

LITHIUM TOXICITY APPROPRIATE REGIMEN

Policy: During the early phase of treatment fine hand tremor, polyuria, and mild thirst are commonly observed. These symptoms may persist throughout treatment. Diarrhea, vomiting, drowsiness, muscular weakness poor coordination and confusion may be early signs of Lithium toxicity at levels below 2.0 mEq/L. At higher levels, ataxia, giddiness, tinnitus, blurred vision, and large output of dilute urine may be seen.

Drug Interactions: Diuretics, NSAIDS (including Cox-2 inhibitors), metronidazole, ACE-inhibitor's, calcium blocking agents may lead to elevated Lithium levels, therefore, Lithium levels need to be monitored more closely. Dehydration, especially in the elderly, may lead to elevated Lithium levels, therefore, Lithium levels need to be monitored more closely. Dehydration, especially in the elderly, may lead to elevated Lithium levels as well as low sodium diets.

Lithium toxicity may potentially lead to death. Outpatient may fail to follow through with scheduled appointments especially if they are confused and agitated secondary to Lithium toxicity. Patient's who are Lithium toxic may be irritable, confused and may hang up the phone. Should this happen, assertive follow-up is recommended to prevent medical complications, such as kidney failure or cardiovascular collapse.

Background: Lithium remains a mainstay in the treatment of Bipolar Disorders as well as adjunctive treatment of other mood disorders. Typical Dosage ranges are from 600-1800 mg per day. Therapeutic blood levels are as follows:

- Acute mania: 0.6-1.2 mEq/L (SI: 0.6 – 1.2 mmol/L)
- Elderly patients can usually be maintained at lower end of therapeutic range (0.6-0.8 mEq/L)

Procedures: The following are baseline and routine monitoring parameters for Lithium.

1. Serum plasma concentrations: Weekly x 4 weeks, then monthly x 3 months or as clinically indicated.
2. CBC: Baseline, monthly x 3 months, then as clinically indicated.
3. Blood chemistries: Baseline, then every 12 months, or as clinically indicated (e.g., serum creatinine, renal function, and electrolytes)
4. EKG (In-patients > 45 years or with preexisting cardiac disease): Baseline, then every 12 months as clinically indicated.
5. Thyroid function tests (T3, T4, TSH, FTI): Baseline, then every 12 months. Women have a 5 % incidence of Lithium induced hypothyroidism.
6. Assertive follow-up on patients who fail to keep appointments or are otherwise suspect for Lithium Toxicity

A. Attachments: None

B. References:

1. Lithium: Drug Information (2011). Up to Date Website. Retrieved October 15, 2011, Available at http://www.uptodate.com/contents/lithium-drug-information?source=search_result&search=lithium&selectedTitle=1%7E150.

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