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Issue number: Version 1

Subject: Guideline for Treating and Monitoring Hypercalcaemia in patients in non-critical areas of Hospital

Objective: The objective of this guideline is to provide a clear quick reference guide to support clinicians in the treatment and monitoring of patients with hypercalcaemia as well as how to investigate causes (serum adjusted calcium >2.60 mmol/L)

Target Level: Trust-wide

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'CG Approved' logo will be added by CG Dept.

Evidence Base: Rank: A, B, C or D (CSG/CG Dept will categorise evidence base)

Associated Documents:

Information Classification Label

Unclassified

Date of Issue: 2021

Review Date: month & year + 3

REVIEW HISTORY			
Issue No.	Page	Changes made with rationale and impact on practice	Date

Introduction:

Hypercalcaemia (defined as serum adjusted calcium >2.60 mmol/L) commonly encountered in clinical practice. Most patients with mild hypercalcaemia (serum adjusted calcium between 2.60mmol/L to 2.90mmol/L) are usually asymptomatic. Moderate to severe hypercalcaemia (serum adjusted calcium >3.00 mmol/L) can present with dehydration, thirst, polyuria and confusion.

Causes: primary hyperparathyroidism, malignancy, calcium and vitamin D supplementation, sarcoidosis, tertiary hyperparathyroidism, prolonged immobilisation, drugs such as thiazides, lithium.

Exclude: spurious causes e.g., contamination from drip containing calcium

Check: serum adjusted calcium, U&E, eGFR, Magnesium, PTH and 25OH vitamin D prior to treatment if cause of hypercalcaemia unclear. Consider performing myeloma screen: FBC, ESR, serum Immunoglobulins, urine Bence Jones protein, serum electrophoresis

DO NOT USE THIS GUIDANCE FOR PATIENTS WITH eGFR <30 or PATIENTS WITH CCF, CONTACT RENAL OR CARDIOLOGY TEAM FOR ADVICE



APPENDIX

- a. IV Zoledronic acid dose is 4mg if serum creatinine <400micromol/L, do not give if serum creatinine is 400mmol/L or above.
- b. Give recommended IV Zoledronic acid dose in 100ml of 0.9% saline over 15-60 minutes

Pamidronate

- a. Dose depends on initial adjusted calcium level (Table 2).
- b. Give recommended IV Pamidronate dose in 500ml 0.9% saline over 4 hours.
- c. If creatinine clearance 30 - 90, no dose adjustment is required.

Table 2: Pamidronate dose according to initial Calcium concentration

Initial adjusted serum calcium (mmol/litre)	Recommended total dose (mg)
up to 3.0	15-30
3.0-3.5	30-60
3.5-4.0	60-90
>4.0	90

Calcitonin

- a. If repeat serum adjusted calcium >4.0mmol/L and patient symptomatic, consider giving Calcitonin (Discuss with Consultant).
- b. It has rapid hypocalcaemic effect and can be given in this situation
- c. It can be given if eGFR<30
- d. Dose: subcutaneous Calcitonin 100units 3 times a day for 5 days

After Calcitonin or bisphosphonate therapy, continue rehydration with 0.18% NaCl-4% dextrose: 2-3L daily for 48 hours, then review.