

MRI FINDINGS AND RENAL FUNCTION IN PATIENTS ON LONG-TERM LITHIUM THERAPY

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Introduction: Nephrotoxicity is a well-known pharmacological side effect in patients under long-term treatment with lithium. About 20% may develop renal insufficiency and in 33-62.5% of these patients renal cysts are seen.

Objective: Some prior studies report MRI findings in patients undergoing chronic lithium therapy.

Aims: To compare Magnetic resonance imaging (MRI) findings of the kidney in patients undergoing chronic lithium therapy with renal function to determine if MRI findings are related to renal function impairment.

Methods: Thirty five consecutive patients with mood disorders who were undergoing lithium therapy for at least one year were evaluated with a 1.5 tesla MRI imaging and renal function tests. Renal size and the presence, number and location of renal microcysts were analyzed and compared with renal function.

Results: The mean size of kidney was $106.0 \text{ mm} \pm 6.0$; $106.0 \text{ mm} \pm 11.0$. The mean number of microcysts in both kidney was 6.2. There was a positive correlation between duration of lithium treatment and number of renal microcyst ($P < 0.0001$, $r = 0.773$). Correlation between MRI findings and renal function tests were not statistically significant ($p > 0.05$).

Conclusion: The present study reports that longer duration of lithium therapy can increase number of renal microcysts. It seems that increasing renal microcysts are not consistent with renal function impairment and magnetic resonance may not be useful for prediction or diagnosis of lithium-induced nephropathy. Our study results suggest that the relationship between MRI findings and renal function impairment in patients on long-term lithium therapy is not clear and needs further studies.