

# A rare case of triple parathyroid adenoma with hyperparathyroidism occurring at a young age

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## OBJECTIVES

Lesions causing primary hyperparathyroidism (PHP) can be summarized as solitary adenoma (80-85%), multiglandular hyperplasia (15%), parathyroid carcinoma (1%). While double adenomas are identified in 2-15 % of the patients which are operated for PHP, triple adenomas are very rare (1,2).

## METHODS

The case is presented because in the recent years patients who are admitted to the hospital with intense bone complaints are very unusual and multiple adenomas are also seldom. 22 years old female patient was admitted to orthopedics outpatient clinic with symptoms of inability to walk and severe pain with activity and mass at proximal area of left femur. The patient was evaluated with biochemistry, thyroid doppler ultrasonography, 20 mCi Tc-99m MIBI SPECT.

Image 1: Parathyroid adenoma in 3 gland  
Image 2: 20 mCi Tc-99m MIBI SPECT

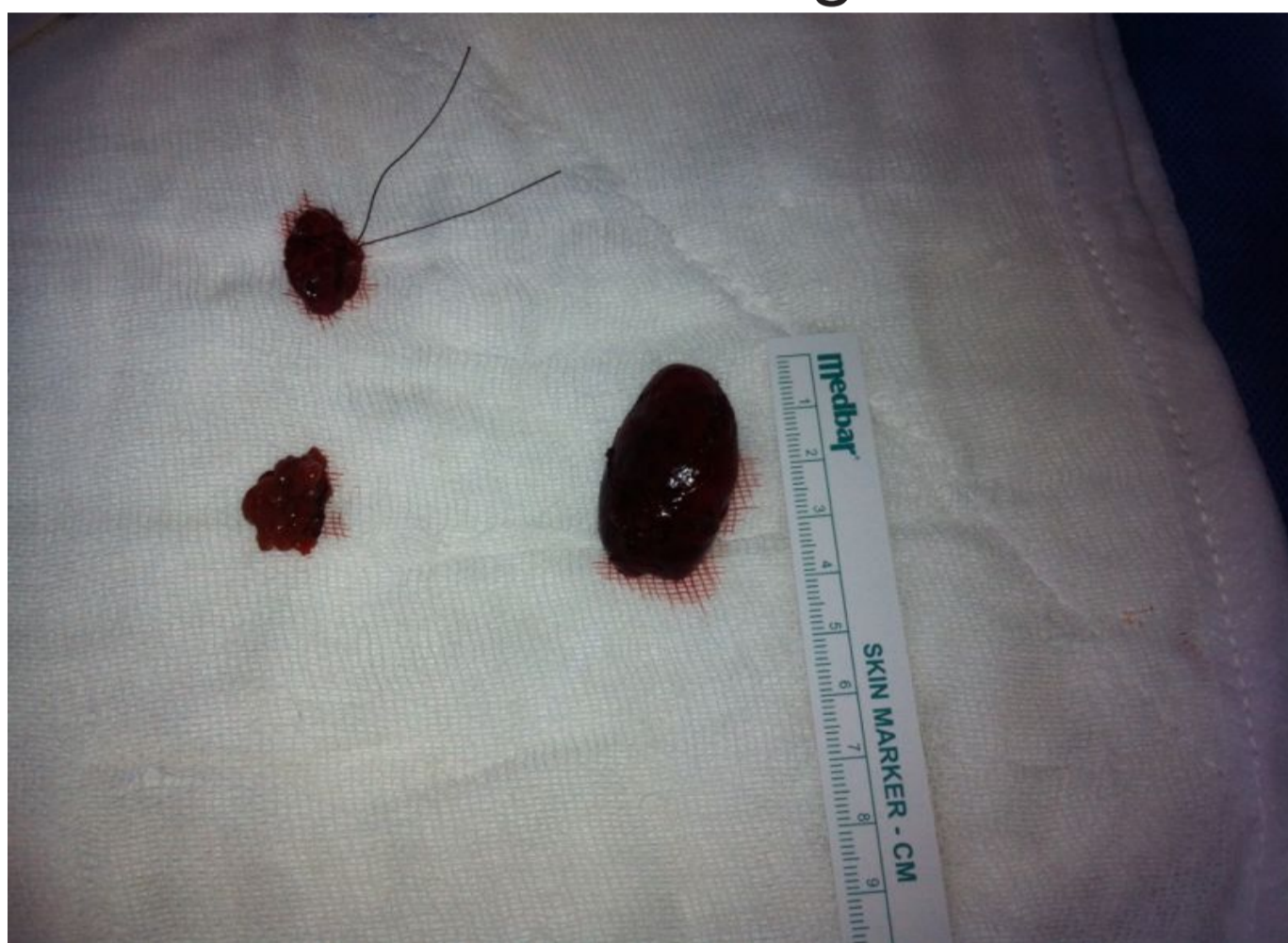


Table 1: Laboratory values before and after surgery

	Before surgery	After surgery
Calcium (mg/dl)	11.8	8.4
Phosphorus (mg/dl)	2.2	3.6
PTH (pg/ml)	2754	10
ALP (U/L)	1275	892
24 hour urine calcium	288	280
BUN (mg/dl)	5	4
Creatinine (mg/dl)	0.41	0.4

## RESULTS

During evaluation calcium and parathyroid hormone (PTH) levels were discovered to be high. Calcium : 11.8 mg/dl, phosphorus: 2.2 mg/dl, alkaline phosphatase (ALP): 1275 U/L, PTH: 2754 pg/ml, 24 hour urine calcium: 288 mg/day, BUN: 5 mg/dl, creatinine: 0.41 mg/dl, 25 (OH) D Vitamin: 3.2 µg/l Thyroid doppler ultrasonography revealed a 20 x 17 x 7 mm mass at the right lobe of the thyroid and at the caudal region of this lesion a 13 x 11 x 9 mm mass, also a 36 x 22 x 23 mm lesion at the left lobe of the thyroid continuing to the mediastinum consistent with right and left-sided parathyroid adenomas. 20 mCi Tc-99m MIBI SPECT images demonstrated hyperdense activity only at the left side (Image 2). Before the operation the patient was screened for multiple endocrine neoplasia because of her young age, results were negative. After the operation three parathyroid adenomas were discovered (Image 1) and PTH and calcium levels regressed to 10 pg/ml and 8.4 mg/dl respectively (Table 1).

## CONCLUSIONS

Usually PHP is expected to occur at later stages of life, but PHP should also be kept in mind in patients with serious bone complaints, high calcium and PTH levels. Early diagnosis and appropriate treatment can prevent morbidity and mortality related with PHP.

## References

- 1- Baloch ZW, LiVolsi VA. Double adenoma of the parathyroid gland: Does the entity exist? Arch Pathol Lab Med 2001;125:178-9.
- 2- Abboud B, Sleilaty G. Existence and Anatomic Distribution of Double Parathyroid Adenoma. The Laryngoscope 2005, 115, 1128-1131.

