

## Case Report

# A Case Report: Parathyroid Adenoma

Pratik Dash<sup>1\*</sup>, Dhairya Shah<sup>2</sup>, Swapnil Tolia<sup>3</sup>, J.G. Bhatt<sup>4</sup>, and J. G. Vagadia<sup>5</sup>.

<sup>1</sup>Second Year Resident Doctor, Department of General Surgery, PDU Medical College & Hospital, Rajkot in India.

<sup>2</sup>Second Year Resident Doctor, Department of General Surgery, PDU Medical College & Hospital, Rajkot in India.

<sup>3</sup>Third Year Resident Doctor, Department of General Surgery, PDU Medical College & Hospital, Rajkot in India.

<sup>4</sup>Professor & HoD, Department of General Surgery, PDU Medical College & Hospital, Rajkot in India.

<sup>5</sup>Associate Professor, Department of General Surgery, PDU Medical College & Hospital, Rajkot in India.

**Corresponding Author:** Pratik Dash, First Year Resident Doctor, Department of General Surgery, PDU Medical College & Hospital, Rajkot in India.

Received: 📅 2024 Feb 04

Accepted: 📅 2024 Feb 11

Published: 📅 2024 Feb 20

## Abstract

The incidence of primary hyperparathyroidism (PHPT) in India is 2.5/1000 individuals. The major cause for PHPT is parathyroid adenoma. To arrive at the correct diagnosis, clinical setting, biochemical and radiological investigations, the status of other glands assessed intra-operatively and finally histopathological confirmation is essential. This case report aimed to present primary hyperparathyroidism from parathyroid adenoma causing multiple episodes of nephrolithiasis and its management.

**Keywords:** Hyperparathyroidism, Parathyroidectomy, Parathyroid Adenoma, a 20 mci99m tc - mibi scan, and Nephrolithiasis.

## 1.Introduction

A range of parathyroid proliferative disorders, including parathyroid adenoma, parathyroid hyperplasia, and parathyroid cancer, encompasses primary hyperparathyroidism. The diagnosis of primary hyperparathyroidism (PHPT), which is mostly caused by parathyroid adenoma, is typically made based on sporadic indications of hypercalcemia and confirmed by a high serum parathyroid hormone (PTH) concentration. We describe a case of primary hyperparathyroidism (PHPT) causing recurrent bouts of nephrolithiasis which is primarily caused by calcium deposits in the renal parenchyma.

## Case Report

We report the instance of a 60 years of age female patient presented to this hospital with two-sided knee agony and lower backpain for two weeks. She had a few episodes of bilateral nephrolithiasis and for which she had gone through ureterocalicostomy with DJ stenting two times in most recent 2 years. On affirmation x-beams of the two knees and lumbar spine were unexceptional. Lab results showed ordinary ionized calcium and phosphorus level with a raised creatinine level and intact PTH level of 249pg/ml. CT neck uncovered 6mm x 6mm measured nodular lesion at left upper pole of thyroid.

20 mCi99m Tc - MIBI check uncovered parathyroid adenoma of same area. She went through left upper parathyroidectomy. The pre-entry point intact PTH was 291.5 pg/ml which dropped to 110.9 pg/ml 10 min after extraction of parathyroid adenoma and further tumbles to 94 after next 10 minutes. The last pathology of mass was uncovered a parathyroid adenoma. Patient was discharged on post-operative day 2 with outpatient management.



**Figure 1:** Post-op picture of excised Parathyroid Adenoma

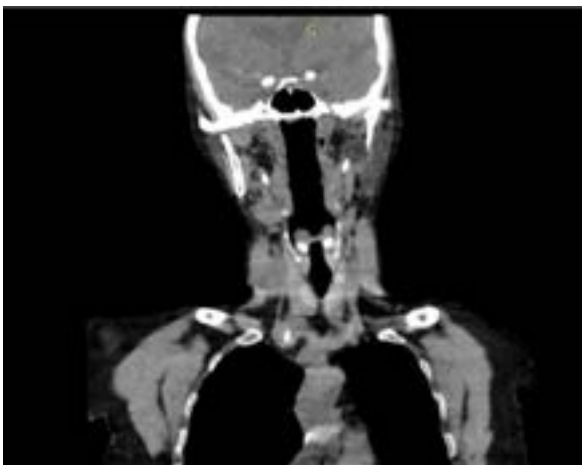


**Figure 2:** Intra-op picture of Parathyroid adenoma



**Figure 3:** Sestamibi (MIBI) scan showing Parathyroid adenoma

AKI is multi-layered and incorporates hyposthenuria through the downregulation of aquaporin 2 channels and tubulointerstitial injury interceded.



