



## Ectopic parathyroid adenoma: A case report

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### Abstract

The parathyroid adenoma can be located in an "ectopic" situation in 10% of cases, secondary to "embryonic migration" anomalies. Retroclavicular location of an ectopic parathyroid adenoma is exceptional. Therefore, its diagnosis can be particularly difficult. We report the case of a 51-year-old female patient with no previous history who consulted for asymptomatic hypercalcemia and whose investigations, in particular Technetium Tc 99m Sestamibi scintigraphy, revealed a right retroclavicular parathyroid adenoma measuring 2.7x3.2 cm in an ectopic situation, confirmed on histological examination after surgery.

**Keywords:** Ectopic parathyroid gland; Primary hyperparathyroidism; Hypercalcemia; Parathyroid adenoma

### 1. Introduction

Primary hyperparathyroidism is an endocrine disease caused by excessive secretion of parathyroid hormone (PTH) from the parathyroid glands. In most cases, this disease is caused by a parathyroid adenoma. However, in some cases, the adenoma may be ectopic, meaning that it is located outside the usual location of the parathyroid glands. Here we present a case of primary hyperparathyroidism due to an ectopic parathyroid adenoma.

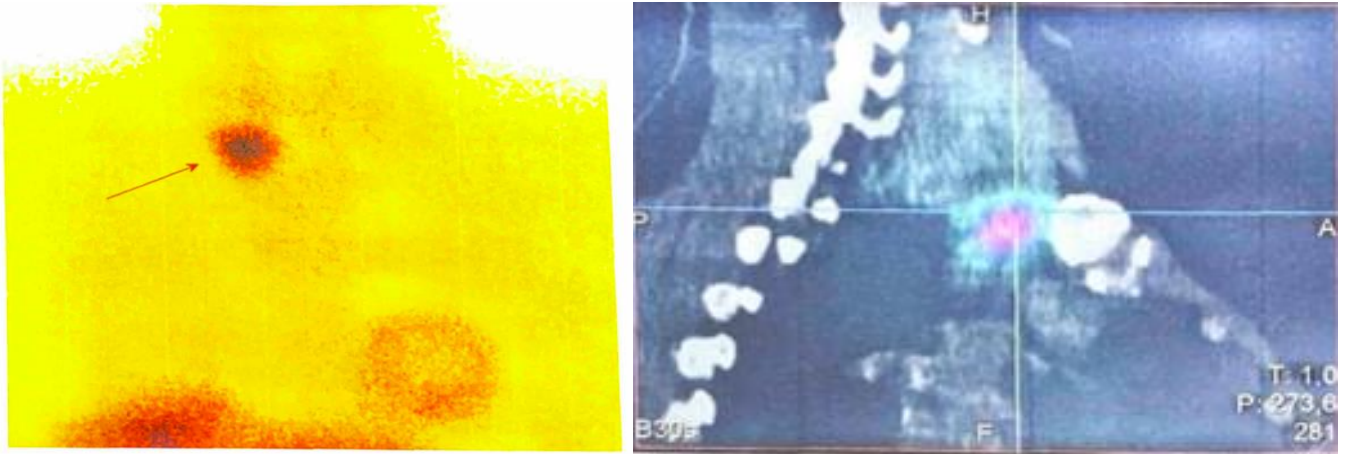
### 2. Observation

A 51-year-old female patient was admitted for investigation of asymptomatic hypercalcemia with serum calcium levels of 3.31 mmol/l versus PTH levels of 314 pg/ml (normal reference: 15-65 pg/ml) with moderate renal failure and a major left hydronephrosis caused by a 22 x 18 mm pyelic macrocalculus destroying the renal parenchyma.

Cervical ultrasound revealed a nodular formation opposite the lower pole of the right thyroid lobe and a plunging multiheteronodular goiter. Technetium Tc 99m Sestamibi scintigraphy revealed a focal retention at the right cervical and retroclavicular base of 2.7x3.2 cm in an ectopic situation. (Figure 1) The patient underwent surgery and the retroclavicular ectopic parathyroid adenoma was successfully removed. Histological analysis confirmed the diagnosis of parathyroid adenoma and a multiheteronodular goiter without signs of malignancy.

The patient recovered rapidly after surgery, with a significant decrease in her calcium and PTH levels. Calcium levels remained normal during the six-month postoperative follow-up.

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**Figure 1** 99m Tc-MIBI and contrast- enhanced CT of the thorax showing ectopic parathyroid adenoma

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### 3. Discussion

Primary hyperparathyroidism is due in 85% of cases to the existence of a parathyroid adenoma. Ectopic parathyroid adenomas are rare, accounting for about 6% of all cases of primary hyperparathyroidism [1]. They may be located in unusual sites, such as the mediastinum, thymus, thyroid, or even in the salivary glands [2]. In our case, the parathyroid adenoma was located in the retroclavicular region, which is a rare location for this pathology.

Technetium Tc 99m Sestamibi scintigraphy is a useful method for locating ectopic parathyroid adenomas, especially when they are located in unusual sites [3].

Management of primary hyperparathyroidism due to an ectopic parathyroid adenoma involves removal of the adenoma [4]. Although surgery can be technically challenging due to the unusual location of the adenoma, it is often successful with a significant reduction in calcium and PTH levels [5].

Long-term follow-up is recommended to monitor for recurrence and complications [6].

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### 4. Conclusion

Ectopic parathyroid adenomas are rare and can be diagnostically challenging because of their unusual location. Technetium Tc 99m Sestamibi parathyroid scintigraphy is a useful test for the localization of ectopic parathyroid adenomas. Surgical treatment is recommended for patients with primary hyperparathyroidism due to a parathyroid adenoma, even if the location is unusual.

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### Compliance with ethical standards

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#### *Conflict of interest statement*

I declare no conflict of interest.

#### *Statement of ethical approval*

The present research work does not contain any studies performed on animals/humans subjects by any of the authors.

#### *Statement of informed consent*

Informed consent was obtained from all individual participants included in the study.

## References

- [1] Kong Y, Ge SY, Shang W, Song K. Ectopic parathyroid adenoma in the submandibular region: a case report. *Br J Oral Maxillofac Surg*. 2019 Dec;57(10):1150–2.
- [2] Noussios G, Anagnostis P, Natsis K. Ectopic parathyroid glands and their anatomical, clinical and surgical implications. *Exp Clin Endocrinol Diabetes Off J Ger Soc Endocrinol Ger Diabetes Assoc*. 2012 Nov;120(10):604–10.
- [3] Zhou W, Chen M. A case report of mediastinal ectopic parathyroid adenoma presented as parathyroid crisis localized by SPECT/CT. *Medicine (Baltimore)*. 2016 Oct 14;95(41):e5157.
- [4] Chou PL, Chao YK, Liu YH. Minimally invasive removal of mediastinal ectopic parathyroid glands: A single-center experience. *Formos J Surg*. 2019 Feb;52(1):6.
- [5] Hemead HM, Abdellatif AA, Abdel Rahman MA. Ectopic pure mediastinal parathyroid adenoma: A case report. *Int J Surg Case Rep*. 2021 Nov 12;90:106598.
- [6] Khan AA, Hanley DA, Rizzoli R, Bollerslev J, Young JEM, Rejnmark L, et al. Primary hyperparathyroidism: review and recommendations on evaluation, diagnosis, and management. A Canadian and international consensus. *Osteoporos Int J Establ Result Coop Eur Found Osteoporos Natl Osteoporos Found USA*. 2017 Jan;28(1):1–19.