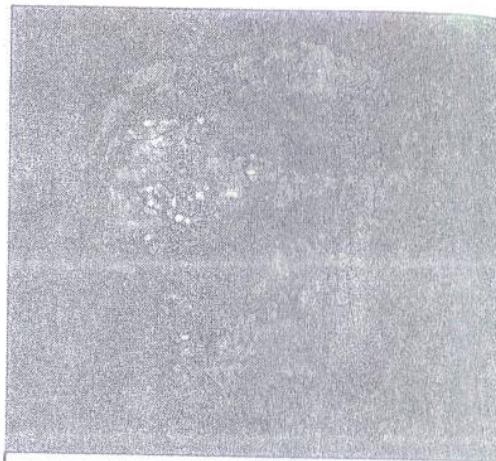


Table 3- Surgical and pathological findings:

| Diseased gland | Number | Histopathology | Concomitant thyroid pathology |
|----------------|--------|----------------|------------------------------------|
| One gland | 12 | Adenoma | Two cases with multinodular goitre |
| Double glands | 1 | Adenoma | 0 |
| Four glands | 1 | Hyperplasia | 0 |



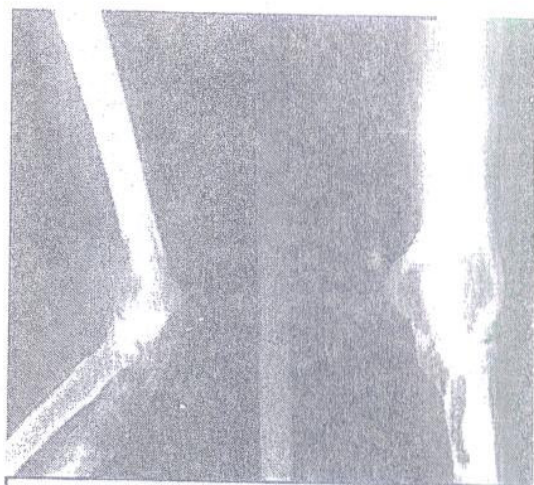
The patient who is died due to comorbidity and bad general condition



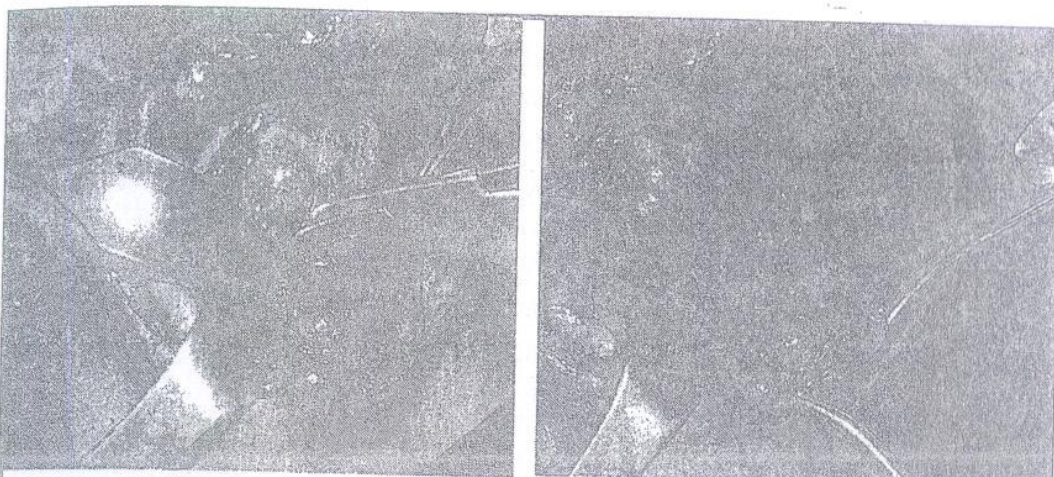
The same patient with severe bed sores in the gluteal region.



The same patient with pathological fracture in the femur



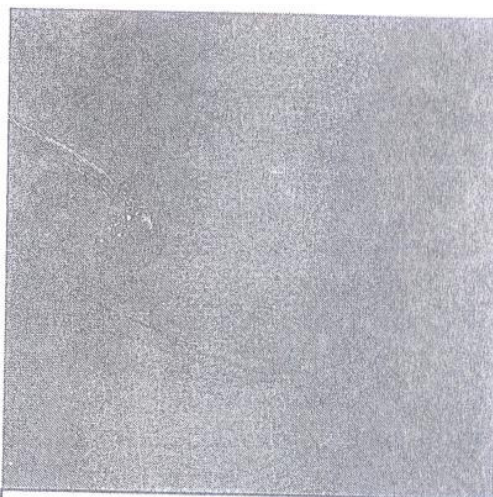
Plain x ray of upper limb showing multiple bone cysts in the upper ulna.



