Lethal Lithium
A Rare Case of Persistent Neurotoxicity
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INTRODUCTION
- Persistent Reversible Encephalopathy Syndrome (PRES) is a clinical radiographic syndrome characterized by altered mental status, headaches, visual disturbances, seizures along with vasogenic edema in bilateral parieto-occipital lobes.
- We present a rare case of PRES associated with supratherapeutic lithium level.

CASE DESCRIPTION
- 54 year old lady with history of bipolar disorder presented with altered mental status and generalized weakness.
- Vitals were stable. Physical exam revealed tremors, myoclonus and hyperreflexia.
- Metabolic and infectious work up for encephalopathy was negative.
- She was found to have supratherapeutic lithium level 3.0
- Despite drug discontinuation and normalization of lithium levels she remained encephalopathic.
- Computerized Tomography (CT) scan of head was normal. Electroencephalogram ruled out seizures/post-ictal state.
- Magnetic Resonance Imaging (MRI) of the brain revealed subcortical hyperintensities symmetrically distributed in the parietal and parieto-occipital region highly suggestive of PRES.
- We report gradual and complete neurological recovery with conservative management.

RADIOLOGY

DISCUSSION
- Lithium has a narrow therapeutic index with toxicity manifesting as tremors, myoclonus, lethargy in addition to gastrointestinal disturbance.
- PRES is now being identified as a sequela of lithium toxicity which persists despite normalization of the lithium level.
- PRES is a reversible form of neurotoxicity which often under diagnosed due to its close resemblance with Syndrome of Irreversible Lithium Effectuated Neurotoxicity (SILENT).
- The mechanism of lithium toxicity leading to PRES remains a mystery with very few case reports in literature.

CONCLUSION
- Persistent or new neurotoxicity despite normalization of lithium levels should prompt work up for rare entities like PRES or SILENT.
- No treatment algorithm has been proposed yet given the rarity of this condition.
- A conservative approach with tighter blood pressure control has shown favorable outcomes.

REFERENCES