



## 5 YEARS REVIEW OF PARATHYROIDECTOMY CASES OUTCOMES IN KING ABDULAZIZ UNIVERSITY HOSPITAL IN BETWEEN 2010-2015

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### ARTICLE INFO

#### Article History:

Received 5<sup>th</sup> October, 2016  
Received in revised form 7<sup>th</sup>  
November, 2016  
Accepted 16<sup>th</sup> December, 2016  
Published online 28<sup>th</sup> January, 2017

#### Key words:

Parathyroidectomy, parathyroid hyperplasia, hypercalcemia.

### ABSTRACT

Parathyroid glands are tiny glands of the endocrine part which located in the neck. Hyperparathyroidism is a condition when the production of the hormone exceeds the normal upper limit moreover. Parathyroidectomy which is the excision of one or more parathyroid glands, thus the type of surgery depends on the location of the diseased gland. As in any surgery there is some possible complications even it is a straightforward procedure it can be done by different specialized surgeons lastly complications are divided to procedure related complications such as wound infections, hematoma or the nearby structure injuries as nerve injury. A retrospective study for 34 patients, male and female. Files were reviewed between 2010-2015. At king Abdulaziz university hospital, Jeddah, to identify the postoperative outcomes for the parathyroidectomy procedure. We had total of 34 patients Female 23 (67.6%) male 11 (32.3%), age ranging from 12 to 81 years. Types of surgery was 47.05% received sub-total parathyroidectomy, 41.1 had total thyroidectomy, and 11.7% had thyroidectomy with sub-total parathyroidectomy. Of all the patients 58.9% admitted for 1-3 days post-operative, while 20.5% admitted 4-7 days. And 20.5% stayed more than one week. Moreover 88.23% did not need ICU admission, while 11.7% needed ICU for post-operative care. Parathyroidectomy is frequent operation done by the ENT and general surgeon which needs good pre-operative planning using labs ultrasound and nuclear scan. Thus the complication rate is minimal in such operation, still we need experienced surgeon and excellent post-operative care.

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### INTRODUCTION

Parathyroid glands are tiny glands of the endocrine part which located in the neck close to the thyroid glands on each side it produces its own hormone called parathyroid hormone (PTH)[1] which control the calcium metabolism in the human body. Hyperparathyroidism is a condition when the production of the hormone exceed the normal upper limit, furthermore it can be classified into primary, secondary and tertiary however Primary Hyperparathyroidism is a disease of unknown etiology commonly in the sixth decade of life which 90% of the cases are sporadic and usually caused by benign adenoma.[2] Less commonly, Parathyroid hyperplasia can also

contribute to the development of primary hyperthyroidism. Moreover, Secondary hyperparathyroidism is a compensatory mechanism to the abnormal serum calcium, phosphorus, and vitamin D that happen in end stage renal disease. Excess parathyroid hormone secretion after long term secondary hyperparathyroidism is tertiary hyperparathyroidism

The treatment for this disorders is parathyroidectomy which is the excision of one or more parathyroid glands, thus the type of surgery depends on the location of the diseased gland. [3] As in any surgery there is some possible complications even it is a straightforward procedure it can be done by different specialized surgeons ENT, Endocrine and general surgeon,

lastly complications are divided to procedure related complications such as wound infections, hematoma or the nearby structure injuries as nerve injury.

We aimed in our article to identify the postoperative outcome for the parathyroidectomy procedure in our center.

## METHODOLOGY

A retrospective study for 34 patients, male and female. Files were reviewed between 2010-2015. At king Abdulaziz university hospital, Jeddah, to identify the postoperative outcomes for the parathyroidectomy procedure. We looked for patient personal data (Age, Gender, MRN), our outcome were (relieved symptoms, decreased level of ca to normal level, no improvement). We used our electronic phonix system for patient charts and data. The ethical approval was obtained from KAU ethical committee.

## RESULTS

We had total of 34 patients Female 23 (67.6%) male 11 (32.3%), age ranging from 12 to 81 years. Of all the patients 47% (16) presented with no symptoms, 20% (7) had bone pain while 8% (3) had either neck mass or abdominal pain. And 8% (3) had some weakness lastly 5% (2) had renal stones.

Pre-operative calcium level was not done in 10 patients (29.4%) while 22 patients (64.7%) had calcium range from 2.2-3.2, one patient had 1.8, one patient had result of 10.

