Lithium Toxicity

Lithium is a medicine used to treat depression and bipolar disorders. Lithium poisoning (*toxicity*) occurs when the amount of lithium in the blood is too high. The greater the amount in the blood, the more problems occur. This is common among those taking lithium. This is because the amount of lithium needed to help the disease is not much different than the amount that can cause poisoning. Hence, it is very important to detect signs of toxicity early.

CAUSES

Lithium toxicity can occur for several reasons:

- Intentional overdose.
- Accidental overdose.
  - If taking many medicines, confusion can lead to taking too much or not enough of one or more prescriptions.
  - Even if taking lithium correctly, other medicines can change levels in the blood. Many drugs (such as medicines used for arthritis, some antibiotics, water pills (*diuretics*), dilantin (used for control of epilepsy), and cyclosporine (used for patients receiving transplants) can increase lithium levels.
  - If unrelated diseases develop, the amount of lithium in the blood might go up or down.
  - While working with your caregiver to fine tune your dosing, it is possible that a prescribed dose might be too much.

SYMPTOMS

The symptoms of mild-to-moderate lithium toxicity are:

- Diarrhea.
- Vomiting.
- Drowsiness.
- Thirst.
- Muscle weakness.
- Mild shakiness, particularly of the hands.
- Frequent urination.

The symptoms of severe toxicity are:

- Blurred vision.
- Giddiness.
- Ringing in the ears (*Tinnitus*).
- Seizures.
- Increased shakiness.
- Severe muscle spasms.
- Loss of consciousness or coma.

Some people will get symptoms of mild toxicity even if the level gets close to the top of the normal range. Even if your lab test shows a blood level that is "normal", it is important to tell your caregiver if you are having any of the symptoms noted above.

DIAGNOSIS

Your caregiver will look at your signs and symptoms. You will be asked about the dose of lithium you are taking and when the last dose was taken. You will also be asked about how long you have been on the medicine. Then, your caregiver will order blood tests to check your blood lithium level.

TREATMENT

Treatment is mainly supportive.

- Mild symptoms can be controlled by reducing or stopping the drug. This can be restarted 24-48 hours later at a lower dose. Your caregiver may recommend changing the daily dose of lithium.
- Severe cases are treated by removing lithium from the body. Care is started in a hospital emergency department.

- A tube may be placed through the nose or mouth into the stomach. The tube can be used to remove lithium that has not been digested yet. It can also be used to put medicines directly into the stomach to help stop lithium absorption.
- Medicines may be used that cause diarrhea. This can help stop absorption of lithium. Your caregiver may suggest cleaning of blood using an artificial kidney (*dialysis*). This is usually only used for the most severe cases.

HOME CARE INSTRUCTIONS

- Take the dose of lithium as advised by your caregiver.
- **Never take more than your advised dose.**
- Drink plenty of water as dehydration increases the risk of lithium toxicity.
- Seek the advice of your caregiver before starting a low-salt diet as reducing your salt intake can lead to toxicity.
- Check your lithium levels in the blood regularly. Tests are generally done 12-18 hours after the last dose.

SEEK MEDICAL CARE IF:

- You notice any symptoms of lithium toxicity as described above.
- You are confused or have questions about how to take your medicines.

SEEK IMMEDIATE MEDICAL CARE IF:

- Your symptoms are severe.
- You discover that you have accidentally taken too much lithium or too much of any other medicine.

MAKE SURE YOU:

- Understand these instructions.
- Will watch your condition.
- Will get help right away if you are not doing well or get worse.

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