

motor power improved over a period of 15-20 days. Patient was weaned off the ventilator after 21 days. Trachea was decannulated and stoma closed. Patient was subsequently shifted to medical ward for further medical management. The patient was restarted on tab. lithium 300 mg OD on advice by the psychiatrist. During her stay in the hospital, patient had developed a bed sore on her left gluteal region for which skin grafting was contemplated after two months. The patient was posted for surgery for skin grafting. Again routine investigations were done along with thyroid function tests and serum lithium levels. The thyroid function tests were within normal limits and serum lithium level was 1.3 mEq/l.

Lithium was discontinued 24 hours prior to surgery. Patient was premedicated with inj glycopyrrolate 0.2mg i.v. + Inj. fentanyl 60 microgm iv. As the surgical procedure was in prone position general anaesthesia with controlled ventilation was the anesthetic technique of choice. Patient was induced with Inj propofol 150 mg iv + Inj atracurium 25 mg iv. Intubation was achieved with no. 7.5 oral endotracheal tube(cuffed). Bilateral air entry was confirmed and tube fixed. Anaesthesia was maintained with O₂+N₂O + isoflurane 0.2%. Relaxation was maintained with Inj. atracurium 0.2mg/kg iv. Inj. mannitol 20% 100 ml was given intravenously. Muscle relaxation was successfully reversed after the procedure with Inj. neostigmine+Inj.glycopyrrolate and extubated. Subsequently patient was discharged after psychiatrist's advice regarding dose adjustment of lithium.

Lithium Toxicity in A Patient with Hypothyroidism - A Challenge to Intensivists and Anaesthesiologists.

Sir,

Hypothyroid patients who are on lithium present unique challenge to intensive care physicians and anaesthesiologists. We had a 65 yr old obese lady weighing 93 kgs with history of hypothyroidism of 10 yrs receiving tab. eltroxin 100 microgram and history of psychiatric disorder (Bipolar affective disorder) for which she was put on tab.lithium 900mg and tab. risperidone 2mg since 3 yrs. The patient presented to the hospital with 10 day history of muscle weakness of all four limbs, altered sensorium and respiratory distress. On examination patient was in respiratory failure. Patient was immediately intubated and connected to ventilator. Since prolonged ventilation was anticipated, tracheostomy was done for better respiratory care. Hb was 8.4gm% and thyroid function tests were: T3- 0.58ng/ml, T4- 4.35microgm/dl, TSH- 29.8 micro IU/ml. Serum lithium level was 1.8 mEq/l (normal 0.6- 1.2 mEq/l).

Tab lithium and risperidone were immediately stopped. Enteral nutrition was given via ryle's tube. Eltroxin dose was increased from 100 microgm to 200 microgram o.d. DVT prophylaxis was given with LMW heparin. Sensorium and

Lithium is one of effective drugs for bipolar affective disorder, but it has a narrow therapeutic range and serum lithium levels have to be monitored regularly. Lithium is administered orally in 300 mg tablets. The kidneys are the primary route of elimination with less than 1% excreted in the feces.¹ The side effects of lithium is dose related and no antidote as such exists.² Patients with increased lithium levels coming for anaesthetic management can have increased sedation with drugs like thiopentone, methohexitol, ketamine and diazepam.^{3,4} Lithium can potentiate the muscle relaxing effect of depolarizing muscle relaxants and moderately increase the duration of non depolarizers.^{1,5} It is advised to stop lithium 24 to 48 hours prior to surgery and adequate fluids to be administered intraoperatively.³ Mannitol can be used to hasten excretion of lithium in urine.¹

Patients on lithium coming for anaesthesia can be successfully managed with proper selection of anaesthetic agents and muscle relaxants and titrating their dose.

REFERENCES

1. Havdala HS, Bovison RL and Diamond BI: Potential hazards and applications of lithium in anesthesiology. *Anesth.*50:534-537, 1979.

2. Rosner TM and Rosenberg M: Anesthetic problems in patients taking lithium. J. Oral Surg. 39:282-285, 1981.
3. Jephcott G and Kerry RJ: Lithium: an anesthetic risk. Brit.J.Anaesth. 46:389-390, 1974.
4. Mannisto PT and Saarnivaara L: Effect on lithium and rubidium on the sleeping time caused by various intravenous anesthetics in the mouse. Br. J. Anaesth. 48:185-189, 1976.
5. Hill GE, Wong KC and Hodges MR: Lithium carbonate and neuromuscular blocking agents. Anesth. 46:122-126, 1977.

**Dinesh K, Anand T Talikoti, Rajesh S
Raghavendra B S, Somasekharam P**

*Department of Anaesthesia and Critical Care, Sri Devaraj
Urs Medical College, Tamaka, Kolar-563101.*

Correspondence: Dr. Anand T Talikoti

E-mail: drttanand@yahoo.com
