Safety and efficacy of lithium in children and adolescents.

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Introduction: The diagnosis of bipolar disorder (BD) in children and adolescents has been a controversial topic with much concern about risks of treating it (Singh et al., 2014). Many clinicians are reluctant to use traditional mood-stabilizing agents, especially lithium, in children and adolescents (McKnight et al., 2012). This review examined the evidence for lithium's safety and efficacy in this population.

Objectives: A systematic review was conducted on the use of lithium in children and adolescents with bipolar disorder (BD).

Methods: Relevant papers published through June 30th 2018 were identified searching the electronic databases MEDLINE, Embase, PsycINFO and the Cochrane Library. We combined the search strategy of free text terms and exploded MESH headings for the topic of treatment with lithium in children and adolescents. The strategy was first developed in MEDLINE and then adapted for use in the other databases.

Results: 30 articles met inclusion criteria, including 12 randomized controlled trials (RCTs) (Fig.1). Findings from RCTs demonstrate efficacy for acute mania in up to 50% of patients, and evidence of long-term maintenance efficacy.

References:

McKnight RF et al. (2012) Lithium toxicity profile: a systematic review and meta-analysis. *Lancet* 379: 721-728.

Singh MK et al. (2014) Distinguishing bipolar disorder from other psychiatric disorders in children. *Curr Psychiatry Rep* 16: 516.

Lithium was generally safe, at least in the short term, with most common side effects being gastrointestinal, polyuria, or headache. Only a minority of patients experienced hypothyroidism. No cases of acute kidney injury or chronic kidney disease were reported.

Figure 1. Flow diagram of selected articles

* Search strategy limited to June 2018, English language, human subjects younger than 18 years old, and clinical trial.

Conclusions: Though the available literature is mostly short-term, there is evidence that lithium monotherapy is reasonably safe and effective in children and adolescents, specifically for acute mania and for prevention of mood episodes.