Research Article

Retrospective And Prospective Study On Symptomatology and Different Modalities of Management of Hyperparathyroidism

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Abstract
Objectives: The aim of this work was to study symptomatology and different modalities of management, and indications of surgical intervention of hyperparathyroidism, and to find out the most beneficial surgical technique in its management. ***Patients and methods:*** 20 hyperparathyroidism patients were evaluated, and underwent clinical examination, and parathyroidectomy. ***Results:*** cases with hyperparathyroidism with failed medical treatment are indicated for parathyroidectomy, which leads to excellent improvement, and correction of serum PTH level.
keywords: Hyperparathyroidism, Parathyroidectomy

Introduction
Primary hyperparathyroidism (PHPT) is a fairly common process in the elderly, with a reported prevalence as high as 7%. (Kebebew E, Duh QY, Clark OH 2003

Secondary hyperparathyroidism (2HPT) is a common complication in hemodialysis patients, and it is often associated with morbidity and sometimes mortality (Block GA et al., 2004). The majority of patients with 2HPT can be managed by medical treatment. (Tominaga et al., 2009)

Materials And Methods
20 Patients were enrolled, and scheduled for parathyroidectomy. All patients signed a written consent about the procedure.

Inclusion Criteria:
1. Serum PTH level more than 500 pg/mL on two, or more occasions (normal range 10-65 pg/mL).
2. Hypercalcemia (serum Calcium level more than1mg/dl of upper limit of normal Calcium range 9-11mg/dl), and hyper-calcuria (24h urinary Ca more than 400mg).
3. Hyperphosphatemia (normal range 2.5 to 4.5 mg/dL)

Exclusion criteria:
1. Serum PTH level less than 500 pg/mL on two, or more occasions.
2. Patients were thought to have asympto-matic primary hyperparathyroidism on the basis of history, physical exami-nation, and biochemical parameters.
3. Patients with benign hypocalciuric hypercalcemia.

All Patients underwent Complete history taking and clinical examination، especially neck examination for any palpable masses. Complete Laboratory investigation were done, e.g. CBC, Calcium level, etc. Radiological evaluation included Ultrasonography, Technetium-99m sestamibi, and CT scans.

Open Surgical technique included General endotracheal, with the neck extended. The incision was a neck collar incision. Flaps were raised, and dissected. Parathyroidectomy was done, and the wound was closed in layers.

Results
In our study mean age in our cases was 45.2 ± 9.46 , while the most affected age group was (40 - 49) years by (35%) ,then (30 - 39) years by

(30%), then (50 - 59) years by (25%), then (≥ 60) years) by (10%) While female more affected than male by (75%) of cases.

In our study, CT neck was done in 4 primary cases but not done in secondary cases one gland affected (50%) of them while 2 glands was affected in the other (50%) of cases. On the other hand, Tech 99 was done (50%) of cases.

Preoperative laboratory investigation Mean PTH in primary cases 1550 ± 646.9 while in secondary cases 1583.7 ± 517.8, Mean Ca in primary cases 11.7 ± 1.65 while in secondary cases 10.85 ± 0.82, Mean 24h urinary Ca in primary cases 365.5 ± 67.2 while in secondary cases 332.7 ± 59.8**.**

Minimally invasive procedure was done in 3 primary cases (15%), while Bilateral neck exploration done in 17 cases(85%)(7 cases primary & 10 cases secondary), 7 cases one gland was excised, 2 cases two glands was excised, while total parathyroidectomy was done in 8 cases (6 cases with Sternomastoid autotran-splantation & 2 cases with Forearm autotrans-plantation)**.**

Discussion

In our study as regard mean age was 45.2 ± 9.46 years which agreed with (Sun et al., 2016) mean age was 50.8 years, (Lai et al., 2006) mean age was 43 years & (Huang et al., 2017) mean age was 38.8 ± 9.8 years

In our study the most common presentation was Musculoskeletal pain. Which was occurred in 70% of cases then nephrolithiasis by 15% of cases while in (Sun et al., 2016) the most common presentation was nephrolithiasis which occurred in (56.7%) of cases then Osteopenia or osteoporosis by (43.3%) of cases, while in (Udelsman et al., 2011) the most common presentation was Musculoskeletal pain by 52.8% then nephrolithiasis by 30%.

In our study 50% of cases were pathology showed adenoma & 50% of cases were hyperplasia, while in (Philippon et al., 2014) 83% of cases were adenoma & 17% of cases were hyperplasia, while in (Udelsman et al., 2011) 91.8% of cases were adenoma & 7.2 % of cases were hyperplasia, while in (Eigelberger et al., 2004) 86% of cases were adenoma & 12% of cases were hyperplasia.
In our study CT neck was done in 20% of cases, all this cases were primary cases, 50% of cases CT show one gland affected & 50% of cases two glands were affected, while in (Cheung et al., 2012) CT neck was done in 9% of cases which were primary cases, while in (Sun et al., 2016) CT neck was done in 33% of cases which was primary cases.

In our study mean postoperative calcium was 7.3 ± 0.8 in primary cases & 7.76 ± 0.32 in secondary cases, while in (Eigelberger et al., 2004) mean calcium in primary cases was 8.78 & in secondary cases was 8.75, while in (Sun et al., 2016) mean calcium was 9.3 ± 0.2, while in (Philippon et al., 2014) mean calcium was 2.27± 0.17 (mmol/l), while in (Schlosser et al., 2016) mean calcium was 2.2 (mmol/l).

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