Lithium-associated hyperparathyroidism: Prevalence, Pathophysiology, Management

av

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Abstract

Lithium has been used in the treatment of bipolar disorder, formerly called manic depression, for nearly seven decades. Lithium-associated hyperparathyroidism (LHPT) is an ill-defined and less well known possible side-effect of chronic lithium therapy and was first described in 1973. The condition has been considered to be rare, though there exists conflicting evidence as to its prevalence, its pathophysiological background, and, if and when identified, what the appropriate medical or surgical treatment should be. The principal aim of this thesis was to understand and more comprehensively characterise this condition through studying a large patient cohort, with regards its prevalence, development, and additionally by providing an evaluation of surgical management up until now.

In Study I a population of 423 lithium-treated out-patients (251 women, 172 men) were recruited from Jönköping and Örebro County. We found that 18% met the criteria for hyperparathyroidism (HPT) and that a further 21% had intermittent episodes of hypercalcaemia. We then examined, in Study II, the effects of lithium only in patients with bipolar disorder and compared them, firstly, to patients with bipolar disorder without lithium and, secondly, to a control population. In total, 563 individuals participated in the study. Hypercalcaemia was found to be strongly associated to lithium therapy (adjusted OR 13.45; 95% CI 3.09, 58.55; \( p = 0.001 \)). Study III is a descriptive study of calcium homeostasis in 297 lithium-treated patients from Jönköping where three main groups could be discerned: 178 were normocalcaemic (60%), 102 hypercalcaemic (34%), and 17 hypocalkaemic (6%). Many patients demonstrate robust fluctuations in serum calcium intermittently. Of those with suspected LHPT, 31% had urinary calcium excretion values below 1.2 mmol/24hrs. Study IV analysed surgical results of 78 parathyroidectomies in 71 patients with concurrent lithium therapy. In strong contrast to surgical outcomes in those with primary HPT, the overall cure-rate was lower (58%) and the predominant histological diagnosis was hyperplasia (52%). Two patients had double adenomas.

Factors which should be particularly taken into consideration while monitoring lithium-treated patients are age, gender and lithium-duration.

Keywords: Lithium, hypercalcaemia, hyperparathyroidism, hypocalkaemia, hyperplasia, adenoma

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