INVESTIGATION OF SUSPECTED HYPERPARATHYROID DISEASE

INTRODUCTION

Interpretative comments on reports:

If patient **hypercalcaemic**, the following comments will be added to non-endocrinologist reports.

PTH	Comment
>6.9	Raised PTH, suggestive of primary hyperparathyroidism. Suggest referral to endocrinologist.
2.6 to 6.9	Normal PTH, consistent with primary hyperparathyroidism. Familial benign hypercalcaemia should be considered. Suggest referral to endocrinologist
1.6 to 2.5	Borderline low PTH, consistent with non-parathyroid cause of hypercalcaemia.
<1.6	Low PTH, consistent with non-parathyroid cause of hypercalcaemia

All patients (excluding secondary HPTH in renal dialysis) should be referred to Endocrinology team for further evaluation:

1. Confirm raised corrected calcium and PTH on fasting sample
2. Exclude FBH if PTH less than 7.5 pmol/L (see Calcium excretion)
3. Exclude phaeochromocytoma (24hr. urinary catecholamines)

PREVALENCE OF FAMILIAL BENIGN HYPERCALCAEMIA

1 in 200 cases of hypercalcaemia[1], 1 in 20 cases of hypercalcaemia if PTH (mid molecule specificity) is raised (>6.9) and 1 in 4 when PTH is between 2.6 and 6.9 pmol/L[2]

CALCIUM EXCRETION

Urine excretion is low in FBH. Using fasting serum and 2nd void urine sample the calcium excretion (fasting urine calcium:creatinine ratio x serum creatinine) at a cut-off of 22 gives a sensitivity 95% and a specificity 92% for FBH.

(24hr urine calcium - cut-off 5.1 mmol/l; sensitivity 95% and specificity 63% for FBH)[3].

REFERENCES

1. Marx SJ. Familial hypocalcuric hypercalcaemia. In Heath and Marx, eds. Clinical Endocrinology, Vol 2, Calcium disorders. London: Butterworth Scientific, 1982: 217.
2. Gunn IR. Familial benign hypercalcaemia - an under-diagnosed condition? *Proc UK NEQAS Meeting* 1998; **3**: 85-89.
3. Gunn IR, Wallace JR. Urine calcium and serum ionized calcium, total calcium and PTH concentrations in the diagnosis of primary hyperparathyroidism and familial benign hypercalcaemia. *Ann Clin Biochem* 1992; **29:** 52-8