Medical Xpress

Lithium treatment can cause weight-gain, hypothyroidism, and hyperparathoidism

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Lithium is the most effective long-term therapy for bipolar disorder, protecting against both depression and mania and reducing the risk of suicide and short-term mortality. However, safety concerns have made its use controversial.

New research published by *The* Lancet assesses almost 400 articles investigating the possible adverse effects of lithium, and concludes that thyroid and parathyroid abnormalities occur in about 25% of patients receiving lithium therapy, compared with 3% and 1% in the general population, respectively. Lithium treatment also causes weight gain, and can slightly reduce the ability of the kidneys to concentrate urine. However, the evidence linking lithium treatment with congenital abnormalities in pregnancy remains uncertain, and there is very little evidence linking lithium with skin problems or hair loss. The research was carried out by Professor John R Geddes, Department of Psychiatry, University of Oxford, Oxford, UK and colleagues.

The authors say these risks of adverse events should be discussed with the patient prior to starting lithium treatment. They also recommend the addition of a serum calcium test to baseline blood tests in view of the high risk of hyperparathyroidism. Another new recommendation is that, rather than lithium being considered as contraindicated during pregnancy, the uncertainty about risk of congenital malformations should be explained to women of childbearing age contemplating lithium treatment. They say: "Women who would like to conceive or have become pregnant while receiving lithium should be advised that the

increased risk of congenital malformations is uncertain; patient and clinician should discuss the balance of risks between harm to the baby and maternal mood instability before making a decision to stop lithium therapy". The authors say more evidence is needed to clarify the effects of lithium in pregnancy.

More research is also needed, they add, to clarify the relation between lithium, calcium, and the kidney. However, for people currently taking lithium, renal, parathyroid, and thyroid function tests should be repeated, at a minimum interval of 12 months, and more frequently if an abnormal result is found or the patient has a family history of endocrine disease. Blood tests should all be repeated immediately if there is a change in mood state (eg, mania), and any occurrence of adverse effects (including skin and hair disorders) should be routinely recorded, so that these can be added to the existing body of evidence.

The authors add that lithium is dangerous in overdose, or under circumstances that predispose to sodium or blood volume depletion. They highlight that most patients who experience lithium toxicity do so when ill (eg, diarrhoea, vomiting, heart failure, renal failure, or surgery) or secondary to a drug interaction (eg, non-steroidal anti-inflammatory drugs, angiotensin-converting-enzyme [ACE] inhibitors).

The authors say: "Evidence has confirmed the important therapeutic benefits of lithium relative to some of the alternative drugs that have replaced it, which might lead to wider use of lithium."

They conclude: "clinical practice guidelines have long recommended lithium as a first-line long-term treatment for bipolar disorder but its use has decreased, partly because of safety concerns…This review provides a comprehensive synthesis of the evidence of harm that should inform clinical decisions and draw attention to key questions in urgent need of further clarification."

In a linked Comment, Dr Gin S Malhi, University of Sydney, NSW, Australia, and Dr Michael Berk, University of Melbourne, VIC, Australia, say: "In the context of efficacy data that have upgraded the ranking of lithium, and in conjunction with new data that recalibrate the safety risks of alternative drugs, this study provides timely clarification of the toxicity associated with lithium therapy and, on balance, reaffirms its role as a treatment of choice for bipolar disorder."

More information: www.thelancet.com/journals/lan … (11)61516-X/abstract

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