

Calcium creatinine clearance ratio (CCCR)

CCCR is useful when differentiating between mild PHP and FHH.

FHH = familial hypocalciuric hypercalcemia, PHP = primary hyperparathyroidism.

A 24 hour urine calcium paired with calcium and creatinine on a venous collect is required for calculation of the ratio:

Ratio:

< 0.01: suggestive of FHH

0.01 - 0.02: indeterminate

>0.02: suggests PHP

Defective calcium sensing results in a lifelong mild increase in blood calcium levels in patients with FHH but “low” urine calcium levels. Surgery is NOT indicated.

The ratio should be interpreted along with the family history and clinical findings

Limitations:

There is overlap between FHH and PHP

The ratio is decreased when:

- Taking lithium or thiazides,
- Vitamin D is < 25 nmol/L
- Impaired renal function is present

Contact the chemical pathologist at Waikato Hospital Laboratory for more information (07 8398606)