Think Medicines!

NHS
Cambridgeshire and Peterborough
Clinical Commissioning Group

Issue 19
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Safety

Safe Use of Lithium

Lithium should always be PRESCRIBED BY BRAND due to differences in bioavailability between the available salts and preparations.

Ongoing treatment with lithium should be monitored carefully and any abnormal clinical test results/blood results discussed with a specialist. Patients taking lithium have been harmed because they have not had their dosage adjusted based on recommended regular blood tests.

Monitoring of Lithium in Primary Care

Lithium has a narrow therapeutic index and it is essential that lithium blood levels are monitored regularly. Lithium toxicity is serious; the clinical consequences include seizures and irreversible renal damage. Lithium is primarily excreted through the kidneys so any change in renal function, fluid balance or electrolyte levels can lead to lithium toxicity.

Routine serum-lithium monitoring should be performed weekly after initiation and after each dose change until concentrations are stable, then every 3 months thereafter.

Additional serum-lithium measurements should be made if a patient develops significant intercurrent disease or if there is a significant change in a patient's sodium or fluid intake.

- **Plasma lithium level - every 3 months for the first year and then as a minimum once every 6 months.**
- NICE guidance recommends checking lithium levels every 3 months for people in any of the following groups:
  - Older people.
  - Those taking medicines that interact with lithium (see below).
  - Those at risk of impaired renal function or thyroid function, raised calcium levels, or other complication.
  - Those with poor symptom control.
  - Those with poor adherence.
  - Those whose last plasma level was 0.8 mmol/L or higher.
- **Renal function - every 6 months** (more often if there is evidence of deterioration or if the patient has other risk factors, such as starting ACE inhibitors, NSAIDs, or diuretics).
- **Weight or BMI - every 6 months.**
- **Urea & Electrolytes** (including calcium) - **every 6 months.**
- **Thyroid function - every 6 months.**
- **Symptoms of neurotoxicity - at every appointment** (including paraesthesia, ataxia, tremor and cognitive impairment, which can occur at therapeutic levels of lithium).

Monitoring Packs

At the start of lithium therapy patients should receive appropriate ongoing verbal and written information and a record book to track lithium blood levels and relevant clinical tests.

Prior to the issue of a repeat prescription and/or dispensing of the prescribed lithium; prescribers and pharmacists should check that blood tests are monitored regularly and that it is safe to issue with-out exception. The psychiatrist should specify the appropriate target range for lithium level, and record this in the patient's purple book.

Purple lithium monitoring books, cards etc. are available for GP surgeries to order from: http://pcse.england.nhs.uk/supplies/.

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Drug Interactions

Significant interactions occur with drugs that affect renal clearance of sodium, leading to increased lithium levels. The effect is unpredictable, but can lead to up to four-fold increases in lithium levels. The main classes of drugs are:

- ACE inhibitors (and angiotensin II receptor antagonists) – may take several weeks to develop.
- Thiazide diuretics – loop diuretics are safer.
- NSAIDs – especially risky if used on PRN basis (e.g. high-dose for several days/weeks for acute injury).

If interacting drugs cannot be avoided; they should be prescribed regularly, lithium levels monitored closely, and lithium dose adjusted if necessary.

Information on other drug interactions can be found in the BNF or manufacturers' Summary of Product Characteristics.

Further Information

For further evidence, support documents and information:

- NICE Guidance CG185, Bipolar disorder: assessment and management
- NPSA 'Safer Lithium Therapy' 2009
- Camrbidgeshire & Peterborough Primary Care Formulary

Discontinuing Lithium

Lithium should never be stopped abruptly, except in cases of toxicity; abrupt discontinuation is associated with significant risk of relapse.

If the patient wishes to discontinue lithium, the GP should refer back to the specialist.

GP Prescribing Support Document

In conjunction with Cambridgeshire & Peterborough Foundation Trust, a GP Prescribing Support Document is being developed to support the safe prescribing of lithium. This will be available shortly on the Prescribing Section of the C&P Website, here.

Does your practice have robust systems in place to support the safe prescribing and monitoring of high risk medicines?

In recent months there have been several incidents where a patient has either taken a high risk medication incorrectly, had a high risk medication prescribed or dispensed incorrectly, failed to have the necessary monitoring or failed to have their medication reviewed due to abnormal blood results.

We would like all practices to consider their processes in relation to the prescribing of high risk medications.

Has your practice had an incident or near miss relating to a high risk medicine, or unsure that your processes are robust? If you would like further support in reviewing your processes please contact the CCG Medicines Safety Pharmacy Technician via Prescribing Partnership CAPCCG.prescribingpartnership@nhs.net.

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