a MNG. Multinodular goiter is the most common endocrine disorder affecting 500 to 600 million people worldwide.[4] In India, about 54 million people have goiter and the number at risk is estimated to be about 167 million with an annual incidence of 0.1 to 1.5%.[5]

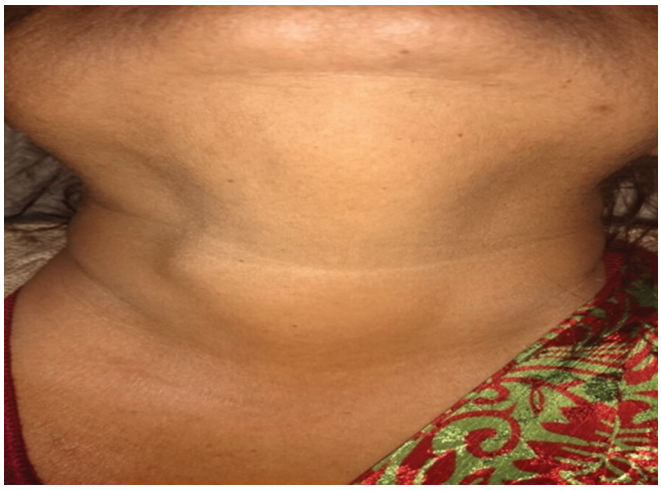

Fig. 1: Anterior neck swelling on right side

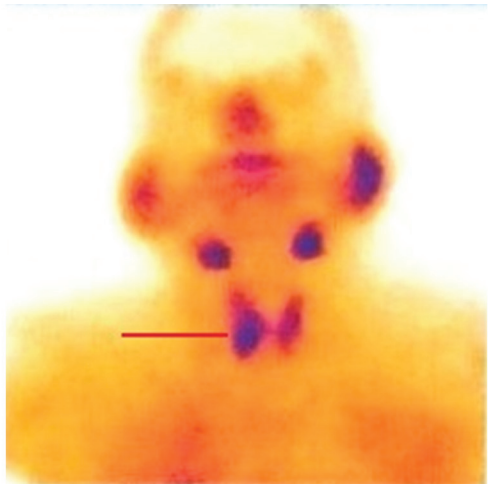

Fig. 2: Red line showing increased uptake in right parathyroid on nuclear scan

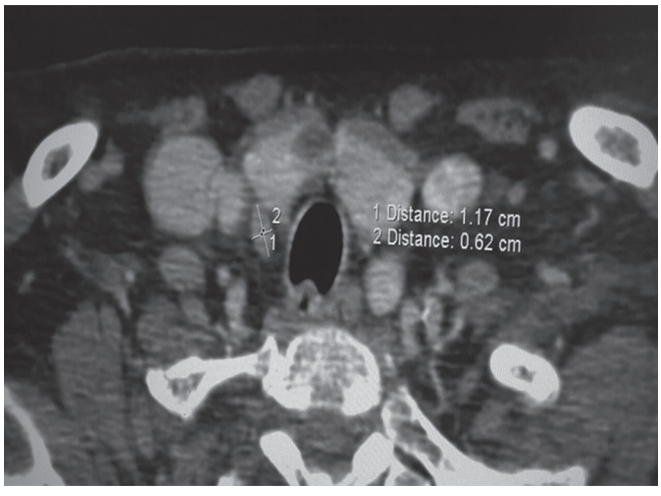

Fig. 3: Axial contrast-enhanced computed tomography scan – lesion of 1.17 × 0.62 cm at the inferior pole of right lobe thyroid

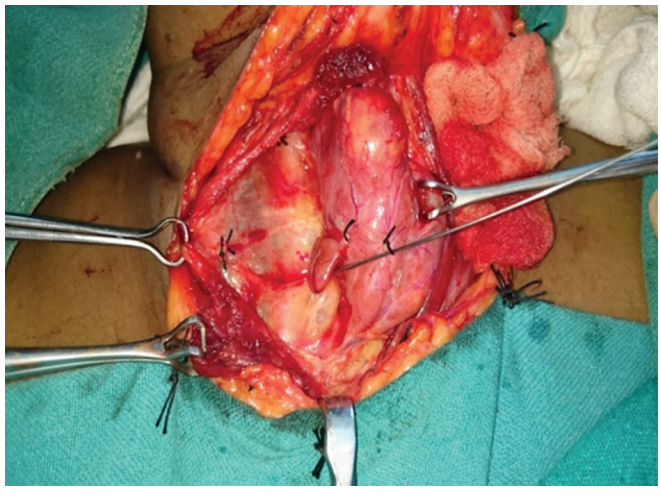

Fig. 4: Thyroid lobe being removed with exposed enlarged right inferior parathyroid gland

Primary hyperparathyroidism has become an asymptomatic disease in the Western world, whereas in India, PHPT is still an uncommonly diagnosed, overtly symptomatic disease of "bones, stones, abdominal groans, and psychic moans" due to the fact that screening of the healthy population for hypercalcemia is not a routine practice. The treatment of choice for PHPT is surgical removal of the hyperfunctioning tissue. Hungry bone syndrome is common in the postoperative period. The disease-related mortality rate is 7.4%, recurrence 4.16%, and persistent disease 2.17%.[6]

CONCLUSION

All patients with features suggestive of hypercalcemia should be suspected to have parathyroid adenoma and every effort to be made to diagnose parathyroid adenoma as this is a surgically resectable medical problem.

REFERENCES

1. Katz AD, Kong LB. Incidental preclinical hyperparathyroidism identified during thyroid operations. Am Surg 1992 Dec;58(12):747-749.
2. Marchesi M, Biffoni M, Benedetti RN, Campana FP. Incidental parathyroid adenomas with normocalcaemia discovered during thyroid operations: report of three cases. Surg Today 2001 Mar;31(11):996-998.
3. Chan, JK. Tumors of the thyroid and parathyroid glands. Part B: the parathyroid gland. In: Fletcher CD, editor. Diagnostic histopathology of tumors. 4th ed. Philadelphia: Saunders Elsevier; 2013. p. 1273-1293.
4. Day TA, Chu A, Hoang K. Multinodular goiter. Otolaryngol Clin North Am 2003;36(1):35-54.
5. Hurley DL, Gharib H. Evaluation and management of multinodular goiter. Otolaryngol Clin North Am 1996 Aug;29(4):527-540.
6. Pradeep PV,. Jayashree B, Mishra A, Mishra SK. Systematic review of primary hyperparathyroidism in India: the past, present, and the future trends. Int J Endocrinol 2011 Mar;2011:7.