**Figure 4:** CT neck showing Parathyroid Adenoma

#### 4. Discussion

Ordinary parathyroid organs are too little to be in any way identified on imaging however parathyroid sickness regularly brings about growth of the organs considering perception. Sonography and  $^{99m}\text{Tc}$  preoperative sestamibi (MIBI) exam are the essential imaging modalities used for the representation of infected organs. Essential hyperparathyroidism is interceded through hypercalcemia, and this clinical picture incorporates osteitis fibrosa cystica, nephrolithiasis, and neuropsychiatric symptomatology. Serious hypercalcemia might hasten changes in mental status, heart arrhythmias, and pancreatitis [1-3].

Renal signs most ordinarily incorporate nephrolithiasis. Less regularly, intense kidney injury is seen. The job of hypercalcemia in AKI is multi-layered and incorporates hyposthenuria through the downregulation of aquaporin 2 channels and tubulointerstitial injury interceded by medullary calcium statement. Renal signs most usually incorporate nephrolithiasis. Less regularly, intense kidney injury is seen. The job of hypercalcemia in AKI is complex and incorporates hyposthenuria through the downregulation of aquaporin 2 channels and tubulointerstitial injury interceded by medullary calcium statement. Prerenal azotemia is evoked through renal vasoconstriction and prostaglandin E<sub>2</sub>- interceded decrease in NaCl reabsorption [4].

The treatment of parathyroid cancers is the careful investigation of the neck and evacuation of neurotic parathyroid organs followed by one more parathyroid organ biopsy to decide the chance of adenoma or different organ hyperplasias. On the off chance that a parathyroid cancer was not found, taking into account the predominant investigation of the mediastinum is fundamental. Insignificantly obtrusive parathyroidectomy is presently most regularly utilized as the careful treatment for essential hyperparathyroidism. Intra employable PTH checking is generally helpful as an assistant to pre-operative imaging taking into account more engaged tasks to be performed. The utilization of intra usable PTH checking can give indispensable data inside the space of minutes to assist with deciding the degree of careful treatment expected to be viewed as ideal. Achievement is characterized utilizing the Miami rules: a fall in PTH level of >50% at 10 min present extraction looked at on gauge (pre-usable).

#### 5. Conclusion

The seriousness of side effects, high serum calcium level, higher PTH level and ultrasound qualities are essential viewpoints in segregating parathyroid adenoma preceding a medical procedure. Parathyroid adenoma has a magnificent forecast with careful treatment. Suggestive parathyroid adenoma cases give high preoperative PTH and serum calcium level in a straightforwardly relative way [5].

When the biochemical and radiological examination affirms the presence of parathyroid adenoma, careful extraction is the essential and just methodology of treatment. Post extraction of parathyroid adenoma for our situation, PTH levels have decreased to more than 50% pre-extraction level which is a definitive proof of effective extraction of the parathyroid

adenoma and suggestive improvement was noted after the surgical procedure was performed.

## References

1. Al-Hassan, M. S., Mekhaimar, M., El Ansari, W., Darweesh, A., Abdelaal, A. (2019). Giant parathyroid adenoma: a case report and review of the literature. *Journal of medical case reports*, 13(1), 1-9.
2. Kim, S. M., Zhao, D., Schneider, A. L., Korada, S. K., Lutsey, P. L. et al (2017). Association of parathyroid hormone with 20-year cognitive decline: the ARIC study. *Neurology*, 89(9), 918-926.
3. Kontogeorgos, G., Welin, L., Fu, M., Hansson, P. O., Landin-Wilhelmsen, K., Laine, C. M. (2020). Hyperparathyroidism in men—morbidity and mortality during 21 years' follow-up. *Scandinavian Journal of Clinical and Laboratory Investigation*, 80(1), 6-13.
4. Pawar, N. H., Chiam, P. P. S., Tan, J. H. Y., Loh, J., Aw, D. C. W., et al (2017). Acute kidney injury, hypercalcemia, and osteolytic lesions: A familiar triad with a rare cause complicated by posterior reversible encephalopathy syndrome. *American Journal of Kidney Diseases*, 70(5), A12-A15.
5. Prihantono, P., Palinggi, E., Haryasena, H., Hamdani, W., Binekada, I. M. C. (2019). Surgical treatment for parathyroid adenoma: a case report. *Open Access Macedonian Journal of Medical Sciences*, 7(15), 2497.