Monitoring of patients prescribed lithium: Key messages for primary care

This leaflet outlines why biochemical monitoring is important in patients who are prescribed lithium, the main findings from the POMH-UK* audit and the actions required to improve practice in primary care in this area of prescribing.

What is lithium used for?
Lithium is used for the acute treatment of mania, to prevent relapse into mania or depression in bipolar disorder, and to augment antidepressants in treatment-resistant depression. Its use for these indications is supported by NICE.

How commonly is lithium used?
Approximately 1 in a 1,000 adults in the UK are prescribed lithium.

Why is biochemical testing required?
Lithium has a narrow therapeutic index. Plasma levels <0.4mmol/L are sub-therapeutic, and levels >1.2mmol/L are toxic in the majority of patients. Lithium toxicity is serious; the clinical consequences include seizures and irreversible renal damage. Lithium is primarily renally excreted so any change in renal function, fluid balance or electrolyte levels can lead to lithium toxicity. Long-term lithium treatment is associated with decreased renal function. Even when lithium levels are in the therapeutic range, the risk of hypothyroidism is increased 5-fold. The symptoms of hypothyroidism overlap with those of depression but the treatment is very different. Patients with bipolar disorder should be advised against early or abrupt discontinuation of lithium as this greatly increases the risk of relapse into mania.

Lithium & pregnancy
Women of childbearing potential receiving lithium should use effective contraception. Lithium should usually be discontinued before a planned pregnancy. If a woman becomes pregnant while taking lithium, it would be appropriate to discuss further management with their consultant psychiatrist.

What are the clinically significant drug interactions with lithium?
Drugs that affect the way the kidneys handle sodium can decrease the excretion of lithium. Lithium toxicity can be caused by NSAIDs, COX-2 inhibitors, ACE inhibitors, angiotensin-2 antagonists and diuretics. Particular care should be taken to ensure that lithium levels are checked at least every 3 months in patients prescribed any of these drugs. Additional tests should be undertaken in the first month after the interacting drug is initiated or discontinued, or the dose is changed.

What are the monitoring requirements for patients who are prescribed lithium?
QOF recommends a plasma lithium level in the therapeutic range within the last 6 months, and renal and thyroid function tests within the last 15 months.

The NICE guidelines for the management of bipolar disorder and depression recommend a plasma lithium level every 3 months, and renal and thyroid function tests every 6 months.

Note the NICE recommendations for monitoring are much more stringent than the 2009/10 QOF targets.

*The Prescribing Observatory for Mental Health (POMH-UK) works with specialist mental health services to help them improve prescribing practice. POMH does this through focused quality improvement programs that typically start with an audit of practice against clinically credible evidence-based standards, followed by the delivery of change interventions, and finally a re-audit 12-18 months later. The RCGP is a partner organisation of POMH. Further information about POMH can be found at www.rcpsych.ac.uk/pomh

www.primarymentalwellbeing.org.uk
What were the key findings in the national audit of the quality of lithium monitoring undertaken by The Prescribing Observatory for Mental Health* (POMH-UK)?

In October 2008, POMH conducted a baseline audit of the quality of lithium monitoring in secondary care.

- One in 10 patients prescribed lithium had no documented plasma lithium level in the last year. Overall the QOF target was not met for 31% of patients and the NICE standard for 70%.
- One patient in 5 had no renal function tests documented in the last year. The NICE standard was not met for 46% of patients.
- One patient in 6 had no thyroid function tests documented in the last year. The NICE standard was not met for 51% of patients.

How can we improve patient safety with respect to lithium prescribing and monitoring in primary care?

1. Ensure patients are given the information they need to take lithium safely
   - That regular blood tests are needed and why
   - The prescribed dose should not be exceeded
   - Care should be taken to avoid dehydration
   - To check with their doctor or a pharmacist before taking any new medicines along with lithium.
   - That written information in the form of a patient information leaflet and lithium card are provided. Bulk copies can be obtained from NHS forms
     Tel: 0845 610 1112
     Email: nhsforms@spsl.uk.com.
   For further information on how individual clinicians can obtain copies of the lithium pack, contact your prescribing advisor.

2. Prescribe safely
   - Ensure all patients prescribed lithium can be identified on the severe mental illness register
   - Ensure repeat prescribing is contingent on satisfactory biochemical testing as outlined in the QOF.
   - Don’t allow exceptions. All patients prescribed lithium must undergo appropriate testing.
   - Try to avoid prescribing drugs that interact with lithium. If this is not possible, arrange extra monitoring when these drugs are initiated or if the dose is changed.

3. Communicate with secondary care
   - Where the patient is also seen by community mental health services, ensure test results are communicated to the mental health team.
   - Ask mental health services to share their test results with you.

POMH-UK partner organisations include:

The National Patient Safety Agency (NPSA) National Reporting and Learning Service is working with POMH-UK to improve the quality of monitoring in patients who are prescribed lithium. A patient-held booklet to convey information on lithium levels and recommended biochemical and other monitoring between Health Care Practitioners is available from NHS forms and a copy should be given to every patient who is prescribed lithium.