A case of parathyroid adenoma concomitant with multinodular goitre (operative view)



Post operative specimen of parathyroid adenoma and multinodular goitre



The site of exploration closed by subcuticular sutures.

study we depend mainly on US for diagnosis of parathyroid diseases as it is a simple non invasive non costly modality and it gives about 71% accuracy as compared to CT and sestamibi scan (85% & 87% respectively) but these modalities is costly and sometimes not available. A 1994 consensus panel⁽¹⁷⁾ of the NIH stated that localizing tests were not of any value in patients who had never been operated upon for PHPT. Ferzly et al.⁽¹⁸⁾, (2004) stated that intraoperative parathyroid hormone assay, gamma probe, and endoscopic parathyroidectomy add an entirely unnecessary cost to an operation that can be completed satisfactorily with a preoperative sestamibi scan and a thorough four-gland exploration.

The main aim of surgery in pHPT is to maintain normocalcaemia after adequate removal of the abnormal parathyroid tissue at the initial operation. The cost and risk of unsuccessful surgery are very significant⁽¹⁹⁾. In our study, the aim of surgery in addition to the previous was to avoid the disastrous complications and to minimize the morbidity and mortality of the undiagnosed or misdiagnosed parathyroid disease. Bilateral neck exploration has been considered as the standard because it avoids missing ectopic, supernumerary, or multiple abnormal glands, without requiring routine expensive preoperative localization⁽²⁰⁾. We used this approach for managing those patients with PHPT. Some peoples use unilateral approach and recently minimally invasive radioguided parathyroidectomy was used in dealing with this problem⁽²¹⁾

Surgical therapy for hyperparathyroidism has historically produced high success rates, although there still remains a 3 % to 10% failure rate for surgical therapy. This failure rate is most often due to unrecognized multiglandular disease at the first exploration^(22&23). In our study, fortunately, the success rate was 92.9 % as most of our cases was large adenoma in single gland, with failure in one case proved later on to be ectopic parathyroid gland in superior mediastinum and this occurred in the early period of the study before practicing the sestamibi scan in our hospital.

The only mortality that has been documented in the study group involved a patient with neglected PHPT with severe comorbidity and bed sores on top of long standing pathological fracture, severe

anorexia, dehydration and marked weight loss. Colostomy and parathyroidectomy was done for this patient but the patient died.

Parathyroid diseases is not uncommon problem in our locality. Surgery of pHPT is a very successful operation with minimal morbidity. Early discovery of pHPT gives the best chance of cure and avoid disastrous complications of this disease. Cooperation between general and orthopaedic surgeon may add to the best management of this disease.

References:

1. Kearns AE, Thompson GB. Medical and surgical management of hyperparathyroidism. *Mayo Clin Proc* 2002;77:87-91.
2. Taillefer R: 99m-sestamibi parathyroid scintigraphy. In: *Nuclear Medicine Annual* 1995.51-75.
3. Bilezikian JP, Potts JT, Jr, Fuleihan Gel-H, Kleerekoper M, Neer R, Peacock M., et al. Summary statement from a workshop on asymptomatic primary hyperparathyroidism 2002.
4. Tan GH, Gharib H. Thyroid incidentalomas: Management approaches to non palpable nodules discovered incidentally on thyroid imaging. *Ann Intern Med*; 1997; 126: 226.
5. Frasoldati A, Pesenti M, Toschi E, Azzarito C, Zini M, Valcavi R. Detection and diagnosis of parathyroid incidentalomas during thyroid sonography. *J Clin Ultrasound*. 1999 ;27(9): 492-8.
6. Carnaille BM, Pattou FN, Oudar C, et al. Parathyroid incidentalomas in normocalcaemic patients during thyroid surgery. *World J Surg*, 1996; 20: 830
7. Shaha A, Sarkar S, Strashun A. and Yeh S. Sestamibi scan for preoperative localization in primary hyperparathyroidism. *Head Neck* 1997; 19: 87-91.
8. Statmann SL, Kuhn JA, Bell MS. Comparison of quick parathyroid assay for uniglandular and multiglandular parathyroid disease. *Am J Surg* 2002(578-581)
9. Giroto JA, Harmon JW, Ratner LE, et al., Parathyroidectomy promotes wound healing and prolongs survival in patients with calciphylaxis from secondary hyperparathyroidism. *Surgery.*, 2001., 130: 645-650.
10. Udelsman R. six hundred fifty six consecutive explorations for primary hyperparathyroidism. *Ann Surg.* , 2002; 235:665-670.
11. Ditkoff PA, Chabot J, Feind C, et al. Parathyroid surgery using monitored anaesthesia care as an alternative to general anaesthesia. *Am. J. Surg.*, 1996; 172: 698-700.