



Monitoring Lithium during the Covid-19 Pandemic

Background

Lithium is a drug with a narrow therapeutic index and toxicity can develop quickly if levels are above the therapeutic range. In some patients, lithium may adversely affect renal or thyroid function. Patients on lithium therefore undergo blood testing routinely to ensure that their blood levels remain in range and that their kidney or thyroid function is not being adversely affected.

Lithium levels should be taken after 5-7 days of stable dosing and as a trough i.e. 12 hours post dose. Other monitoring includes, Height, Weight, BMI, Thyroid function, ECG and Full blood count.

Lithium monitoring is carried out at least every three months for the first year, but some patients may need to have lithium monitoring carried out more frequently e.g. if they are:

- Prescribed interacting medications such as diuretics, ace inhibitors, or other medicines which adversely affect renal function
- Elderly
- Renally impaired or at risk of being so
- At risk of impaired thyroid function, raised calcium levels or other complications.
- Poorly adherent to lithium or monitoring
- Patients with poor symptom control
- Patients with a previous lithium level of 0.8mmol or above

After the first year, patients in any of the above categories should continue with monitoring at least three monthly however stable patients without risk factors can have blood testing every 6 months.

Signs of Lithium toxicity

Toxicity can occur with levels within the therapeutic range e.g. in the elderly, but is most likely to develop in patients with lithium plasma levels above 1mmol/L

- Symptoms include blurring of vision, anorexia, vomiting, diarrhoea, drowsiness, giddiness, ataxia, gross tremor and lack of co-ordination
- At very high levels, hyperreflexia, hyperextension of limbs, convulsions, toxic psychosis and oliguria may occur.
- Monitor for symptoms of neurotoxicity, including paraesthesia, ataxia, tremor and cognitive impairment, which can occur at therapeutic doses.

If any of the symptoms are experienced by the patient, then lithium therapy should be withheld and lithium levels checked urgently. Consider urgent medical referral and psychiatric advice.

Lithium and COVID-19

There is no evidence that lithium increases the risk of developing infections such as respiratory tract infections or complications such as pneumonia.

Where patients have developed an infection, they may be at an increased risk of developing lithium toxicity. Vomiting, diarrhoea and infection (especially if sweating profusely) may require dose

reduction or discontinuation. Patients with COVID-19 frequently present with a fever and therefore may be at risk of dehydration. Patients who are isolated at home with limited supplies may significantly change their diet and therefore sodium intake which could also impact on lithium levels.

Patients with confirmed or suspected COVID-19

Where patients who are stable on lithium have symptoms of COVID-19, lithium use can be continued as usual and should continue to be monitored in line with usual monitoring advice.

Patients who develop moderate or severe symptoms of COVID-19, particularly those who are elderly or more likely to be at risk of lithium toxicity (as above) should have their lithium levels monitored as soon as possible. Where patients are at significant risk of dehydration or there any signs of lithium toxicity lithium should be withheld until lithium monitoring is carried out.

Patients self-isolating without confirmed or suspected COVID-19

Patients self-isolating in line with government advice should continue to be monitored in line with usual monitoring advice. Unless they are in a “high-risk” group they can continue to attend clinics, phlebotomy clinics or GP surgeries to have their blood tests.

Decisions to extend monitoring should be managed on a case by case basis but may be considered for patients who have been stable for more than 1 year with no other risk factors.

Managing patients unable to attend for their blood test

Most patients prescribed lithium will be monitored in primary care and this should be continued as much as possible. If a patient is unable to attend their usual site for a blood test consideration should be given to alternative options e.g.

- Patient attends GP practice (if phlebotomy service is available)
- Patient attends a blood test centre (e.g. hospital, note they will need a blood form)
- Patient attends a mental health team clinic
- Nurse/ doctor attend patient to take bloods *
- Consider if their Community Mental Health Team can attend to take bloods*

*For patients with symptomatic COVID-19, those at high risk, or those who are showing signs of lithium toxicity.

Wherever possible patients who are isolated with symptomatic COVID-19 or those who are isolated due to being in a “high-risk” group, should have their blood samples taken at the place they are staying. Where staff are attending patients who have symptoms of COVID-19 they should wear full protective equipment in line with the Trust’s infection control policy.