

Lithium may reduce gambling severity in pathological gamblers with bipolar disorder

Hollander E, Pallanti S, Allen A, *et al.* Does sustained-release lithium reduce impulsive gambling and affective instability versus placebo in pathological gamblers with bipolar spectrum disorders? *Am J Psychiatry* 2005;162:137–45.

Q What are the effects of lithium on gambling behaviour in pathological gamblers with bipolar disorder?

METHODS

	Design: Randomised controlled trial.
	Allocation: Concealed.
	Blinding: Double blind.
	Follow up period: Ten weeks.
	Setting: Outpatients recruited by advertisements in local newspapers in the US.
	Patients: Forty people aged 18–65 years with DSM-IV diagnoses of pathological gambling and bipolar spectrum disorder (bipolar II, bipolar disorder not otherwise specified, or cyclothymia). People with bipolar I disorder or major medical illness were excluded from the trial.
	Intervention: Lithium: dose titration 300 mg/day for 4 days, 300 mg twice daily for 4 days, 300 mg three times daily for 6 days, and continued for further 8 weeks; or placebo.
	Outcomes: Pathological gambling section of Yale-Brown Obsessive Compulsive Scale, Clinical Global Impression pathological gambling improvement scale.
	Patient follow up: 72.5%.

MAIN RESULTS

In people diagnosed with pathological gambling and bipolar disorder, lithium reduced gambling severity compared with placebo (Yale-Brown Obsessive Compulsive Scale: 8.3 with lithium *v* 17.0 with placebo; $p < 0.001$; Clinical Global Impression: 1.75 with lithium *v* 2.82 with placebo; $p = 0.001$).

CONCLUSIONS

Lithium may reduce gambling severity in pathological gamblers with bipolar disorder.

NOTES

The authors note that the group of people included in this trial may not be representative of the general population because of the method of recruitment. People that actively seek treatment by

For correspondence: Dr Hollander, Department of Psychiatry, Box 1230, Mount Sinai School of Medicine, 1 Gustave L Levy Place, New York, NY 10029, USA; eric.hollander@mssm.edu

Sources of funding: Solvay Pharmaceuticals Inc, National Institute of Drug Abuse.

responding to a newspaper advertisement may have different characteristics and be more motivated than those who do not seek treatment for their gambling.

Commentary

Hollander *et al* used a double blind, placebo controlled design to examine the efficacy of a 10 week treatment of lithium on the clinical and cognitive features of gambling in pathological gamblers with bipolar spectrum disorder. Standard and intention-to-treat analyses indicated that lithium reduced clinician rated severity scores, and diminished gambling thoughts/urges and behaviour. Several studies have noted the comorbidity between impulse control disorders including pathological gambling and bipolar illness.¹ Notably, Hollander *et al* report that the improvements in gambling behaviour were closely associated with reduced affective instability rather than improved mood or anxiety. In this context, it may be important that previous studies have indicated that mood stabilising treatment show some promise in the treatment of pathological gambling while selective serotonin reuptake inhibitors have shown inconsistent results.²

Although the specificity of the association between bipolar disorder and problem gambling remains uncertain,³ there are certainly striking similarities between the cognitive and behavioural features of these disorders including euphoria, persisting impulsiveness, and poor insight. We propose that one central aspect of psychopathology common to pathological gambling and bipolar disorder may be faulty processing of reinforcement information in situations where affected individuals choose between actions associated with motivationally significant outcomes. This underlying mechanism might be expressed in multiple ways that combine to increase the risk of clinically significant bipolar symptoms and gambling behaviour. So, on the one hand, overweighing rewards associated with certain activities, including gambling itself, can heighten mood and sometimes increase recklessness, consistent with reports that gambling behaviour has a mood regulatory purpose in affected individuals.⁴ On the other hand, failure to properly balance the impact of rewards and punishment, and the interdiction of cognitive biases including “illusions of control” over the outcomes of probabilistic processes⁵ may lead to behaviour with consequences that destabilise mood, worsen clinical condition, or increase the risk of relapse. Research is needed to examine whether lithium treatment exerts its beneficial effects through rebalancing the above motivational processes as they impact upon action selection or through less specific action on emotional regulation mechanisms more generally.

Dr Robert Rogers, Professor Guy Goodwin
Department of Psychiatry, University of Oxford, UK

- 1 McElroy SL, Pope HG, Keck PE, *et al.* Are impulse control disorders related to bipolar disorder? *Compr Psychiatry* 1996;37:229–40.
- 2 Blanco C, Petkova E, Ibanez A, *et al.* A pilot placebo-controlled study of fluvoxamine for pathological gambling. *Ann Clin Psychiatry* 2002;14:9–15.
- 3 Crockford DN, el-Guebaly N. Psychiatric comorbidity in pathological gambling: a critical review. *Can J Psychiatry* 1998;43:43–50.
- 4 Corless T, Dickerson MG. Gamblers' self-perception of the determinants of impaired control. *Br J Addict* 1989;84:1527–37.
- 5 Rogers P. The psychology of lottery gambling: a theoretical review. *J Gamb Stud* 1998;14:111–34.