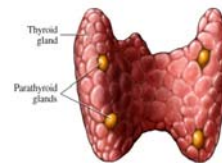




A PALPABLE NODULE IS THE ONLY SIGNIFICANT PREOPERATIVE CLUE IN THE DIAGNOSIS OF PARATHYROID CARCINOMA IN INDIA - A CASE SERIES

Senthil Vasan*, Jubbin J Jacob*, C K Ben Selvan[§], Deepak T Abraham[§], M J Paul Aravindan Nair[§], Regi Oomen[#], Nihal Thomas* & M.S.Seshadri*

*Department of Endocrinology , Diabetes & Metabolism
[‡]Department of Surgical Endocrinology
[‡]Department of Nuclear Medicine
 Christian Medical College Vellore India 632-004



Abstract

Parathyroid tumours account for a very small percentage of all head and neck neoplasms. The clinical presentation of benign primary hyperparathyroidism differs from that seen in Western series. We attempt to review the presentation and outcomes of patients treated for malignant primary hyperparathyroidism from our centre and highlight the clinical clues to an early pre-operative diagnosis.

METHODS: A retrospective review was conducted of all cases of parathyroid carcinoma treated at Christian Medical College from 1990 – 2005. Five patients were identified. Their demographic characters, clinical presentation, management details, and treatment outcome were obtained from the case records.

RESULTS: Five subjects were identified with parathyroid carcinoma. There was a male preponderance and the mean age of presentation was 49 years. The clinical presentation among patients with parathyroid carcinoma and benign primary hyperparathyroidism was similar. Clinically the only significant difference was the presence of palpable nodule in 80% of patients with carcinoma compared to 11% among patients with benign primary hyperparathyroidism (p value 0.01). Biochemically all patients with parathyroid carcinoma had hypercalcaemia with elevated serum PTH levels and there was no significant difference compared to benign hyperparathyroidism. Surgery was done in all patients. Intraoperatively evidence of local metastasis to the cervical lymphnodes was seen in 40% of patients. The tumours showed a high predilection to the inferior parathyroid glands. All subjects underwent radiotherapy with cobalt at mean dose of 50Gy. Recurrence was evident in four subjects. The mean duration of recurrence from the time of primary surgery was about 2 years. One subject had vocal cord involvement and underwent tumour resection from the cords. Bony metastasis was found in one subject as evidenced by hot spots in sestamibi scan. Two of the five patients died and one patient was lost to follow up.

CONCLUSION: Parathyroid carcinoma constitutes around 2-3% of patients with primary hyperparathyroidism in our country. The presence of a palpable nodule in the neck is a clinical preoperative clue to the presence of malignancy. Despite routine post operative radiotherapy in our centre the recurrence rate of parathyroid cancer is similar to what is reported in literature.

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Objectives

To assess clinical clues to the pre-operative diagnosis of Parathyroid carcinoma among patients with primary hyperparathyroidism seen over the five years

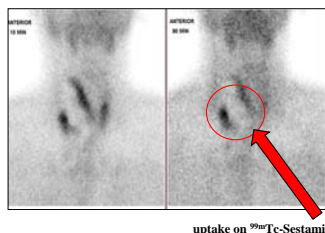
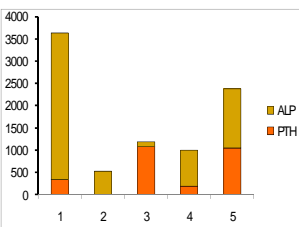
Results



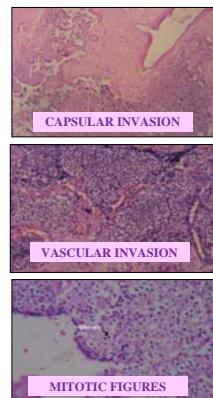
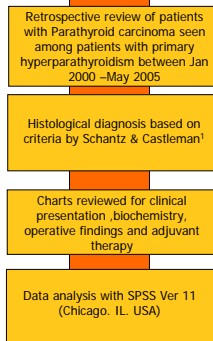
Clinically the only significant difference was the presence of palpable nodule in 80% of patients with carcinoma compared to 11% among patients with benign primary hyperparathyroidism² (p value 0.01).

Correlation between Clinical Findings / Intra operative localization and Imaging modality in diagnosis of Parathyroid Carcinoma

Clinically palpable nodule	Left inferior 1.5 x 1.5 cms	Left inferior 5 x 3 cms	Right side 5 x 3 cms	Not palpable	Right side 2 x 2 cms
Pre op Localization	Left inferior by ultrasound 1.5 x 3 cms	Cold spot in left inferior by Sestamibi	Right inferior by Sestamibi	Not done	Right inferior by Sestamibi
Intraoperative finding	Left inferior 2.5 x 3 cms	Left inferior 2.5 x 1.7 cms	Right inferior	Left inferior	Intrathyroidal on the right inferior side



Methodology:



	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5
Age (years)	35	78	45	57	40
Sex	Female	Male	Male	Male	Male
Presentation	Bone pains Fractures	Polyuria Weight loss	Neck swelling	Fractures	Bone pains Proximal MW
Clinically palpable nodule	Left inferior 1.5 x 1.5 cms	Left inferior 5 x 3 cms	Right side 5 x 3 cms	Not palpable	Right side 2 x 2 cms
Serum Calcium	15.2	10.1	14.1	8.3	13.6
Serum Phosphorous	2.9	3.4	2.1	3.1	4.6
iPTH (Intact PTH)	339	Not done	1083	191	1052
Serum ALP	3305	521	104	810	1326
Serum Creatinine	1.0	1.2	1.4	2.3	2.9
Pre op Localization	Left inferior by ultrasound 1.5 x 3 cms	Cold spot in left inferior by Sestamibi	Right inferior by sestamibi	Not done	Right inferior by sestamibi
Primary Surgery	EP + HT*	EP + HT*	BIP + TT	IP + HT	IP + HT
Intraop finding	Left inferior 2.5 x 3 cms	Left inferior 2.5 x 1.7 cms	Right inferior	Left inferior	Intrathyroidal on the right inferior side
Local invasion / Metastasis	Paratracheal lymphnodes	Strap muscles & Lymphnodes	None	None	Bony metastasis
Intraop 2 nd surgery	Total thyroidectomy LN clearance	Neck exploration LN clearance	NIL	NIL	NIL
Post operative complications	Transient hypocalcaemia	Transient hypocalcaemia	Transient hypocalcaemia	Hungry Bone syndrome	Hungry Bone syndrome
Radiotherapy (RT)	YES	YES	YES	YES	YES
Dose of RT	45 Gy	50Gy	50Gy	50Gy	50Gy
Recurrence	YES	YES	NO	YES	YES
No of years after 1 st surgery	4 years	1 year	NA	2 years	2 years
Management of recurrence	Tumour removal from Cords	Third Surgery	-	Local RT	Palliative
Others	Nephrocalcinosis Chronic renal failure Vocal cords involvement	Cirrhosis of Liver	-	Multiple calculi Bone Metastasis	Nephrocalcinosis Chronic renal failure
Course of Management	EXPIRED	EXPIRED	-	Lost to follow up	-
Follow up	68 months	120 months	15 months	14	36 months

Conclusions

- Our series' of a small number of patients suggest that parathyroid carcinoma is a rare tumour and constitutes around 2-3% of patients with primary hyperparathyroidism in India.
- In the present setting the presence of a palpable nodule in the neck is the only preoperative clue to the presence of malignancy in patients with primary hyperparathyroidism.
- The degree of hypercalcaemia and the associated symptoms did not predict the presence of malignancy