Preoperative parathyroid hormone level (PTH) was done in (94.1%) with range (8-400) while (5.9%) had no PTH level.

23.5% of all the patients had pre-operative scintigraphy, of them 35% had left Parathyroid adenoma, 14.7% had no evidence of adenoma, 23.5% had right side adenoma and lastly 2% had multiple adenomas.

Types of surgery were 47.05% received sub-total parathyroidectomy, 41.1 had total thyroidectomy, and 11.7% had thyroidectomy with sub-total parathyroidectomy.

Pathology results showed 55.8% parathyroid adenoma .29.4% parathyroid hyperplasia, and 14.7% normal parathyroid.

Of all the patients 58.9% admitted for 1-3 days post-operative, while 20.5% admitted 4-7 days. And 20.5% stayed more than one week. Moreover 88.23% did not need ICU admission, while 11.7% needed ICU for post-operative care Off all patients 79.4% had no complications, 11.7% had transit hypocalcemia. 2% had hematoma, long intubation, and nerve injury.

Post-operative patient review showed 76.4% improved, 14.7% still have high PTH, 4% didn't feel improvement, 2% died.

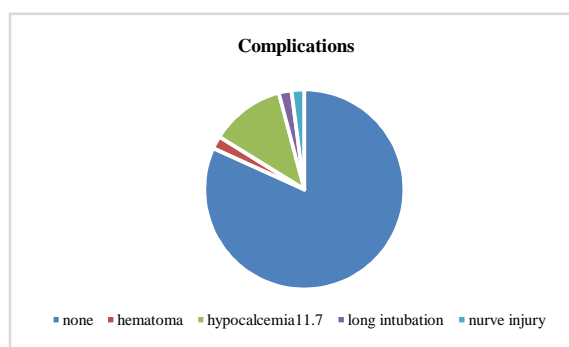
## DISCUSSION

Parathyroidectomy is operation of choice in parathyroid adenoma or malignancy, usual approach is through transverse collar incision, in our centre we had total of 34 patients under went parathyroidectomy through similar approach, 23 of them female compared to 11 male 67.6% vs 32.3%. in addition, age was ranging from 12-81 with majority of patient middle age.

Forty seven percent of our patients were asymptomatic followed by 20% who had Bone pain and lastly 5%. who had history of renal stones. A retrospective review of 866 cases done in Los Angeles by Low and colleges showed 37% of all patient is male comparison to 62% females. moreover, his

study mentioned that The pathology of patients with hyperparathyroidism consisted of single adenomas (77.2%), hyperplasia (21.0%), normal glands (1%), double adenomas (<1%) [4] similarly, in our study we found that parathyroid adenoma was the most frequent pathology 55.8% followed with hyperplasia 29.4% and lastly the normal parathyroid (14.7%),

Of all the patients 58.9% stayed admitted in the hospital for 1-3 days followed by 20% stayed for up to 7 days, while 20% had to stay longer than week. Furthermore 88% of the patients didn't require intensive care compared to 11% who needed intensive care post operatively. In regards of the post-operative complication, we found that 79.4% had smooth recovery with no complications, In fact the most common complication was hypocalcemia with 11.7% and the least common complication was long intubation. Similarly, Bryan *et al* mentioned complications encountered in a 150 consecutive thyroid and parathyroid surgery performed by a single surgeon which showed incidence of transient postoperative hypocalcemia 13%, followed by 1.33% recurrent nerve injury and lastly hematoma with 0.1%. [5] another article published 1988 noticed that persistent postoperative hypocalcemia was the most common complication (1%) then nerve injury (<1%) [4] one more trial by Shabtai and colleges done in 2003 showed 2.1% transient hypocalcemia and 1.4% transient vocal cord paresis[6]



[1] percentage of post-operative complications.

During follow up 76.4% of all patient feel improvement, in contrast, 4% did not feel improvement, while 14.4% had still high parathyroid hormone, and lastly 2% passed away. However, our small sample number cannot estimate the real improvement rate during the post-operative period.

## CONCLUSION

Parathyroidectomy is frequent operation done by the ENT and general surgeon which needs good pre-operative plaining using labs ultrasound and nuclear scan. Thus the complication rate is minimal in such operation, still we need experienced surgeon and excellent post-operative care.

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