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### **A case of lithium toxicity induced cerebellitis and hydrocephalus: the role of steroids and intracranial bolt monitoring**

#### **Abstract:**

Lithium is a mood stabilising drug that is indicated in the treatment of bipolar disorder. It has a narrow therapeutic index and requires regular plasma concentration monitoring to avoid toxicity.

A woman in her 20s presented to hospital with vomiting and abdominal pain after taking an overdose of lithium tablets, as well as smaller quantities of tramadol, methylphenidate and ibuprofen. She developed worsening drowsiness and oliguria. Repeat blood tests revealed an acute kidney injury stage III and a lithium concentration of 6.89 mmol/L. She was admitted to the Intensive Care Unit for intubation and filtration.

Clinical examination revealed global flaccid tone and hyperreflexia. Intracranial CT and MRI revealed cerebellitis and worsening supratentorial hydrocephalus. Following discussion between neurologists, radiologists, neurosurgeons and intensivists, she received a trial of dexamethasone to reduce cerebral oedema as well as undergoing intracranial bolt insertion to monitor the hydrocephalus.

Repeat intracranial imaging confirmed improving oedema and hydrocephalus. Her clinical symptoms improved, therefore the bolt was removed and she was successfully extubated.

This case highlights the severe complications of a lithium overdose that required input from several specialities. Given the paucity in the literature regarding the role of steroids and intracranial bolt insertion in rare lithium induced neurological sequelae such as cerebellitis and hydrocephalus, these areas require further research to guide future management. The successful outcome was indeed the result of coordinated care amongst the multidisciplinary team.

## Biography

**Suhaylah Adam** obtained her BSc in Biomedical Sciences and MBBS from King's College London. She has worked as a resident doctor (Senior House Officer) in Intensive Care Medicine at St Mary's Hospital in London and is hoping to pursue a career in Internal Medicine before applying for speciality training.